SCHEDULE OF CLASSES

This catalog lists courses the College of Lake County intends to offer. Inclusion of a course description does not obligate the college to offer the course in any particular semester. Students are referred to the appropriate class schedule each semester for specific and current information. Prior to each registration period, the class schedule is posted online at www.clcillinois.edu/classes.

COURSE NUMBERING

Courses are listed in numerical order by course number within each subject area. All courses, unless otherwise indicated, can be completed within the semester. Students should consult with a student development counselor or an advisor for the most efficient sequence of courses toward a degree or certificate.

Courses with a PCS of 1.1 are Baccalaureate/Transfer courses. These courses have been articulated according to the standards of the Illinois Community College Board. To ensure a specific course is transferable, students are urged to consult with:

- the senior institutions of interest
- the transfer information on the CLC website
- a CLC student development counselor or advisor

Courses with a PCS of 1.2 are Occupational/Technical courses. Policies concerning the transferability of some of these courses to senior colleges and universities vary. Students are urged to consult with:

- the senior institutions of interest
- the transfer information on the CLC website
- a CLC student development counselor or advisor

Courses with a PCS of 1.4 indicate remedial/developmental coursework and are designed to prepare students for enrollment in courses at the career or transfer level. These courses do not apply toward a college degree or career certificate and are not used to compute grade point average.

Courses with a PCS of 1.6 are vocational courses.

Courses with a PCS of 1.7, 1.8 and 1.9 indicate adult education. Courses with a PCS of 1.3 indicate community education (non-credit) and courses with a PCS of 1.5 indicate general studies coursework.
PREREQUISITES AND COREQUISITES

To help ensure success in their courses, students must carefully observe requirements that may be placed on enrollment. The College of Lake County uses two types of requirements on enrollment in courses.

Prerequisites are other courses, knowledge, skills or permission that must be obtained or completed before a student enrolls in a course. Students who believe they possess equivalent knowledge or skills through prior coursework or experience should see the appropriate division office.

Corequisites are other courses, knowledge, skills or permissions that must be taken or acquired either concurrently with or previous to the course in question.

COURSE DISCIPLINE/PREFIX REFERENCE

Course descriptions are organized alphabetically by prefix in the following section. The list below shows both the discipline and course prefix for cross reference.

Accounting (ACC)  Health and Wellness Promotion (HWP)
Administrative Management Adult Basic Education (ABE)  Heating and Air Conditioning Engineering Technology (HET)
and Technology (AOS)  Adult Education Bridge Program (BRGA)  History (HST)
Adult Language Education (ALE)  Horticulture (HRT)
Adult Secondary Education (ASE)  Hospitality and Culinary Management (HCM)
Agriculture (AGR)  Human Services (HUS)
Anthropology (ANT)  Humanities (HUM)
Arabic (ARA)  Industrial Electrician (ISE)
Architectural Technology (ARC)  International Studies (SSI)
Art (ART)  Italian (ITL)
Asian/Asian American Studies (ASI)  Japanese (JPN)
Automation, Robotics and Mechatronics (ARM)  Laser/Photonics/Optics (LPO)
Automotive Collision Repair (ACR)  Latin American Studies (LAT)
Automotive Technology (AUT)  Legal Studies (PLS)
Biography (BIO)  Liberal Arts and Science (LAS)
Business Administration (BUS)  Library Science (LSC)
Career Exploration-Adult Education (CRX)  Machine Tool Trades (MTT)
Chemistry (CHM)  Massage Therapy (MAS)
Chinese (CHI)  Math Computer Science (MCS)
Communication (CMM)  Mathematics (MTH)
Computer Aided Design (CAD)  Mechanical Engineering Technology (MET)
Computer Information Technology (CIT)  Medical Assisting (MOA)
Computerized Numerical Control (CNC)  Medical Imaging (MIM)
Criminal Justice (CRJ)  Music (MUS)
Dance (DNC)  Nanoscience Technology (NAN)
Dental Hygiene (DHY)  Nursing (NUR)
Digital Media and Design (DMD)  Personal Development (PDS)
Early Childhood Education (ECE)  Philosophy (PHI)
Earth Science (ESC)  Phlebotomy (PBT)
Economics (ECO)  Physical Education (PED)
Education (EDU)  Physics (PHY)
Educational Work Experience (EWE)  Political Science (PSC)
Electrical Technology (ELC)  Pre-Bridge - Adult Education (PBRA)
Electrical Engineering Technology (EET)  Psychiatric Rehabilitation (PRS)
Electrician Apprenticeship (EAP)  Psychology (PSY)
Electronic Information Technology (EIT)  Retail Management (RMC)
Electronics Engineering Technology (ELT)  Russian (RUS)
Emergency Medical Technology (EMT)  Science Electives (SCI)
Engineering (EGR)  Sign Language (SLG)
English (ENG)  Social Studies Topics (SST)
English Language Instruction (ELI)  Social Work (SWK)
English as a Second Language (ESL)  Sociology (SOC)
Fire Science Technology (FST)  Spanish (SPA)
French (FRN)  Spanish Adult Education (SAE)
Gender and Sexuality Studies (GXS)  Supply Chain Management (SCM)
Geography (GEG)  Surgical Technology (SRG)
German (GER)  Theatre (THE)
Health Information Technology (HIT)  Vocational Skills Training (VST)
Welding (WLD)
### College of Lake County's General Education IAI Courses

The chart below shows College of Lake County's transfer courses listed by IAI category that meet IAI (Illinois Articulation Initiative) General Education Core Curriculum guidelines. IAI General Education Course Codes follow the College of Lake County title. Course descriptions in this section also include IAI codes as appropriate. Transfer degree guidelines list specific courses conforming to IAI core curriculum: see the appropriate section in this catalog for more information. See page 52 for an explanation of the Illinois Articulation Initiative.

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>College of Lake County Title</th>
<th>IAI Code</th>
<th>Course Information</th>
</tr>
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<tbody>
<tr>
<td>H3900</td>
<td>Chinese</td>
<td>F1906</td>
<td>Dance</td>
</tr>
<tr>
<td>H3901</td>
<td>Arabic</td>
<td>H1900</td>
<td>Economics</td>
</tr>
<tr>
<td>H3902</td>
<td>Art</td>
<td>F1901</td>
<td>English</td>
</tr>
<tr>
<td>H3903</td>
<td>Biology</td>
<td>P1905</td>
<td>Earth Science</td>
</tr>
<tr>
<td>H3904</td>
<td>General Education</td>
<td>P1908</td>
<td>continued</td>
</tr>
<tr>
<td>H3905</td>
<td>Concepts in Biology</td>
<td>P1909</td>
<td>continued on next page.</td>
</tr>
</tbody>
</table>
### Humanities
- **HUM 121**: Humanities: Ancient Times to the Middle Ages
- **HUM 122**: Humanities: Renaissance to the Present
- **HUM 123**: Introduction to Film
- **HUM 126**: Introduction to the Performing Arts
- **HUM 127**: Critical Thinking
- **HUM 128**: Introduction to Middle-Eastern Civilizations
- **HUM 129**: Introduction to East Asian Civilization
- **HUM 140**: World Humanities of 20/21 Century

### Math
- **MTH 127**: Finite Mathematics I
- **MTH 140**: Contemporary Math
- **MTH 141**: Quantitative Literacy
- **MTH 142**: General Education Statistics
- **MTH 144**: Calculus and Analytic Geometry I
- **MTH 145**: Calculus and Analytic Geometry II
- **MTH 221**: Mathematics for Elementary Teaching II
- **MTH 222**: Business Statistics
- **MTH 224**: Calculus for Business and Social Sciences
- **MTH 244**: Discrete Mathematics
- **MTH 246**: Calculus and Analytic Geometry III

### Political Science
- **PSC 121**: American National Politics
- **PSC 122**: State and Local Politics
- **PSC 221**: Comparative Political Systems
- **PSC 222**: International Relations

### Psychology
- **PSY 121**: Introduction to Psychology
- **PSY 220**: Lifespan Development
- **PSY 222**: Child Growth and Development
- **PSY 225**: Social Psychology
- **PSY 226**: Adolescent Development

### Sociology
- **SOC 121**: Introduction to Sociology
- **SOC 222**: Social Problems
- **SOC 224**: Sociology of the Family
- **SOC 225**: Class, Race and Gender
- **SOC 229**: Sex, Gender and Power

### Spanish
- **SPA 222**: Intermediate Spanish II
- **SPA 223**: Spanish Civilization I
- **SPA 224**: Spanish Civilization II

### Theatre
- **THE 121**: Introduction to Theatre
- **THE 123**: Diversity in American Theatre

*Note: MTH 140 and MTH 141 do not fulfill the general education mathematics requirements in Associate in Science degrees.*
## COLLEGE OF LAKE COUNTY’S MAJOR IAI COURSES

The chart below shows CLC’s transfer courses that meet IAI (Illinois Articulation Initiative) core curriculum for specific transfer majors developed to date. IAI major course codes follow the CLC title. Course descriptions in this section also included IAI codes as appropriate.

<table>
<thead>
<tr>
<th>Accounting</th>
<th>IAI Code</th>
<th>English (See Mass Communication)</th>
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</thead>
<tbody>
<tr>
<td>ACC 121</td>
<td>BUS 903</td>
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<tr>
<td>ACC 122</td>
<td>BUS 904</td>
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<th>Agriculture</th>
<th>IAI Code</th>
<th>Horticulture (See Agriculture)</th>
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<tbody>
<tr>
<td>HRT 121</td>
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<tbody>
<tr>
<td>BIO 161</td>
<td>BIO 910</td>
<td>BUS 214 Advertising</td>
</tr>
<tr>
<td>BIO 162</td>
<td>BIO 910</td>
<td>ENG 123 Mass Communications</td>
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<table>
<thead>
<tr>
<th>Business Administration</th>
<th>IAI Code</th>
<th>Math Computer Science</th>
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<tbody>
<tr>
<td>CIT 120</td>
<td>BUS 902</td>
<td>MCS 141 Computer Science I</td>
</tr>
<tr>
<td>MTH 222</td>
<td>BUS 901</td>
<td>MCS 142 Computer Science II</td>
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<table>
<thead>
<tr>
<th>Chemistry</th>
<th>IAI Code</th>
<th>Math</th>
</tr>
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<tbody>
<tr>
<td>CHM 121</td>
<td>CHM 911</td>
<td>MTH 145 Calculus and Analytic Geometry I</td>
</tr>
<tr>
<td>CHM 123</td>
<td>CHM 912</td>
<td>MTH 146 Calculus and Analytic Geometry II</td>
</tr>
<tr>
<td>CHM 222</td>
<td>CHM 913</td>
<td>MTH 225 Introduction to Linear Algebra</td>
</tr>
<tr>
<td>CHM 223</td>
<td>CHM 914</td>
<td>MTH 227 Ordinary Differential Equations</td>
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<table>
<thead>
<tr>
<th>Computer Information Technology</th>
<th>IAI Code</th>
<th>Psychology</th>
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<tbody>
<tr>
<td>CIT 141</td>
<td>CS 911</td>
<td>PSY 223 Abnormal Psychology</td>
</tr>
<tr>
<td>CIT 241</td>
<td>CS 912</td>
<td>PSY 225 Social Psychology</td>
</tr>
<tr>
<td>MTH 244</td>
<td>CS 915</td>
<td>PSY 905</td>
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<thead>
<tr>
<th>Criminal Justice</th>
<th>IAI Code</th>
<th>Theatre</th>
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<tbody>
<tr>
<td>CRI 121</td>
<td>CRI 901</td>
<td>CMM 124 Oral Interpretation</td>
</tr>
<tr>
<td>CRI 123</td>
<td>CRI 912</td>
<td>THE 125 Principles of Acting</td>
</tr>
<tr>
<td>CRI 124</td>
<td>CRI 911</td>
<td>THE 126 Stagecraft</td>
</tr>
<tr>
<td>CRI 229</td>
<td>CRI 914</td>
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<table>
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<th>Engineering</th>
<th>IAI Code</th>
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<td>EGR 121</td>
<td>EGR 941</td>
<td>CMM 124 Oral Interpretation</td>
</tr>
<tr>
<td>EGR 125</td>
<td>EGR 942</td>
<td>THE 125 Principles of Acting</td>
</tr>
<tr>
<td>EGR 221</td>
<td>EGR 944</td>
<td>THE 126 Stagecraft</td>
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<td>EGR 222</td>
<td>EGR 945</td>
<td>TA 916</td>
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<td>EGR 225</td>
<td>EGR 943</td>
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</tr>
<tr>
<td>EGR 260</td>
<td>EGR 931L</td>
<td>TA 911</td>
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</table>
COURSE DESCRIPTIONS

SAMPLE COURSE LISTING

CHM 120  Chemical Concepts  Course Number and Course Title  
(3-2)  4 Hours  (Hours of lecture per week-Hours of lab per week)  
A survey course that includes the fundamentals of chemical composition, chemical  
calculations, solutions, states of matter, the periodic table, acids, bases and pH, radioactivity  
and nuclear processes, and a brief overview of organic and biochemistry. (1.1)  
Prerequisites: MTH 102 or MTH 105 (both C or better) or an appropriate score on the Math  
Placement Test or Math ACT of 20 or higher (or SAT of 510 or higher) - AND- College Reading  
and Writing Readiness  
Course fee  
IAI: P1 902L  
The number code at the end of each course description has the following meaning:  
1.1  Baccalaureate/Transfer course  
1.2  Occupational/Technical course – not intended for transfer; however,  
some courses may transfer.  
1.4, 1.5, 1.6, 1.7, 1.8  Developmental or general studies credit – not intended  
for transfer and not applicable to any degree.  
Prerequisites:  Other courses, knowledge, skills or permission that must be obtained  
or completed before enrolling in a course  
Corequisites:  Other courses, knowledge, skills or permissions that must be taken or  
aquired either concurrently with or previous to the course in question  
Course fee  
IAI: P1 902L  (Var.)  
Variable  
Other courses, knowledge, skills or permissions that must be obtained  
or completed before enrolling in a course  
Other courses, knowledge, skills or permission that must be obtained  
or completed before enrolling in a course  
Fee in addition to credit per hour  
IAI: P1 902L  (Var.)  
Illinois Articulation Initiative (IAI) Number  
Variable  
ACCOUNTING (ACC)  
Business and Social Sciences Division,  
Room T302, (847) 543-2047  
ACC 110  Accounting in Business  
(2-0)  2 Hours  
This course is an overall introduction to the discipline of accounting. Emphasis is on  
understanding processes used to collect, analyze, and report financial information in  
business organizations. Topics include the accounting equation, generally accepted  
accounting principles, financial reporting, financial statement analysis, budgeting, and  
cost control. (1.2)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
Course fee  
ACC 114  Payroll Accounting  
(2-0)  2 Hours  
This course is a practical study of current social security, income tax, employment and  
unemployment laws and their effect on basic payroll accounting systems. Course coverage  
includes the preparation of payroll records and tax returns. (1.2)  
Prerequisite: ACC 110 (C or better) or  
ACC 121 (C or better)  
Course fee  
ACC 117  Personal Taxation  
(2-0)  2 Hours  
This course involves the practical study of Federal Income Tax, personal and  
unemployment laws and their effect on basic payroll accounting systems. Course coverage  
includes the preparation of payroll records and tax returns. (1.2)  
Prerequisite: ACC 110 (C or better)  
Recommended: CIT 120  
Recommended: BUS 121  
Course fee  
ACC 122  Managerial Accounting  
(4-0)  4 Hours  
This introductory course in managerial accounting focuses on internal planning and  
control. Emphasis is on identifying and applying relevant accounting and financial information  
for management decisions. Topical areas include product costing, operational control,  
cost allocation, capital budgeting, profit planning, performance reporting, and variance  
analysis. (1.1)  
Prerequisite: ACC 121 (C or better)  
Recommended: CIT 119 or CIT 120  
Course fee  
ACC 171  Introduction to QuickBooks  
(2-0)  2 Hours  
This course provides an introduction to QuickBooks. Topics covered include company  
set up, processing transactions through the accounting cycle, merchandising transactions,  
banking and payroll. (1.2)  
Prerequisites: ACC 121 (C or better) AND CIT 119 or CIT 120 (either C or better) OR consent  
of department chair  
Course fee  
ACC 172  Accounting Capstone Experience  
(1-0)  1 Hour  
Students in this course will complete a capstone project consisting of a comprehensive  
accounting practice set and end of project  
evaluation. Completing and reporting on this practice set will give students the opportunity  
to synthesize and put into practice the knowledge and skills acquired in all other  
courses in the Accounting Technician Certificate program. (1.2)  
Prerequisite: ACC 121 (C or better)  
Corequisite: ACC 171 and AOS 111 and AOS 122  
Recommended: BUS 121  
Course fee  
ACC 212  Federal Taxation of Individuals  
(3-0)  3 Hours  
This course involves the practical study of Federal Tax Law as related to the individual  
and sole proprietorship. Topics covered include history of Federal Income Tax, personal and  
Dependency Exemptions, Cash and Accrual Methods, Gross Income inclusions and  
exclusions, Depreciation Methods, Property Transactions, Realization and Recognition of  
Gain or Loss, Deductions for and from Adjusted Gross Income (AGI), Itemized Deductions,  
Passive Activity rules and Tax Credits. (1.2)  
Prerequisite: ACC 121 (C or better)  
Course fee  
268  2019-2020 College of Lake County Catalog
ACC 213  Federal Taxation of Entities  
(3-0)  3 Hours
This course is an introduction to corporate, partnership, gift, estate, and international taxation. The overall emphasis of the course is on the taxation of corporations and flow-through entities. The student will also become familiar with various related subjects including Alternative Minimum Tax, Accumulated Earnings Tax, Gift and Estate Tax, and International Taxation. (1.2)  
Prerequisite: ACC 121 (C or better)  
Course fee

ACC 214  Cost Accounting  
(3-0)  3 Hours
This course is an advanced study of the information required in management planning and control systems. The emphasis is on the systematic application of cost accounting concepts as a tool for management decisions. Topical areas include product costing, operational control, cost allocation, budgeting, inventory control, analysis of cost-volume-profit relationships, and variance analysis. (1.1)  
Prerequisite: ACC 122 (C or better)  
Course fee

ACC 221  Intermediate Accounting I  
(4-0)  4 Hours
An intensive study of financial accounting theory and procedures involving the topical areas of accounting standards and theory development, the statements of income, retained earnings, and financial position, time value of money, cash, receivables, inventory, plant assets, depreciation, intangible assets and current liabilities. Grade of “B” or better in Financial and Managerial Accounting (ACC121 and ACC122) is recommended, grade of “C” or better is required. (1.1)  
Prerequisite: ACC 122 (C or better)  
Course fee

ACC 222  Intermediate Accounting II  
(4-0)  4 Hours
An intensive continuation of the study of financial accounting theory and procedures involving the topical areas of accounting for long term liabilities, shareholder equity, investments, revenue recognition, financial analysis, preparation of the Statement of Cash Flows, accounting for income taxes, pensions, leases, changes and errors, and disclosure. (1.1)  
Prerequisite: ACC 221 (C or better)  
Course fee

ACC 251  Financial Accounting Research  
(1-0)  1 Hour
This course is an introduction to the research process as it applies to financial accounting. The primary focus will be on the use of an Internet based research system to obtain authoritative evidence to support answers to accounting questions. (1.2)  
Corequisite: ACC 222

ACC 252  Research Topics in Taxation  
(1-0)  1 Hour
This course summarizes the art of navigating the federal income tax laws, as well as other authoritative literature, and developing a supportable conclusion to tax issues that do not possess definitive answers. This course will expose students to a variety of tax authoritative documents, as well as their citations. Students will be trained to use tax research software and will ultimately be assessed on their ability to create and communicate defensible tax positions. (1.2)  
Prerequisite: ACC 212 (C or better) or ACC 213 (C or better)

ACC 270  Advanced Accounting  
(4-0)  4 Hours
Advanced accounting includes the study of accounting theory and practice as it relates to business combinations and consolidated financial statements, accounting and reporting for governmental and not for profit organizations, and the accounting for equity transactions for partnerships. This course is recommended for students who plan to sit for the CPA exam and practicing accountants needing further study of the above described topics. (1.2)  
Prerequisite: ACC 222 (C or better) OR ACC 221 (B or better) and concurrent enrollment in ACC 222.

ACC 271  Auditing  
(3-0)  3 Hours
An intensive study of theory and procedures applied in the performance of an audit including the topical areas of audit reporting, auditing standards and evidence, components of audit risk, and the evaluation and impact of internal control environment and information systems. The legal, ethical and regulatory dimensions will be examined with emphasis on how government affects auditing and financial reporting through Sarbanes-Oxley Act and other relevant acts. (1.2)  
Prerequisite: ACC 222 (C or better) OR ACC 221 (B or better) and concurrent enrollment in ACC 222.

ACC 299  Special Topics in Accounting  
(Var.)  1-6 Hours
This course is designed to allow students to study a topic or topics that are not a part of the existing curriculum. Topics identified will be current or emerging topics within the accounting profession or topics that provide additional depth within an accounting specialty area. This course may be repeated for up to a total of six credit hours. (1.2)  
May be taken four times, but any topic only once

ADMINISTRATIVE MANAGEMENT AND TECHNOLOGY (AOS)

Business and Social Sciences Division,  
Room T302, (847) 543-2047

AOS 111  Business Communication  
(3-0)  3 Hours
This course is designed to improve communication skills and prepare students for success in a team environment. Students will learn how to write clearly and concisely. Topics include a review of punctuation, document formatting and techniques in composing effective business letters, memoranda, reports, employment letters, resumes, and working with electronic messages and digital media. (1.2)  
Prerequisite: College Reading and Writing Readiness  
Course fee

AOS 112  Computer Basics/Software Applications  
(3-0)  3 Hours
This course provides a comprehensive study of the use of computers and technologies. Class topics include computer hardware, software, operating systems, and electronic communications such as email, the Internet, and networks. Students will have an opportunity to analyze computer-purchasing strategies, as well as acquire knowledge on data security and storage. Hands-on software experience will be provided utilizing Word, Excel, Access, PowerPoint, the Internet, and email.  
AOS 112 and RMC 112 are cross-listed. (1.2)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100  
Course fee

2019-2020 College of Lake County Catalog  269
AOS 113  Comprehensive Word Processing  (3-0)  3 Hours
This is a comprehensive course in the use of word processing software on a computer. Topics include entering, editing, formatting, saving, retrieving, using writing tools, and printing. Advanced and specialized topics to be covered include tables, merge, macros, outlining, templates, styles, themes, footnotes/endnotes, headers/footers, and graphics. Several projects will be completed during the semester. (1.2)  Course fee

AOS 114  Outlook  (1-0)  1 Hour
In this course, students will learn the features of Microsoft Outlook software. Topics covered include using Outlook for e-mail, using the Calendar feature to schedule events and appointments, entering and editing contacts, and creating and updating tasks and notes. Several projects will be completed during the semester. (1.2)  Course fee

AOS 118  Advanced Word Processing/ Desktop Publishing  (3-0)  3 Hours
In this course students will gain an understanding of desktop publishing concepts using Word and Publisher applications. Topics covered include desktop publishing terminology, graphics, typstyles, styles, design principles, forms creation, and web publishing and storage. Students will produce and assemble a portfolio of their work including business cards, flyers, brochures, and newsletters that combine text with graphics. (1.2)  Prerequisite: AOS 113 or passing score on the College Reading and Writing Readiness  Course fee

AOS 122  Business Mathematics  (3-0)  3 Hours
Students will solve math problems encountered in a business environment. Areas of study include a review of mathematical computations, algebra, percentages, discounts, markups/markdowns, simple and compound interest, loans, depreciation, inventory, and stocks and bonds. (1.2)  Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

AOS 170  Computer Keyboarding I  (1.5-1)  2 Hours
Computer Keyboarding I meets the needs of individuals seeking basic keyboarding skills on computers and provides the initial instruction leading to an employable skill level. By learning to use proper “touch” keystroking techniques, students will master the alphabetic keyboard including numbers and symbols. Once the keyboard is learned, emphasis will be placed on building speed and accuracy. (1.2)  Course fee

AOS 171  Computer Keyboarding II  (1.5-1)  2 Hours
This course is designed to continue building speed and accuracy skills on the alphabetic keyboard using proper “touch” keyboarding techniques. Proper formatting of basic business documents used in today’s office will be introduced. (1.2)  Prerequisite: AOS 170, or Corequisite AOS 170, or permission of instructor  Course fee

AOS 172  Business English  (3-0)  3 Hours
This course is designed to teach the application of standard rules of business English necessary to ensure accuracy in written communications in the business office. This course includes intensive coverage of correct business word usage, punctuation, grammar, and sentence structure. (1.2)  Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 100 or ELI 109 or ELI 110 or ENG 100  Course fee

AOS 175  Keyboarding Speed and Accuracy Building  (1.5-1)  2 Hours
This course is for students with intermediate skill levels who wish to improve their speed and accuracy on the computer. (1.2)  Course fee

AOS 178  Intermediate Keyboarding  (2-0)  3 Hours
Intermediate Keyboarding focuses on increasing speed/accuracy on timings and increasing the production rate of office documents. Students will learn formatting of business correspondence. A knowledge of word processing software is required. (1.2)  Prerequisite: College Reading and Writing Readiness AND AOS 171 or AOS 175 or permission of instructor  Course fee

AOS 214  Administrative Office Procedures  (3-0)  3 Hours
This course will prepare students for the role of the professional office manager in today’s global job market. Topics to be covered include defining the administrative office manager, understanding basic forms of organizations, developing problem-solving skills, recruiting and orienting a culturally diverse workforce, and analyzing office jobs, salaries, benefits, and workplace issues. Also covered will be resume writing, travel arrangements, planning meetings and conferences, and time and record management. (1.2)  Prerequisite: College Reading and Writing Readiness  Course fee

AOS 215  Presentation Software  (3-0)  3 Hours
In this course students will learn to design, create, and present dynamic presentations using Microsoft’s PowerPoint software. Topics include adding media, custom animation, and web posting. (1.2)  Prerequisite: College Reading and Writing Readiness  Course fee

AOS 216  Integrated Office Projects  (3-0)  3 Hours
Students will complete integrated projects required in a business environment. Students will use the components of Microsoft Office (Word, Excel, PowerPoint, Access, Outlook) and the Internet. This is a capstone course that requires the integration of previously learned skills. (1.2)  Prerequisites: (AOS 112 and AOS 113) or CIT 119  Course fee

AOS 233  Management Skills  (3-0)  3 Hours
This course focuses on the actions of managers as they perform their planning/leading/organizing/controlling responsibilities. Students in this course will both study and practice critical management competencies. These competencies include problem-solving, relationship building, motivating, leading teams, performance management, conflict resolution, delegating, and change management. AOS 233 and BUS 233 are cross-listed. (1.2)  Prerequisite: BUS 121 or AOS 214 or Department Consent.
AOS 237 Managerial Communication (3-0) 3 Hours
This course will guide students in developing the communication skills needed to be successful as a manager. The course is organized in a workshop format, in which students develop, refine, and practice communication skills used by successful managers. The course includes a focus on both oral and written skills used in business at a management level. The content of the course will also include a focus on organization, non-verbal (both delivery and listening) and presentation skills. At the conclusion of the course, students will be able to prepare written business documents such as proposals, memos, and emails; organize and conduct meetings and write meeting minutes; and make formal and informal business presentations. Students will have developed communication skills that effectively inform and persuade their audience in addition to enhancing their credibility as managers. AOS 237, BUS 237 and RMC 237 are cross-listed. (1.2)
Prerequisite: AOS 111 or ENG 121

AOS 239 Social Media/Social Networking in Business (3-0) 3 Hours
This course provides an introduction to the use of social media and social networking within a business context. The course provides an overview of the role of social media and networking in building and managing customer relationships as a component of the marketing program. Students will develop the tools to communicate with customers using the major social network platforms such as Facebook, LinkedIn, Twitter and blogs. AOS 239 and BUS 239 are cross-listed. (1.2)
Prerequisite: College Reading and Writing Readiness Course fee

AOS 253 Leadership (3-0) 3 Hours
This course will focus on the elements and concepts related to leadership. Various levels of leadership concepts will be examined including self-leadership, entrepreneurial leadership, team leadership, strategic leadership, and organizational leadership. Topics include leadership vision, culture and values, and strategy development and execution. Personal leadership competencies such as emotional intelligence, cross-cultural competencies, and leveraging via delegation and talent development will also be covered. AOS 253 and BUS 253 are cross-listed. (1.2)
Prerequisite: BUS 121 or Department Consent. Recommended: BUS 223 or BUS 233 or AOS 233

AOS 299 Selected Topics in Office Automation (Var.) 1-3 Hours
A course designed to meet the needs of students for specialized instruction in current office automation topics. Topics will be identified for each section of the course. (1.2) Course fee
May be taken four times, but any topic only once

ADULT BASIC EDUCATION (ABE)

Adult Education and ESL Division, Building 4 (847) 543-2021

Adult Education classes are intended for people who live in Lake County. They are not appropriate for students with B1, B2, F1, F2, J1 or I2 visas, nor are they appropriate for short-term visitors to the U.S.

In general, students must be at least 18 years old in order to enroll in adult education classes. However, 16-year-olds and 17-year-olds may register with an official Secondary School Reference Form signed by their local High School authorized representative. U.S. High School graduates and 16-year-olds must meet additional eligibility requirements. New students must attend an orientation session before attending classes.

The Adult Education and ESL Division provides several specific types of educational opportunities and is funded in part by grants from the federal government.

ABE 10 Literacy I (Var.) 3-6 Hours
This course is an individualized program of instruction focusing on developing literacy skills in reading, writing and arithmetic. The course is designed to meet each student’s personal goals. (1.7) Course fee
May be taken four times for credit

ABE 11 Literacy II (Var.) 0.5-6 Hours
This course is designed to raise students’ basic literacy skills in reading, writing and arithmetic by using a variety of learning strategies to engage students in learning tasks and problem solving. Students will develop a personal word bank with everyday survival words, personal life/work words and the first 100 words on the Fry list of instant vocabulary. Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 0.0–1.9) OR consent of instructor or department chair. (1.7) Course fee
May be taken four times for credit

ABE 13 Beginning Mathematics 1 (Var.) 0.5-6 Hours
This course introduces students to whole numbers 0-100. Students will develop and apply number sense to read, write, compare and order whole numbers 0-100. Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 0–1.9) OR consent of instructor or department chair. (1.7) Course fee
May be taken four times for credit

ABE 15 Beginning Mathematics 2 (Var.) 0.5-6 Hours
This course introduces students to addition and subtraction of whole numbers and introductory concepts of measurements. Students will solve word problem involving addition and subtraction. Students will read, record and use measurements. Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 0–1.9) OR consent of instructor or department chair. (1.7) Course fee
May be taken four times for credit

ABE 17 Beginning Mathematics 3 (Var.) 0.5-6 Hours
This course introduces students to geometric properties. Students will specify locations and describe spatial relationships. Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 0–1.9) OR consent of instructor or department chair. (1.7) Course fee
May be taken four times for credit
ABE 19  Beginning Mathematics 4  
(Var.)  0.5-6 Hours  
This course introduces students to surveys and graphs. Students will collect, organize, and record data.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 0–1.9) or consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 20  Beginning ABE 1  
(Var.)  0.5-6 Hours  
This course is an individualized program of instruction for students with emerging reading, writing, language, arithmetic and life skills development. Students will progress and master the basic skills at their own rate. Students’ needs determine level and kinds of materials used.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 2.0-3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 21  Beginning ABE 2  
(Var.)  0.5-6 Hours  
This course will review, teach and maintain basic skills in reading, writing, math and life skills. Students will progress at their own rate. Students’ needs determine level and kinds of materials used.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 2.0-3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 22  Basic Reading 1  
(Var.)  0.5-6 Hours  
This reading class teaches syllable patterns, phonemes, vocabulary and reading comprehension strategies.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 0.0–1.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 23  Basic Mathematics 1  
(Var.)  0.5-6 Hours  
This mathematics course introduces students to basic number concepts, mathematical language, and whole number topics (0-100,000). Students will develop and apply number sense to read, write, compare and order whole numbers 0-100,000.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 2.0–3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 24  Basic Reading 2  
(Var.)  0.5-6 Hours  
This course is a reading class that includes development of basic decoding skills, vocabulary, fluency and comprehension.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 2.0-3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 25  Basic Mathematics 2  
(Var.)  0.5-6 Hours  
This mathematics course introduces students to fractions and pictorial representation. Students will demonstrate an understanding of fractions as part of a whole to match fractions to a pictorial representation.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 2.0–3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 26  Basic Reading 3  
(Var.)  0.5-6 Hours  
This basic reading class teaches syllable patterns, phonemes, vocabulary and reading comprehension strategies.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 2.0–3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 27  Basic Mathematics 3  
(Var.)  0.5-6 Hours  
This mathematics course introduces geometry and rounding of whole numbers. Students will demonstrate an understanding of the concepts of area and relate area to multiplication and addition.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 2.0–3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 28  Basic Reading 4  
(Var.)  0.5-6 Hours  
This basic reading class teaches syllable patterns, phonemes, vocabulary and reading comprehension strategies.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 2.0-3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 29  Basic Mathematics 4  
(Var.)  0.5-6 Hours  
This mathematics course introduces multiplication and division facts (0-12) and simple probability. Students will calculate products and quotients of whole numbers.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 2.0–3.9) OR consent of instructor or department chair. (1.7)  
Course fee  
May be taken four times for credit  
ABE 30  Intermediate ABE 1  
(Var.)  0.5-6 Hours  
This course is for students who want to progress and master the basic skills in a group learning situation. Course instruction will include reading, language development, writing and mathematics. Students may progress at their own rate.  
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 4.0-5.9) OR consent of instructor and/or department chair. (1.7)  
Course fee  
May be taken four times for credit
ABE 31 Intermediate ABE 2 (Var.) 0.5-6 Hours
This course will include intermediate reading, language development, writing and mathematics skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 32 Intermediate Reading 1 (Var.) 0.5-6 Hours
This course covers intermediate basic reading comprehension strategies, vocabulary, fluency and decoding skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 33 Intermediate Mathematics 1 (Var.) 0.5-6 Hours
This mathematics course introduces students to basic numeracy concepts of decimals and conversions of fractions, decimals and percents. Students will represent, order and compare decimals, fractions, and mixed numbers from the thousandth place to millions place.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 34 Intermediate Reading 2 (Var.) 0.5-6 Hours
This course covers intermediate basic reading comprehension strategies, vocabulary, fluency and decoding skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 3.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 35 Intermediate Mathematics 2 (Var.) 0.5-6 Hours
This mathematics course will introduce students to multiplication and division of multi-digit numbers and order of operations. Students will identify, understand and use math operation symbols and their order of operation.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 36 Intermediate Reading 3 (Var.) 0.5-6 Hours
This course is an intermediate basic reading class that develops decoding skills, vocabulary, fluency and comprehension.
Prerequisite: Students will be tested with a standardized assessment (e.g. TABE 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 37 Intermediate Mathematics 3 (Var.) 0.5-6 Hours
This mathematics course will introduce students to the four basic math operations with decimals, and coordinate graphing of points. Students will perform the four basic math operations with decimals and use two dimensional coordinate grids to represent points.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 38 Intermediate Reading 4 (Var.) 0.5-6 Hours
This course is an intermediate basic reading class that develops decoding skills, vocabulary, fluency and comprehension. (1.7)
Course fee
May be taken four times for credit

ABE 39 Intermediate Mathematics 4 (Var.) 0.5-6 Hours
This mathematics course will introduce students to measurements, angles, interpretation of complex graphs and charts and the four basic math operations with fractions. Students will solve problems involving measurement, analyze data from complex graphs and charts and demonstrate strategies for adding, subtracting, multiplying and dividing fractions.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 4.0-5.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 40 High Intermediate ABE 1 (Var.) 0.5-6 Hours
This course focuses on instruction in reading, language development, mathematics, as well as problem-solving skills. Real-life applications including work-related skills will be covered.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 41 High Intermediate ABE 2 (Var.) 0.5-6 Hours
This course is designed to teach and review advanced basic reading, writing, mathematics, and problem-solving skills. Real-life applications including work-related skills will be covered.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 42 High Intermediate Reading 1 (Var.) 0.5-6 Hours
This course teaches advanced basic reading comprehension strategies, vocabulary, fluency and decoding skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 43 High Intermediate Mathematics 1 (Var.) 0.5-6 Hours
This mathematics course will introduce students to positive and negative integers, application of number properties and a continuation of graphic representation. Students will apply number properties, compute with positive and negative integers and analyze visual data.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit
COURSE DESCRIPTIONS

ABE 44  High Intermediate Reading 2
(Var.)  0.5-6 Hours
This course teaches advanced basic reading comprehension strategies, vocabulary, fluency and decoding skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 45  High Intermediate Mathematics 2
(Var.)  0.5-6 Hours
This mathematics course will introduce students to exponents, radicals, functions and 3-dimensional geometric figures. Students will evaluate exponents, square roots and absolute value of whole numbers.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 46  High Intermediate Reading 3
(Var.)  0.5-6 Hours
This course teaches advanced basic reading comprehension strategies, vocabulary, fluency and decoding skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 47  High Intermediate Mathematics 3
(Var.)  0.5-6 Hours
This mathematics course will introduce students to problems involving ratio, proportion and percentages. Students will solve problems involving ratio, proportion and percentages.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 48  High Intermediate Reading 4
(Var.)  0.5-6 Hours
This course teaches advanced basic reading comprehension strategies, vocabulary, fluency and decoding skills.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee

ABE 49  High Intermediate Mathematics 4
(Var.)  0.5-6 Hours
This mathematics course will introduce students to algebraic expressions, equations, statistics and probabilities. Students will solve real-life and mathematical problems using numerical and algebraic expressions.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 6.0-8.9) OR consent of instructor or department chair. (1.7)
Course fee
May be taken four times for credit

ADULT EDUCATION BRIDGE PROGRAM (BRGA)

BRGA 30  Introduction to Computer Technology Bridge Program
(Var.)  0.5-6 Hours
This Bridge Computer Information Technology course is a course that will prepare students to the college-level ICAPS in Computer Information Technology as part of the Information Technology career cluster pathway. This Bridge course is a course for students at the high intermediate level and will require a higher TABE score than the Pre-Bridge course. It will focus on building the basic reading, vocabulary, math and computer skills needed for students to prepare them for the college-level ICAPS in Computer Information Technology certificate program. The course will allow students to learn a variety of workplace skills and language, career exploration and planning, and other career information through investigation of contextualized readings and activities about skills and knowledge required by the occupations in the Information Technology career cluster. The variable credit will accommodate the various patterns of intensity and duration that will be offered and allow the program the flexibility needed to meet the needs of the student.
Prerequisites: Must have a 8.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department consent.
Corequisites: May also be enrolled in or previously enrolled in English as a Second Language (ESL) , or ABE 40 or ASE 10 or ASE 20 level classes. MUST have a 6.0 or higher score on a standardized test and Department consent. (1.7)
Course fee
May be taken four times for credit toward degree

BRGA 20  Introduction to Administrative Management Technology Bridge Program
(Var.)  0.5-6 Hours
This course will focus on building the basic reading, vocabulary, math and computer skills needed for students interested in entering an Office Administration career cluster course of study. The course will allow students to explore a variety of office workplace skills through investigation of contextualized readings and activities about topics related to CLC Administrative Management and Technologies certificates and degrees.
Corequisites: May also be enrolled in or
BRGA 40 Introduction to Manufacturing for ELLs  
(Var.) 0.5-6 Hours  
This course is an exploratory introduction to manufacturing careers. It is for English Language Learners at the High Intermediate or Low Advanced levels of ESL that are interested in transitioning to one of the following career programs: Heating Refrigeration and Air Conditioning, Mechatronics, Welding, Automotive Technician, Automotive Collision Repair, or Computerized Numerical Control. In this course, students will improve their English Language Skills while learning about these various careers. (1.9)  
Corequisite: ESL 50 or ESL 52  
Course fee  
May be taken four times for credit

BRGA 44 Introduction to Math for Manufacturing  
(Var.) 0.5-6 Hours  
This course provides an introduction to common applications of mathematics within manufacturing. Students are given opportunities to develop proficiency in arithmetic calculations and to apply mathematical principles for effective on-the-job training applications. The use of mathematical principles and operations as they relate to machine control and repair/fabrication methods is emphasized.  
Prerequisite: ABE 40 and a score of 7.0 or higher on a standardized testing instrument and teacher recommendation. (1.7)  
Course fee  
May be taken four times for credit

BRGA 45 Introduction to Manufacturing as a Career for ABE  
(Var.) 0.5-6 Hours  
This course will focus on building the basic reading, vocabulary, measurement and computer skills needed for students interested in entering a manufacturing career cluster course of study. The course will allow students to explore a variety of manufacturing careers through investigation of contextualized readings and activities about topics related to the manufacturing sector.  
Prerequisite: ABE 40 or students must achieve a 7.0 on the high intermediate level of the current NRS standardized testing instrument.  
Recommended: Teacher recommendation from an ABE 40 or higher level class will also be considered. (1.7)  
Course fee  
May be taken four times for credit

BRGA 46 Exploring Manufacturing Careers at the College of Lake County  
(Var.) 0.5-6 Hours  
This course will assist students in examining the components of manufacturing career choices – especially those offered at the College of Lake County. The focus is on manufacturing career awareness, planning skills, decision-making processes and a self-assessment instrument to help identify manufacturing career options. In-depth exploration of the programs included in the college’s manufacturing careers will provide a foundation for transition to the manufacturing program of choice at the college.  
Prerequisite: ABE 40 or admission is determined by a 7.0 or higher on a high intermediate standardized test instrument. (1.7)  
Course fee  
May be taken four times for credit

BRGA 50 Reading Improvement Healthcare Bridge  
(Var.) 0.5-6 Hours  
This course will focus on critical reading skills while preparing for the General Education Development exam and/or the college placement test using contextualized reading materials related to the healthcare field. In addition, this course will prepare students to transition into college entry level allied healthcare coursework. The course will allow students to apply critical inquiry and investigative skills, as well as develop questions and form hypotheses about various healthcare topics; Discussions and case studies will be reviewed through contextualized readings. Graphics will be used to predict outcomes to improve visual literacy skills.  
Prerequisite: Must have a 6.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department Consent.  
Corequisite: Must be enrolled in or previously enrolled in ESL 52 or 60 or ABE 38 or 40 or GED 10 or 20. (1.8)  
Course fee  
May be taken four times for credit

BRGA 52 Social Sciences Healthcare Bridge  
(Var.) 0.5-6 Hours  
This course will focus on critical reading skills in the social sciences while preparing for the General Education Development exam and/or the college placement test using contextualized reading materials related to the healthcare field. In addition, this course will prepare students to transition into college entry level allied healthcare coursework. The course will allow students to apply critical inquiry and investigative skills, as well as develop questions and form hypotheses about various social science healthcare topics; Discussions and case studies will be reviewed through contextualized readings. Graphics will be used to predict outcomes to improve visual literacy skills.  
Prerequisite: Must have a 6.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department Consent.  
Corequisite: Must be enrolled in or previously enrolled in ESL 52 or 60 or ABE 38 or 40 or GED 10 or 20. (1.8)  
Course fee  
May be taken four times for credit

BRGA 53 General Science Health Care Bridge  
(Var.) 0.5-6 Hours  
This course will focus on critical reading skills in the general sciences with a major focus on Life Science, while preparing students for the General Education Development exam and/or the college placement test using contextualized reading materials. In addition, this course will prepare students to transition into college entry-level allied healthcare coursework.  
Prerequisite: Must have a 6.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department Consent.  
Corequisite: Must be enrolled in or previously enrolled in ESL 52 or 60 or ABE 38 or 40 or GED 10 or 20. (1.8)  
Course fee  
May be taken four times for credit
BRGA 54  Practical Mathematics
Health Care Bridge
(Var.)  2-5 Hours
This is a contextualized course in mathematics
designed to prepare students for health care
occupations and college level allied health
courses while preparing for the GED exam. The
course will review whole numbers, common
fractions, decimals, metrics, and basic algebra
and geometry. In addition, it will review graphs
and diagrams that are used in health care, and
students will be asked to apply data, statistics
and probability skills to solve the problems.
Students will also learn how to solve word
problems that apply to a variety of health care
topics. (1.8)
Course fee
May be taken four times for credit

BRGA 55  Job Readiness Health Care Bridge
(3-0)  3 Hours
The Job Readiness Class for Health Care Bridge
focuses on preparing Adult Education students
for careers in the field of health care and
college level courses. This course will focus
on career exploration, and standards and
expectations for working in the allied health
field and participating in college level courses.
It will emphasize basic computer skills needed
for work including the importance of data entry
and the use of data trends for diagnosis. The
course will focus on team activities requiring
communication and listening effectively and
developing critical thinking and problem solving
skills for the work place. (1.8)
Course fee
May be taken four times for credit

BRGA61  Writing Improvement for Early
Childhood Education Bridge
(Var.)  0.5-6 Hours
This course prepares learners at the advanced
level of English language proficiency to skills that
will facilitate their transition to college classes
and/or careers. They will develop strategies
for academic success including: study skills;
listening skills; note taking skills. They will learn
to use a Learning Management System and
other technology for education and training.
In order to be better learners and/or teachers,
and to have simulated career training or
academic experience, students may complete a
basic adult education tutor training. (1.7)
Course fee
May be taken four times for credit

BRGA 60  Reading Improvement Early
Childhood Education Bridge
(Var.)  0.5-6 Hours
This course will prepare students for a career
pathway in early childhood education. It will
introduce them to important concepts in the
early childhood education field. It will focus on
critical reading skills necessary to the literature
in the field of early childhood education.
Must have a 6.0 or higher on the Test of Adult
Basic Education (TABE) Level D and Department
Consent. (1.7)
Corequisite: Must be enrolled in or previously
enrolled in ESL 52, 53, 60, 61 or ABE 38.
Course fee
May be taken four times for credit toward
degree

BRGA67  Advanced Grammar for Transitions
(Var.)  0.5-6 Hours
This course introduces English Language
Adult Education students to English language structures to
help them in academic and career speaking
and writing at the advanced level. Structures
covered in class may include introductions to
perfect aspect, tag questions, passive mode,
and conditionals. Practice includes both oral
and written activities. (1.7)
Course fee
May be taken four times for credit

BRGA68  Advanced Reading for Transitions
(Var.)  0.5-6 Hours
This course introduces English Language
Adult Education students to English language proficiency to theme based content
readings. They will develop strategies to read
college textbooks, career training materials,
and other articles. These strategies may include
previewing, skimming, scanning, annotating,
and note-taking. Students will practice the skills
of paraphrasing and summarizing. In addition,
students will read non-adapted fiction and non-
fiction. (1.7)
Course fee

BRGA69  Advanced Writing for Transitions
(Var.)  0.5-6 Hours
This course introduces English Language
Adult Education students to English language proficiency to writing in English in
order to prepare them for later academic
written assignments and/or work-related
writing. Students may practice narrative and
expository forms through written exercises,
journals, personal essays, expository essays,
and summaries. Students may also write
a short research paper with appropriate
citations. (1.7)
Course fee

ADULT LANGUAGE EDUCATION
(ATE)

Adult Education and ESL Division, Building 4
(847) 543-2021

Adult Education classes are intended for
people who live in Lake County. They are not
appropriate for students with B1, B2, F1, F3, 11
or I2 visas, nor are they appropriate for short-
term visitors to the U.S.

In general, students must be at least 18
years old in order to enroll in adult education
classes. However, 16-year-olds and 17-year-
olds may register with an official Secondary
School Reference Form signed by their local
High School authorized representative. U.S.
High School graduates and 16-year-olds must
meet additional eligibility requirements. New
students must attend an orientation session
before attending classes.

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provides several specific types of educational
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from the federal government.
ADULT SECONDARY EDUCATION (ASE)

Adult Education and ESL Division, Building 4 (847) 543-2021

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In general, students must be at least 18 years old in order to enroll in adult education classes. However, 16-year-olds and 17-year-olds may register with an official Secondary School Reference Form signed by their local High School authorized representative. U.S. High School graduates and 16-year-olds must meet additional eligibility requirements. New students must attend an orientation session before attending classes.

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ASE 10 Pre-ASE 1 (Var.) 0.5-6 Hours
(Formerly GED 10) This course is an individualized program in general language development and mathematics. Students progress at their own rates in reading comprehension, English grammar, spelling, and punctuation as well as mathematics. The program is designed to raise basic skills in mathematics, reading and language to a level which will enable students to pursue the ASE Programs.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 9.0–10.9) or consent of instructor and/or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 11 ASE Preparation 2 Low (Var.) 0.5-6 Hours
(Formerly GED 11) This course is an individualized program in general language development and mathematics. Students will progress at their own rates through reading comprehension, English grammar, spelling, and punctuation as well as mathematics. The program is designed to raise basic skills in mathematics, reading and language to a level which will enable students to pursue the ASE program.
Prerequisite: Must be placed into class using a mandatory assessment or consent of instructor and/or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 12 Pre-ASE Reading 1 (Var.) 0.5-6 Hours
(Formerly GED 12) This course focuses on critical reading techniques. It provides information-processing skills that will be useful in ASE preparation and in an academic or workplace environment.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 9.0-10.9) OR consent of instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 13 Pre-ASE Mathematics 1 (Var.) 0.5-6 Hours
(Formerly GED 13) This mathematics course will cover the real number system and charts and graphs with more than one variable.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 9.0–10.9) OR consent of instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 14 Pre-ASE Reading 2 (Var.) 0.5-6 Hours
(Formerly GED 14) This course incorporates reading and analysis of informational selections to develop critical reading skills necessary for success on the ASE exam.
Prerequisite: Students will be tested with a standardized assessment (e.g. TABE 9.0-10.9). (1.8)
Course fee
May be taken four times for credit

ASE 15 Pre-ASE Mathematics 2 (Var.) 0.5-6 Hours
(Formerly GED 15) This mathematics course will cover dependent probability, functions and graphs of linear equations.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 9.0–10.9) OR consent of instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 16 Pre-ASE Reading 3 (Var.) 0.5-6 Hours
(Formerly GED 16) This course introduces students to Social Studies texts, concepts and skills in preparation for the ASE exam.
Prerequisite: Students will be pre-and post tested with a standardized assessment (e.g. TABE 9.0-10.9) OR consent of instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 17 Pre-ASE Mathematics 3 (Var.) 0.5-6 Hours
(Formerly GED 17) This mathematics course will cover theorems of geometric figures and coordinate geometry.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 9.0–10.9) OR consent of instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 18 Pre-ASE Reading 4 (Var.) 0.5-6 Hours
(Formerly GED 18) This course will emphasize the development of basic scientific skills. In addition, scientific vocabulary and reading comprehension will be addressed to assist students in preparing for the ASE Science exam.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE 9.0-10.9) OR consent of instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 19 Pre-ASE Mathematics 4 (Var.) 0.5-6 Hours
(Formerly GED 19) This mathematics course will cover mathematical symbols, their limitations, and measurement.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 9.0–10.9) OR consent of Instructor or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 20 ASE Preparation 1 (Var.) 0.5-6 Hours
(Formerly GED 20) This course is a preparation for those who want to take the ASE exam to earn their high school equivalency certificate. It is for adults who have not completed high school.
Prerequisite: Must be placed into class using a mandatory assessment (e.g. TABE pretest levels from 11.0-12.9) OR consent of instructor and/or department chair. (1.8)
Course fee
May be taken four times for credit

ASE 21 ASE Preparation 2 (Var.) 0.5-6 Hours
(Formerly GED 21) This course is for those who need further instruction before attempting the
COURSE DESCRIPTIONS

ASE 22  ASE Reading 1
(Var.) 0.5-6 Hours
(Formerly GED 22) This course broadens
reading comprehension skills and builds
vocabulary skills. It provides information-
processing skills that are necessary in ASE
preparation and in an academic or workplace
environment appropriate to the course level.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE 11.0-12.9)
OR consent of instructor or department chair.
(1.8)
Course fee
May be taken four times for credit

ASE 23  ASE Algebra 1
(Var.) 0.5-6 Hours
(Formerly GED 23) This mathematics course
will cover the real number system, quantities, and
structure in expressions.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE 11.0-12.9)
OR consent of instructor or department chair.
(1.8)
Course fee
May be taken four times for credit

ASE 24  ASE Reading 2
(Var.) 0.5-6 Hours
(Formerly GED 24) This course broadens
reading skills of complex informational texts.
It provides information-processing skills
that are necessary in ASE preparation and in
an academic or workplace environment
appropriate to the course level.
Prerequisite: Mandatory placement with a
standardized assessment (e.g. TABE 11.0-12.9)
OR consent of instructor or department chair.
(1.8)
Course fee
May be taken four times for credit

ASE 25  ASE Algebra 2
(Var.) 0.5-6 Hours
(Formerly GED 25) This mathematics course
will cover creating equations, arithmetic with
polynomials and rational expressions.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE pretest levels
from 9.0-10.9) OR consent of instructor or
department chair. (1.8)
Course fee

ASE 26  ASE Reading 3
(Var.) 0.5-6 Hours
(Formerly GED 26) This course broadens
reading skills in History and Social Studies.
It provides information-processing skills
that are necessary in ASE preparation and in
an academic or workplace environment
appropriate to the course level.
Prerequisite: Mandatory placement with a
standardized assessment (e.g. TABE 11.0-12.9)
OR consent of instructor or department chair.
(1.8)
Course fee
May be taken four times for credit

ASE 27  ASE Algebra 3
(Var.) 0.5-6 Hours
(Formerly GED 27) This mathematics course
will cover reasoning with equations and
inequalities.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE pretest levels
from 9.0-10.9) OR consent of instructor or
department chair. (1.8)
Course fee

ASE 28  ASE Reading 4
(Var.) 0.5-6 Hours
(Formerly GED 28) This course broadens
reading skills in science and technical subjects.
It provides information-processing skills
that are necessary in ASE preparation and in
an academic or workplace environment
appropriate to the course level.
Prerequisite: Mandatory placement with a
standardized assessment (e.g. TABE 11.0-12.9)
OR consent of instructor or department chair.
(1.8)
Course fee

ASE 29  ASE Algebra 4
(Var.) 0.5-6 Hours
(Formerly GED 29) This mathematics course
will cover interpreting and building functions,
as well as linear, quadratic and exponential
models.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE pretest levels
from 9.0-10.9) OR consent of instructor or
department chair. (1.8)
Course fee

ASE 30  ASE Geometry 1
(Var.) 0.5-6 Hours
(Formerly GED 30) This mathematics course
will introduce students to transformations
in the plane and congruence in terms of
rigid motions. Students will experiment with
transformations in the plane.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE 9.0-10.9) or
consent of instructor or department chair. (1.8)
Course fee

ASE 31  ASE Geometry 2
(Var.) 0.5-6 Hours
(Formerly GED 31) This mathematics course
will cover geometric theorems, geometric
constructions and geometric properties with
equations.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE pretest levels
from 9.0-10.9) OR consent of instructor or
department chair. (1.8)
Course fee

ASE 32  ASE Geometry 3
(Var.) 0.5-6 Hours
(Formerly GED 32) This mathematics course
will introduce students to similarity and
right triangles. Students will prove theorems
involving similarity.
Prerequisite: Must be placed into class using a
mandatory assessment (e.g. TABE pretest levels
from 9.0-10.9) OR consent of instructor or
department chair. (1.8)
Course fee

ASE 33  ASE Geometry 4
(Var.) 0.5-6 Hours
(Formerly GED 33) This mathematics course
will cover circles, geometric measurement and
dimensions.
Recommended: Must be placed into class using
a mandatory assessment (e.g. TABE 9.0–10.9)
or consent of instructor or department chair.
(1.8)
Course fee

AGRICULTURE (AGR)

Biological and Health Sciences Division,
Room B213, (847) 543-2042

AGR 121  Introduction to Sustainable Agriculture
(2-2) 3 Hours
This course introduces students to agroecology
and permaculture at the macro and micro
scales, through both global and local examples.
Topics include design, implementation
and management of integrated perennial
food systems, including orchard and fungi
crops. Standard for sustainable soil and
water management, organic certification,
seed collecting and sourcing, and other key
regenerative farming methods will be explored.
Crop production plans for multi-year phased
growing operations are emphasized. Harvest,
storage and shipping methods to maximize
crops sales also are covered. Field practice is integrated with class sessions for the lecture/lab based course. (1.1).
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 and Basic Algebra Readiness or the appropriate score on the Math Placement Test.
Recommended: Basic biology or ecology coursework would be helpful.
Course fee

AGR 122 Sustainable Food Crop Production Methods
3 Hours
This course covers a range of practical field production methods including season extension practices like floating row covers, cold frames and high tunnels, and annual fruit and vegetable crop planning. Students will explore intercropping, vertical growing, successional planting and other harvest maximization techniques though lecture and lab. Sustainable practices for regional climate and soil conditions and organic growing methods are emphasized. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Note: For online sections, College Reading and Writing Readiness is required
Fulfills the CLC I/M Education Requirement.
IAI: S1 901N

ANT 221 Cultural Anthropology
3 Hours
This course is a study of the nature and development of culture. The economic, political, religious and social organizations of selected human groups (with an emphasis on non-Western and underrepresented groups) are examined, compared and evaluated. It explores the cultural determinations of individual human behavior and means of adaptation. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Fulfills the CLC I/M Education Requirement.
IAI: S1 901N

ANT 222 Introduction to Physical Anthropology
3 Hours
This course is an introductory survey of basic concepts, theories, and information addressing physical anthropology. Specifically, this course explores human origins, primate and human fossil records, population genetics, human adaption and variation, and humankind’s place in the world ecology. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S1 902

ANT 224 Introduction to Archaeology
3 Hours
This course is a survey of the concepts and methods essential to the study of prehistoric cultures with emphasis on the prehistoric cultures of the Americans. Topics include site location, techniques of excavation, methods of dating artifacts and sites, analysis of artifacts, reconstruction of culture history and cultural resource management. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S1 903

ANT 226 Field Methods
3 Hours
This course is an introduction to the techniques of field archaeology and includes instruction in excavation and recording, exploratory surveys and mapping, project planning, research design, laboratory analysis, and preparation of research reports. The class will be conducted at an approved archaeological site, such as the Mayflower Archaeological Preserve in Belize, Central America. The course will be comprised of actual field work, along with lectures and discussion. (1.1)
Prerequisite: College Reading and Writing Readiness

ANT 228 Cross-Cultural Relationships
3 Hours
Combining the anthropological traditions of a strong cross-cultural approach, a focus on small-scale cultures, and an emphasis on traditionally underrepresented groups, this course offers a unique perspective on the analysis and understanding of the globalization process. Application of anthropological concepts, techniques, and information will be applied to understanding the global mix of cultures increasingly forged by economic development, with particular attention given to the relationships, obligations, and responsibilities of small and large-scale cultures. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: S1 904D

ANT 299 Special Topics in Anthropology
3 Hours
This course addresses the in-depth study of special topics in anthropology that do not have specific courses in the catalog. Course content will vary depending on the topic being studied and may include topics in Cultural Anthropology, Archaeology, Physical Anthropology, Applied Anthropology, and Linguistic Anthropology. This course may be taken four times for a maximum of 6 hours towards degree completion. (1.1)
Prerequisite: To be determined relative to topic
May be taken four times, but any topic only once

ARABIC (ARA)

Communication Arts, Humanities and Fine Arts Division, Room B213,
(847) 543-2040

ARA 121 Elementary Modern Standard Arabic I
4 Hours
An introduction to the phonology and writing systems of modern standard Arabic and its basic vocabulary and fundamental structures. This course offers combined training in listening, speaking, reading, and writing through dialogues, texts, and narratives with historical, literary, and religious content. (1.1)
ARC 122  Elementary Modern Standard Arabic II (4-0)  4 Hours
A continuation of the mastery of Arabic phonology, basic vocabulary, and fundamental syntax. This course puts emphasis on oral reading and writing practice based on selected texts from Islamic literature, including the Qur'an and Hadith. (1.1) Prerequisite: ARA 121

ARC 221  Intermediate Modern Standard Arabic I (4-0)  4 Hours
Expansion of the student’s understanding of the Arabic language with active vocabulary and structure and the development of reading and oral skills. Selected readings include texts and narratives from various genres of Arabic prose literature. (1.1) Prerequisite: ARA 122

ARC 222  Intermediate Modern Standard Arabic II (4-0)  4 Hours
This course continues to expand the knowledge of Arabic grammar, with emphasis in verbal and written communication. Films, readings and materials from newspapers, magazines, and media are utilized so students explore the Arabic-speaking world and cultures based on authentic materials. (1.1) Prerequisite: ARA 221
Fulfills the CLC I/M Education Requirement.
IAI: H1 900

ARCHITECTURAL TECHNOLOGY (ARC)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

ARC 121  Architectural Graphics (2-3)  3 Hours
A course which presents the fundamental principles of graphical communication for the Architectural student in architectural terms. Students will learn to understand the built environment through drawing. Students will learn to communicate concepts verbally and graphically through both hand and computer drawing. (1.2) Course fee

ARC 151  Advanced Concepts of Project/ AutoCAD Management (2-2)  3 Hours
Course is designed to teach an understanding of the concepts of sharing data through xref management as it relates to the division of AutoCAD files regarding the use of xref base drawing, model space drawing and paper space drawing. Establishing files that relate to the indexing of Construction Drawings will also be addressed. (1.2) Prerequisite: ARC 121 and CAD 117

ARC 170  Architectural Design (2-3)  3 Hours
This course enables the student to become familiar with the basic principles and considerations involved in the functional aesthetic aspects of architectural design. The course further provides the student with practical “hands on” experience in solving architectural design problems. Note: Completion of Architectural Graphics (ARC 121) or an equivalent drawing course is recommended. Some knowledge of architectural materials and construction techniques will be helpful. (1.2) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
Course fee

ARC 171  Architectural Working Drawings (2-2)  3 Hours
This course provides the student with the knowledge and skills necessary to draw detailed building construction documents. Students draw site plans, foundation plans, floor plans, elevations and sections. (1.2) Prerequisite: ARC 121, CAD 117, and CAD 178 (previously CAD 214) (all C or better)
Course fee

ARC 211  Structural Steel Design (2-3)  3 Hours
Relating of structural steel components to a total structural system. Note: Student must furnish basic required equipment. (1.2) Prerequisite: EGR 216

ARC 214  Reinforced Concrete and Timber Design (2-3)  3 Hours
Relating concrete and timber structure components to total structural system. Note: Student must furnish basic required equipment. (1.2) Prerequisite: EGR 216

ARC 215  Architectural Project Planning (2-4)  4 Hours
This course provides the student with a practical problem-solving situation under job-like conditions. The student will synthesize all information previously learned to complete a building design project. This practical project will take the entire semester to complete and will incorporate information from all previous course work in the Architecture Program. Note: Fourth semester standing in the Architectural Program and departmental advisement are recommended. (1.2) Prerequisite: ARC 171 (C or better)
Course fee

ARC 216  Architectural Illustration (2-2)  3 Hours
This course is designed for students who are interested in using Autodesk 3ds Max Design software to enhance their 3D designs. Students will use the software to create 3D illustrations and rendering of products, interiors/exterior of buildings, to produce professional presentation quality drawings. The topics include advanced modeling and modifiers, advanced materials, animation, and the use of mental ray rendering software. Note: Completion of CAD179, or familiarity with Autodesk 3ds Max Design, is recommended prior to taking this course. Note: This course is cross listed with CAD 279. (1.2) Course fee

ARC 219  Introduction to Environmental Design (3-0)  3 Hours
Sustainable design is demanded in the marketplace and is necessary for projects that attempt to get toward a 0 carbon footprint. Students will analyze case studies of existing sustainable designs. Students will be able to explain the development of sustainable design. Students will develop an understanding of sustainable design and will be able to determine ways of providing a sustainable design as the solution to a design problem. (1.2) Prerequisite: College Reading and Writing Readiness

ARC 228  History of Architecture (3-0)  3 Hours
Students will develop an understanding of building typologies and the background of notable architecture. Emphasis will be on the survey of styles of architecture from classical to modern architecture. (1.1) Prerequisite: College Reading and Writing Readiness
ARC 251  Architectural Analysis
(2-2)  3 Hours
This course will advance the student’s ability to perform analysis of the form and space of the built environment beginning with experiential and empirical inquiry and expanding to formal, visual, compositional, and perceptual techniques. (1.2)
Prerequisite: ARC 121, ARC 171 and CAD 117 (all C or better)

ARC 252  Beginnings of Modern Architectural Theory
(3-0)  3 Hours
This course is an introduction to the concept of architectural theory as an integral part of making, understanding, and interpreting works of architecture. (1.2)
Prerequisite: College Reading and Writing Readiness

ARC 271  Commercial Working Drawings
(2-2)  3 Hours
Course designed to prepare students to complete plans and details of construction drawings of commercial buildings including: site plans, foundation, floor, wall, and roofing systems. (1.2)
Prerequisite: ARC 121
Course fee

ARC 275  Portfolio and Professional Development
(0-2)  1 Hour
This course will assist in preparing students for architectural career positions and develop skills that will increase their success in the market place. Presentation of design projects and professional development activities to enhance the student’s portfolio will be included.
Note: Instructor consent required. This course must be taken in the last semester before graduation and after the completion of 2 credit hours of Cooperative Work Experience. In addition, participation in an agreed upon professional group is required. (Fee will apply) (1.2)

ARC 299  Special Topics: Architecture Technology
(Var.)  1-4 Hours
This course is designed to respond to the rapidly developing pace of advancement in technology. Specialized topics will include the areas of design and construction.
Note: Topics will be identified for each section of the course. (1.2)
Prerequisite: To be determined relative to topic
May be taken four times, but any topic only once

ART (ART)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

ART 111  Printing Production
(3-0)  3 Hours
This course is a survey of the graphic arts process from the written copy to the finished piece, using technical aspects of digital print production. An overview of Electronic Print Technology will be explored. Students will learn terminology to communicate with others in the field. Specific units will draw on current industry software (object-oriented graphics) and paint software (bitmaped images), graphic design, typography, and color. The first half of course covers computer prepress including all software needed for art preparation. The second half of this course covers contemporary and historic printing methods.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.2)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Course fee

ART 121  Introduction to Art
(3-0)  3 Hours
This course will introduce students to an appreciation of the visual arts through an intercultural, social/historical approach. The course will also emphasize the nature of the creative process, integrating a study of the conceptual principles, with methods and materials which influence artistic critical thinking, problem solving, exploration, and discovery.
Note: A museum visit will be required during the semester at student expense. See course syllabus for approximate cost. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: F2 900

ART 122  Two Dimensional Design
(0-6)  3 Hours
This course is a basic studio experience for those interested in fine arts, commercial arts or art education. Students will carry out a series of problems relating to the elements and principles of two-dimensional design. The course will develop the students’ organizational abilities and technical skills, with the focus on verbal, written and visual definitions of terms and concepts of two-dimensional design used by artists and designers.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

ART 123  Color and Design Techniques
(0-6)  3 Hours
This studio course is a continuation of ART 122 that focuses on two dimensional design concepts, principles, and techniques. Use of color techniques and development will be focused on through a variety of mediums.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 122 (C or better)

ART 124  Drawing I
(0-6)  3 Hours
This course provides students with an introduction to drawing concepts and processes through freehand application. Throughout the course, in-class and out-of-class assignments will stress linear and tonal approaches to describe objects drawn from direct observation. The outline of class work is progressive and includes contour line drawing assignments, visual measuring and sighting, shape quality, composition, linear perspective, value drawing, master studies, and self-portraiture. Mediums employed will be graphite pencil, charcoal, and conte crayon.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
ART 125  Art for Elementary Teachers I  
(0-4)  2 Hours
A basic studio experience open to all students but designed for those majoring in general elementary education and those who are already teaching or working in some capacity with children at the elementary level. The student will be given practical experience in carrying out a series of techniques, teaching methods, and projects relating to the elements and principles of teaching art. (This course is primarily designed as a methods course for those people who wish to add art to the elementary curriculum.)

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

Course fee

ART 126  Art for Elementary Teachers II  
(0-4)  2 Hours
Designed as a continuation of ART 125 to provide additional studio experiences in greater depth for students who want additional experience in the methods and techniques of art and teaching art to children.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: ART 125

Course fee

ART 127  Drawing II  
(0-6)  3 Hours
This is a second level drawing course in which freehand linear, tonal, and color approaches will be used to describe the relationships of objects and spaces drawn from direct observation. All work will build off of basic drawing principles. Composition, application of media, concept development, and finished quality of each work will be stressed. Mediums employed will be graphite pencil, charcoal, conte crayon, and chalk pastel.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: ART 124

ART 128  Watercolor I  
(0-4)  2 Hours
This course explores the methods and techniques of water-soluble painting media with an emphasis on developing knowledge of compositional elements in watercolor.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

ART 129  Photography I  
(2-2)  3 Hours
This course introduces students to the principles of the photographic process from picture taking to printing. Emphasis is placed on historical photographs to illustrate these principles. The course includes the use of cameras, darkroom equipment, film processing, printing, and elements of photographic composition. It is designed for students with little or no background in photography.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

Course fee

ART 149  Digital Photography I  
(2-2)  3 Hours
This course covers the capture, processing, and output of digital images. Digital camera and scanner input technology, as well as inkjet and electronic media output are explored. Technical instruction in Adobe Photoshop image processing software will also be covered.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

Course fee

ART 220  Watercolor II  
(0-4)  2 Hours
This course is a continuation of Watercolor I with emphasis on advanced investigation of aesthetic concerns of water-based media. The course covers development of sophisticated ideas and techniques through directed experimentation. Various aqueous media will be explored through lecture, demonstrations and projects. Illustrated lectures examining the history of watercolor as a viable expression in the visual arts will be included.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: ART128

ART 221  Three Dimensional Design  
(0-6)  3 Hours
This course is a studio experience intended to introduce students to three-dimensional design through the use of a variety of materials, processes and concepts. The course stresses the technical aspects of design, construction, problem solving, and presentation, as well as concept development.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

ART 222  Computer Art I  
(0-6)  3 Hours
This course presents a computer software-based approach to produce art. Visual image manipulation and generation will be stressed, including the integration of computer hardware, software, and peripheral devices as tools to manufacture, capture, and combine traditional and contemporary visual ideas as applied to art and design.

Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)

Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

Course fee
COURSE DESCRIPTIONS

ART 223 Sculpture I (0-6) 3 Hours
This course is an introduction to the processes of creating three-dimensional sculptural art forms. Students will be exposed to a variety of techniques, materials, and equipment used by artists to create sculpture.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Course fee

ART 224 Painting I (0-6) 3 Hours
This course will expose students to the methods and techniques of various painting media to develop knowledge of composition. The course will concentrate on the basic techniques of the direct and indirect methods of oil painting.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

ART 225 Figure Drawing (0-6) 3 Hours
Continuation of basic drawing with the application of drawing techniques and concepts as related to the figure.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 124
Course fee

ART 226 Ceramics I (0-6) 3 Hours
This beginning ceramics course covers basic handbuilding (pinching, coiling, and slab building), wheel throwing (basic cylinder and bowl forms), and glaze techniques. Emphasis is placed on the understanding of the ceramic process and ceramics as a fine art medium.
Note: Students are required to provide their own clay tools, which are available in the bookstore. Clay and glazes will be supplied. Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Course fee

ART 227 Painting II (0-6) 3 Hours
This course is an advanced study of the methods and techniques of the various painting media, as well as problems of composition. Emphasis is on the development of ideas, content and technique.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 224

ART 228 Sculpture II (0-6) 3 Hours
This is an advanced course designed to help students understand the development of materials and processes necessary to transform ideas and concepts into three dimensional forms. Technical information in materials and processes of forming, attaching, and manipulating materials, as well as welding, casting, and carving will be included.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

ART 229 Photography II (2-2) 3 Hours
This course provides an advanced technical and artistic approach to photography which includes camera use, darkroom techniques, and references to the history of photography. Students will develop skills through the development of a portfolio.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 129
Course fee

ART 230 History of Art I (3-0) 3 Hours
A survey of the history of the civilizations of the prehistoric era and the ancient world before 1400 by examination of specific works of art and architecture including artifacts and monuments from Mesopotamia, Egypt, Greece, Rome, India, Japan, Africa, Amerindian/Mesoamerica, Early Christian/Byzantine, the Middle Ages, and the Middle East.
Note: A museum visit will be required during the semester at student expense. See course syllabus for approximate cost. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: F2 901

ART 241 History of Art II (3-0) 3 Hours
This course is a survey of the history of the civilizations, countries, and culture areas from the dawn of the Renaissance tradition in Italy through the present day in Western Europe, Asia, India, Africa, Amerindian/Mesoamerica and the Middle East by means of exposure to specific works of art and architecture.
Note: A museum visit will be required during the semester at student expense. See course syllabus for approximate cost. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: F2 902

ART 244 Color Photography (2-2) 3 Hours
This color photography course covers color theory, color darkroom procedures, color filtration, and the historical and technical developments of color photography. Students must provide a camera and color darkroom materials for use in completing course assignments.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 129
Course fee

ART 245 Jewelry I (0-6) 3 Hours
This is a beginning course in the design and fabrication of small three dimensional objects. Emphasis is placed on gaining an understanding of the aesthetic concerns of small scale metal work and the skills and techniques of producing jewelry as art. Students will design and learn processes, while developing sensitivity to techniques and ideas, and producing works that stress craftsmanship. This course is fundamentally an extension of Sculpture and Design in the third dimension in a utilitarian form: the balance between aesthetics and technique.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate cost. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Course fee
ART 246  Ceramics II  (0-6)  3 Hours
This course is a continuation of Ceramics I with further exploration of wheel throwing, handbuilding, glaze techniques, and kiln firing. Students will learn how to throw plates, fit lids, pull handles, and create spouts. Students will also learn the ceramic process by participating in clay mixing, glaze mixing, kiln loading, and kiln firing. Functional form and how it relates to sculpture will also be explored.
Note: Additional materials beyond those covered by course or lab fees will be required.
See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 226 (C or better)
Course fee
ART 247  Ceramics III  (0-6)  3 Hours
This third ceramics course is a continuation of Ceramics II. Students will continue to develop their personal artistic direction with more independence, while being introduced to other forming and firing methods on a rotating basis. Students will continue to learn the ceramic process by participating in clay mixing, glaze mixing, and kiln loading. They will further their understanding of firing by participating in kiln firings.
Note: Additional materials beyond those covered by course or lab fees will be required.
See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 246 (C or better)
Course fee
ART 248  Individual Art Projects  (0-6)  3 Hours
This course is designed to provide opportunities for students to pursue interests in specific areas of art with instructor supervision in such cases where the student has already completed the course offerings in that area.
Note: Must have successfully completed all possible courses in a discipline, e.g., Painting, Sculpture, Design, Drawing, Photography, Computer Art, or Art History. (1.1)
Prerequisite: College Reading and Writing Readiness OR Instructor Consent. Must have successfully completed all possible courses in a discipline, e.g., painting, sculpture, design, drawing, Photography, Computer Art, or Art History.
Course fee
May be taken four times for credit toward degree
ART 249  Digital Photography II  (2-2)  3 Hours
Digital Photography II is a continuation of Digital Photography I and expands upon the skills and techniques learned in the beginning course. Course work includes instruction in color management, raster image processor (RIP) output routines, hybrid digital and traditional processes, multi-channel imaging, and other advanced techniques. Adobe’s Photoshop image processing software comprises the bulk of the course work. This course is for students with moderate to advanced experience in digital photography.
Note: Additional materials beyond those covered by course or lab fees will be required.
See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 149
Course fee
ART 250  History of Photography  (3-0)  3 Hours
This course traces the historical development of photography as an art form from 1839 to the present. Discussions will begin with the pre-history of the camera obscura through the discoveries of the inventors of photography as an art form. Discussions will include critical analysis of types of photographs and aesthetic movements in photography. Multicultural/intercultural aspects, as well as contributions of women to the photographic arts, will be discussed. Contributions of photography to the other arts also will be included.
Note: A museum visit will be required during the semester at student expense. See course syllabus for approximate cost. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: F2 904
ART 261  Non-Western Art History  (3-0)  3 Hours
This course introduces non-Western cultural perspectives. Emphasis will be placed on, but not limited to, African, Latin American, Middle Eastern, Indian, Asian, and Oceanic art forms throughout history. Students should be able to demonstrate an historical understanding of art as a product reflective of non-Western social and cultural development. This course will discuss the art with an emphasis on the perspectives of third world countries and underrepresented and minority groups. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: F2 903N
ART 262  Commercial Photography  (2-2)  3 Hours
This is a course designed to instruct the photography student in specialized techniques used in the creation of saleable photographs, and use of photographic equipment for revealing the form and demonstration of products. Students will also learn techniques of documentary and journalistic photography. Students will explore the use of photographic lighting as a creative tool for product enhancement. Students will explore use of tungsten light and electronic flash in a studio setting.
Note: Additional materials beyond those covered by course or lab fees will be required.
See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 129
ART 263  2D Computer Animation  (0-6)  3 Hours
This is a hands-on intermediate level course in the creation and development of 2D animations. Through various assigned projects the student will be exposed to the history of animation, theory, image manipulation, drawing, video, audio and other various animation techniques. This intermediate level course will provide the student with knowledge of computer animation on a simple and complex level. The course will explore the incorporation of different mediums within computer animation, and the student will gain an understanding of professional technical skills within their lessons and independent projects.
Note: Additional materials beyond those covered by course or lab fees will be required.
See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 122 and ART 222
Course fee
ART 264  3D Computer Animation  (0-6)  3 Hours
This is a hands-on intermediate level course in the creation and development of 3D animations. Through various assigned projects the student will be exposed to the history of animation, theory, image manipulation, lighting, wire frames, vector points, drawing, video, audio and other various animation techniques. This course will provide the student with the knowledge of computer animation on a simple and complex level. The course will explore the incorporation of different mediums within computer animation, and the student will gain an understanding of professional technical skills from their lessons and independent projects.
Note: Additional materials beyond those
covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 263
Course fee

ART 267  Wood and Soda Fired Ceramics
(0-6) 3 Hours
This course will investigate the technical and aesthetic possibilities of firing with wood and soda. Students are introduced to and participate in the entire firing process including: the preparation of the kilns and ceramic pieces for firing, firing speed, atmospheric changes, introduction of ash or sodium, cooling processes, unloading of the kilns and clean up of the artwork. Assigned and self-directed projects will be made using a variety of hand building and wheel throwing techniques. Various clay bodies, slips and glazes will also be explored in order to achieve the most desirable results. (1.1)
Prerequisite: ART 246 (C or better)
May be taken four times for credit toward degree

ART 271  Introduction to Electronic Graphic Publishing
(0-6) 3 Hours
This is an introductory art course in the creation and development of computer graphic designed images. Through assignments and projects, the student will learn the history of graphic design, theory, image manipulation, logo creation, art, typography, and page layout. The student will also develop professional technical skills, as well as experience in their application. This course will provide the student with a foundation for future computer graphics courses.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 222
Course fee

ART 272  Introduction to Video Production
(0-6) 3 Hours
Students are introduced to the concepts and processes of visual storytelling with an emphasis on motion pictures. Students will learn file theory and techniques in all phases of production, which will give them a foundation for future production classes. Narrative skills will be strengthened through using still photography for storyboards, computers and video equipment to produce various individual and group projects.
Note: Additional materials beyond those covered by course or lab fees will be required.
See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 149 or ART 249
Course fee

ART 274  Video Production II
(0-6) 3 Hours
Video Production II is an intermediate level class that will take the basic skills from the Introduction to Video Production course and move the student into a more technological and advanced area of video production. This course will focus on the concepts and process of documentary production, with a strong emphasis on film style video production. Students will become introduced to digital video and non-linear editing. The exploration of documentary theory and script writing will be studied. Students will become exposed to a wide variety of foreign and domestic films to develop a critical eye for the production process, technique, and critiques.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Prerequisite: ART 272 and ART 280
Course fee

ART 275  Digital Illustration
(0-6) 3 Hours
This course will introduce students to illustration styles from diverse cultures and convey how these different artistic styles can be applied to a contemporary digital art medium. Critical examination of illustration artists and their artistic expressions will be taught, as will industry standard techniques and perspectives. Students will develop skills in two dimensional design, color, and strategic use of line weight, along with balance and positioning of graphic elements. (1.1)
Prerequisite: ART 222

ART 280  Audio Production
(0-6) 3 Hours
The Exploration of Audio Production is a unique application of field and studio production techniques, lecturing in sound theory, recording live audio, utilizing and learning how microphones are used for certain situations, operating studio and field mixers, learning the proper way to handle equipment and utilizing contemporary audio software. Altering sound waves, audio sync with video, and other various techniques will be explored. In addition to classroom lectures and lab assignments, students will be organized into production units. As skills are developed each production group will be responsible for producing studio and field audio recordings. The class projects will be brought back to the sound studio for critiquing purposes.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Course fee

ART 299  Special Topics in Art
(Var.) 1-3 Hours
Special topics in the field of art, which are outside of the existing curriculum, will be developed. Courses will provide an opportunity for in-depth study of topics pertinent to both traditional and contemporary mediums and themes.
Note: Additional materials beyond those covered by course or lab fees will be required. See course syllabus for a list of materials and approximate costs. (1.1)
Course fee
May be taken four times for credit toward degree

ASIAN/ASIAN AMERICAN STUDIES (ASI)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

ASI 121  Introduction to Asian American Studies
(3-0) 3 Hours
This interdisciplinary course will introduce students to key ideas and issues in the study of Asian American histories, cultures, and racial formation including, but not limited to, matters of migration, social/cultural/legal citizenship, social movements, and cultural politics. Materials will include films, literature, historical and sociological texts, and media and popular culture texts and productions. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement. IAI: H2 909D
AUTOMATION, ROBOTICS AND MECHATRONIC (ARM)

Engineering, Math and Physical Sciences
Division, Room T302, (847) 543-2044

ARM 111 Fundamentals of High Tech Manufacturing I
(1-0) 1 Hour
This course will cover Occupational Safety and Health Administration (OSHA) safety standards, industrial hazards, personal protective equipment, fire and emergency response, Lockout/Tagout (LOTO), and ergonomics. (1.2) Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness. Course fee

ARM 112 Fundamentals of High Tech Manufacturing II
(1-0) 1 Hour
This course will cover basic manufacturing and production, basic measurement devices, manufacturing efficiency techniques and industrial supply chain systems. (1.2) Corequisite: ARM 111 (C or better) or consent of department

ARM 113 Fundamentals of High Tech Manufacturing III
(1-0) 1 Hour
This course will cover simple machines, basic electrical and fluid power systems, basic troubleshooting and problem solving techniques, and basic preventive and total productive maintenance. (1.2) Corequisite: ARM 112 (C or better) or consent of department

ARM 114 Fundamentals of High Tech Manufacturing IV
(1-0) 1 Hour
This course will cover troubleshooting and problem solving techniques specific to quality control in manufacturing environments. (1.2) Corequisite: ARM 113 (C or better) or consent of department

ARM 116 Mechatronics Graphics I
(.5-1) 1 Hour
This course covers the role of technical drawings in industry, examples of different types of technical drawings, measurements using rulers, calipers and micrometers, and introduction to sketching techniques and to 3-view drawings. (1.2) Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness. Course fee

ARM 117 Mechatronics Graphics II
(.5-1) 1 Hour
This course continues coverage of 3-view visualization and sketching techniques. It also covers introduction to special views, dimensioning techniques and drawing layout. (1.2) Corequisite: ARM 116 (C or better) or consent of department

ARM 118 Mechatronics Graphics III
(.5-1) 1 Hour
This course will cover tolerancing, Computer Aided Design (CAD) terminology and basic object drawing, modification of existing CAD drawings and CAD dimensioning. (1.2) Corequisite: ARM 117 (C or better) or consent of department

ARM 119 Mechatronics Graphics IV
(.5-1) 1 Hour
This course will cover drafting standards, basic electrical symbols and schematics, basic fluids symbols and schematics, technical documentation and the use of embedded Computer Aided Design (CAD) package objects to create schematic drawings. (1.2) Corequisite: ARM 118 (C or better) or consent of department

ARM 131 Robot Design and Construction I
(.5-1) 1 Hour
This course will cover the history and development of robots, types of robots, robot components, and basic robot physics. The course will also touch on technical sketching as applied to robot design. (1.2) Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness. Course fee

ARM 132 Robot Design and Construction II
(.5-1) 1 Hour
This course will cover spur, bevel and worm gears, gear trains, mobile chassis design, wheel configurations, DC and AC motors, servo and stepper motors, and power supplies as applied to mobile robots. (1.2) Corequisite: ARM 131 (C or better) or consent of department

ARM 133 Robot Design and Construction III
(.5-1) 1 Hour
This course will cover microcontrollers, digital and analog signals, sensors, friction and bearings as applied to mobile robots along with the design and construction of robotic arms. (1.2) Corequisite: ARM 132 (C or better) or consent of department

ARM 134 Robot Design and Construction IV
(.5-1) 1 Hour
This course will cover robot programming in “C” to include variables, basic programming structures, for and while loops, if-else statements. A final robot project will be required. (1.2) Corequisite: ARM 133 (C or better) or consent of department

ARM 151 Mechanical Systems I
(.5-1) 1 Hour
This course covers basic safety protocol, the role of mechanical components in complex mechatronic systems, the flow of energy in a mechatronic system, calculation of force, accelerations, speed, torque, etc. and basic maintenance and systems-level troubleshooting. (1.2) Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness. Course fee

ARM 152 Mechanical Systems II
(.5-1) 1 Hour
This course covers gears and gear drives, chain and sprocket systems, power transmission, pulley drives, synchronous drives, lubrication requirements of mechanical components, analyzing technical data sheets, and basic troubleshooting. (1.2) Corequisite: ARM 151 (C or better) or consent of department

Course fee
ARM 153  Mechanical Systems III  
(.5-1)  1 Hour  
This course will cover mechanical shafts, couplings and bearings, lubrication, preventative and predictive maintenance of shafts, couplings, bushings, seals and bearings, alignment and troubleshooting. (1.2)  
Corequisite: ARM 152 (C or better) or consent of department  
Course fee

ARM 154  Mechanical Systems IV  
(.5-1)  1 Hour  
This course will cover clutches and brakes, linear motion technology, flexible elements and troubleshooting the mechanical components in a complete mechatronic system. (1.2)  
Corequisite: ARM 153 (C or better) or consent of department  
Course fee

ARM 155  STEM Workplace Professional Skills  
(1-0)  1 Hour  
This course introduces students to principles of professional behavior in the industrial workplace. It covers the individual attitude and behavioral skills that are important to a person’s success in an industrial environment. Students are typically enrolled in STEM technical career areas such as mechatronics, environmental technology, machine tool trades and other similar career areas. (1.2)

ARM 156  Electrical Systems I  
(.5-1)  1 Hour  
This course will cover the basic electrical components in a mechatronic system. Topics covered will include electrical safety; current, voltage, resistance and power in AC and DC circuits; principles of resistance, inductance, capacitance, impedance, frequency, magnetism and transformers; basic function of AC/DC power supplies; operation of multimeters, oscilloscopes, frequency counters, wiggys, logic probes and amp clamps. (1.2)  
Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.  
Course fee

ARM 157  Electrical Systems II  
(.5-1)  1 Hour  
This course will cover fundamentals of parallel circuits, balancing bridges, reed switches, current dividers, voltage dividers, relays, indicators, solenoids and troubleshooting. (1.2)  
Corequisite: ARM 156 (C or better) or consent of department  
Course fee

ARM 158  Electrical Systems III  
(.5-1)  1 Hour  
This course will cover electromagnetism; switches; photoelectric, capacitive, and inductive sensors; DC motor and generator introduction; AC motor and circuitry introduction; waveforms; instrumentation, and troubleshooting techniques. (1.2)  
Corequisite: ARM 157 (C or better) or consent of department  
Course fee

ARM 159  Electrical Systems IV  
(.5-1)  1 Hour  
This course will cover capacitors, inductors, diodes, transistors, wiring diagrams, DC power supplies, transformers, complete mechatronic systems and systems troubleshooting. (1.2)  
Corequisite: ARM 158 (C or better) or consent of department  
Course fee

ARM 171  Automation I  
(.5-1)  1 Hour  
This course will cover electrical safety, fundamentals of DC motor operations, starting methods for DC motors, speed control, and troubleshooting DC motors, introduction to Programmable Logic Controllers (PLCs) and PLC terminology, hardware components and general classification of PLCs. (1.2)  
Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.  
Course fee

ARM 172  Automation II  
(.5-1)  1 Hour  
This course will cover fundamentals of AC motors, intro to 3-phase distribution, transformers, PLC architecture, peripheral support devices, analog and digital circuit structures, and Boolean algebra. (1.2)  
Corequisite: ARM 171 (C or better) or consent of department  
Course fee

ARM 173  Automation III  
(.5-1)  1 Hour  
This course covers AC induction motors, AC motor starting methods, AC motor speed control, and PLC input/output module devices and symbols. (1.2)  
Corequisite: ARM 172 (C or better) or consent of department  
Course fee

ARM 174  Automation IV  
(.5-1)  1 Hour  
This course will cover regenerative braking, National Electrical code (NEC) standards for installation and overload protection of motors, relay logic and ladder logic diagrams, circuit diagrams, scan time, and fundamentals of PLC programming. (1.2)  
Corequisite: ARM 173 (C or better) or consent of department  
Course fee

ARM 175  Automation V  
(.5-1)  1 Hour  
This course will cover entering and editing a PLC program, monitoring a program, component addressing, analog to digital conversions, PLC program troubleshooting and troubleshooting codes. (1.2)  
Corequisite: ARM 174 or consent of department  
Course fee

ARM 176  Automation VI  
(.5-1)  1 Hour  
This is course will cover PLC data manipulation instruction, closed loop systems, arithmetic functions, and technical limits in implementation and how to overcome and improve them. (1.2)  
Corequisite: ARM 175 (C or better) or consent of department  
Course fee

ARM 177  Automation VII  
(.5-1)  1 Hour  
This course will cover PLC timers, counters, and subroutines. (1.2)  
Corequisite: ARM 176 (C or better) or consent of department  
Course fee

ARM 178  Automation VIII  
(.5-1)  1 Hour  
This course will cover identification of PLC logic and hardware faults and symptoms, isolating and correcting a fault, and troubleshooting procedures for closed loop systems. (1.2)  
Corequisite: ARM 177 (C or better) or consent of instructor  
Course fee
ARM 191  Pneumatics and Hydraulics I  (.5-1)  1 Hour
This course will cover basic safety rules and standards when working with mechatronic systems, introduction to fluid power, basic principles of hydraulics, fluid power components, hydraulic fluids and basic principles of pneumatics. (1.2)
Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.
Course fee

ARM 192  Pneumatics and Hydraulics II  (.5-1)  1 Hour
This course will continue coverage of basic pneumatics and will also cover power supplies, vacuum pumps, circuit diagrams and system tracing, pneumatic components, and system operation and troubleshooting. (1.2)
Corequisite: ARM 191 (C or better) or consent of department
Course fee

ARM 193  Pneumatics and Hydraulics III  (.5-1)  1 Hour
This course will cover electronic controls, hydraulic cylinders and directional control valves, technical documentation, measurements and adjustments on a fluid system, troubleshooting and predictive/preventative maintenance. (1.2)
Corequisite: ARM 192 (C or better) or consent of department
Course fee

ARM 194  Pneumatics and Hydraulics IV  (.5-1)  1 Hour
This course covers pressure control valves, flow control, speed control, mobile hydraulic systems and complete fluids troubleshooting in a mechatronics system. (1.2)
Corequisite: ARM 193 (C or better) or consent of department
Course fee

ARM 196  Electrical Systems Capstone  (.5-1)  1 Hour
This is the second module of a four module, one credit hour capstone course which will provide students with the skills and knowledge to repair, operate and troubleshoot an entire mechatronics system. The emphasis in this module will be electric and electronic systems. (1.2)
Prerequisite: ARM 153, ARM 158, and ARM 173 (all C or better)
Course fee

ARM 197  Pneumatic and Hydraulic Systems Capstone  (.5-1)  1 Hour
This is the third module of a four module, one credit hour capstone course which will provide students with the skills and knowledge to repair, operate and troubleshoot an entire mechatronics system. The emphasis in this module will be pneumatic and hydraulic systems. (1.2)
Concurrent Enrollment: ARM 196 (C or better)
Course fee

ARM 198  Complete Systems Integration  (.5-1)  1 Hour
This is the fourth module of a four module, one credit hour capstone course which will provide students with the skills and knowledge to repair, operate and troubleshoot an entire mechatronics system. The emphasis in this module will be PLC and whole mechatronic system diagnostics. (1.2)
Concurrent Enrollment: ARM 197 (C or better)
Course fee

ARM 222  Manufacturing Process Design  (2-2)  3 Hours
This course covers process management and design in the field of manufacturing and mechatronics. The primary emphasis is process design, with an emphasis on manufacturing constraints. Topics include cycle time, production time, barrier identification, first pass yield, quality, benchmarking, cost analysis, continuous improvement and training in working effectively in team environment. A critical component of this class is one or more realistic factory simulations where students are assigned a role in a design project team and are given a timeline, a budget, a “customer” and other manufacturing parameters. After completing the project, students present their results and learning outcomes. (1.2)
Prerequisite: ARM 198 (C or better) AND MTH 117 (C or better) or math placement test score of 55 or higher or Math ACT of 28 or higher or Math SAT of 640 or higher.
Course fee

ARM 226  Programmable Automation Technologies  (2-2)  3 Hours
This course covers manufacturing technologies, including CNC, CAM, and the use of microcontrollers. The section on CNC includes an introduction to CNC design, commands, and general algorithms. The CAM section explains the use of NC, APT, parametric definitions, and tool geometry. The microcontroller section focuses on microcontroller integration with other electronic elements in a system. The course culminates with the instruction of Assembly Language programming. This course is one of the courses required for the Siemens Level 2 certification in mechatronics. (1.2)
Prerequisite: ARM 133 (C or better) or department consent AND MTH 117 (C or better) or math placement test score of 55 or higher or Math ACT of 28 or higher or Math SAT of 640 or higher.
Course fee

ARM 242  Reverse Engineering of Mechanical Systems  (2-2)  3 Hours
This course is a study of the design of mechanical components in complex mechatronics systems. It covers an overview of statics, dynamics, and design of machine elements. Topics include force system analysis; study of equilibrium, translation, and rotation; friction; and stress, strain, and wear analysis. It also covers reverse engineering and the design of machine elements in mechanical systems. (1.2)
Prerequisite: ARM 133 (C or better) AND MTH 117 (C or better) or math placement test score of 55 or higher or Math ACT of 28 or higher or Math SAT of 640 or higher.
Course fee

ARM 266  Advanced Motor Control  (2-2)  3 Hours
This course covers advanced motor control as a continuation of Electrical Systems I, II, and III. The first part of the course covers general machine operations, types of braking and loads on a motor, and improving motor efficiency and power. The second part of the course covers control techniques, the role of different sensors in relation to motor operation, troubleshooting techniques and preventative measures that can be taken in order to protect motors. This course is one of the courses required for the Siemens Level 2 certification in mechatronics. (1.2)
Prerequisite: ARM 153 and ARM 158 (both C or better) or department consent AND MTH 117 (C or better) or math placement test score of 55 or higher or Math ACT of 28 or higher or Math SAT of 640 or higher.
Course fee
ARM 286 Automation Pyramid (2-2) 3 Hours
This course introduces the concept of Totally Integrated Automation by looking at the automation pyramid. Students will start at the field level with analogue sensors and actuators and go up to the control level with programming and networking PLCs. The course covers connecting analogue sensors to analogue modules, STEP 7 functions, and basics of MPI-Bus and PROFIBUS systems. Maintenance and troubleshooting of these bus systems will also be covered. This course is one of the courses required for the Siemens Level 2 certification in mechatronics. (1.2)
Prerequisite: ARM 176 and ARM 266 (both C or better) or department consent AND MTH 117 (C or better) or math placement test score of 55 or higher or Math ACT of 28 or higher or Math SAT of 640 or higher.
Course fee

ARM 288 Process Control Technologies (2-2) 3 Hours
This course covers topics in closed-loop control and technologies used in process control in the context of a complex mechatronic system. Students will be trained to characterize a system by its step response function and to create and interpret charts with diagrams for time-based changes of measured values. Students will learn how to establish controller operating parameters and learn the difference between the types of controllers that are typically used in mechatronic process control systems. This course is one of the courses required for the Siemens Level 2 certification in mechatronics. (1.2)
Prerequisite: ARM 196 (C or better) and ARM 197 (C or better) and ARM 198 (C or better) and ARM 266 (C or better).
Course fee

AUTOMOTIVE COLLISION REPAIR (ACR)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

ACR 110 Introduction to Automotive Collision Repair (2-2) 3 Hours
This course provides the beginning automotive collision students with an introduction to careers in the Automotive Collision Repair (ACR) industry, repair processes, collision shop equipment, tool safety and proper usage, personal protection equipment used in collision repair, and the design and construction of the modern automobile. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. Recommended: ENG 109 or ELI 109 (1.2)

ACR 112 Non-Structural Repair I (3-4) 5 Hours
(Formerly ABR 110) This course will focus on the design and construction of the modern automobile. Students are introduced to theory and the fundamentals commonly used in sheet metal repair processes, chemical and plastic welding repair processes, along with removal, installation, and adjustment of moveable vehicle glass. Replacement of exterior bolted vehicle body panels including proper fitment and adjustment, and replacement of exterior lights and trim will also be covered. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. Recommended: ENG 109 or ELI 109 (1.2)
Prerequisite: ACR 110 (C or better)
Course fee

ACR 115 Automotive Welding (3-4) 5 Hours
(Formerly ABR 115) This course will introduce the students to theory and the fundamentals of common ferrous and non-ferrous metal welding processes used in the collision repair industry. The course will focus on welding safety, gas welding and cutting, electrical arc welding and cutting, both flat and out-of-position welding techniques, and the five most common weld joints used in automotive collision repair. Classroom discussions and in-lab hands-on welding will prepare the student to take the I-CAR Welding Qualification Exams. (1.2)
Prerequisite: ACR 110 (ABR 110) (C or better)
Course fee

ACR 119 Paintless Dent Removal (2-2) 3 Hours
This course will introduce the students to theory and the fundamentals of common Paintless Dent Removal (PDR) processes, along with tools and equipment used in the collision repair industry. The course will focus on: dent theory, vehicle inspection, dent identification, PDR tool identification and recommended application, PDR vocabulary, hand and eye coordination, dent access and repair set-up, and final clean up of vehicle finish. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)
Prerequisite: ACR 110 and ACR 112 (formerly ABR 110) (both C or better)

ACR 131 Automotive Refinishing I (2-2) 3 Hours
(Formerly ABR 130) This course will introduce the students to theory and basic fundamentals of vehicle finishing processes. The course will focus on paint and finishing safety, environmental practices, vehicle masking and protection, and surface preparation for the first coat of the finishing process. The course will also cover identification, set-up, and break down of finishing equipment, proper mixing and application of primers, sealers, and single stage paints. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)
Prerequisite: ACR 110 (C or better)
Course fee

ACR 132 Automotive Refinishing II (3-4) 5 Hours
(Formerly ABR 131) This course will introduce the students to theory and the fundamentals of base coat and clear coat finishes, identification, set-up, and break down of finishing equipment, along with proper mixing and application of solvent base finishes. Application techniques of automotive color and clear finishes on metal, fiberglass, and automotive plastics will be covered. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)
Prerequisite: ACR 110 and ACR 131 (formerly ABR 130) (both C or better)
Course fee
ACR 137  Automotive Mechanical Systems  
(Formerly ABR 137) This course will introduce the students to theory and the fundamentals of the steering and suspension systems, drive trains, and braking systems as they apply to a collision repair technician. The course will focus on identification, theories of operation, diagnosis, and repair procedures of the vehicle’s mechanical systems as a direct result of a vehicle collision. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Corequisite: ACR 110 (C or better)  
Course fee

ACR 138  Automotive Electrical Systems  
(Formerly ABR 138) This course will introduce the students to theory and the fundamentals of the air conditioning systems, cooling systems, fuel and exhaust systems, and automotive electronic systems as they apply to a collision repair technician. The course will focus on identification, theories of operation, diagnosis, and repair procedures of vehicle electrical systems as a direct result of a vehicle collision. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Corequisite: ACR 110 (C or better)  
Course fee

ACR 212  Non-Structural Repair II  
(Formerly ABR 111) This course will introduce the students to theory and the fundamentals of repairing non-bolted vehicle body panels. The course will focus on the removal of interior and exterior trim, hardware, removing and installing stationary glass, non-bolted body panel replacement using both chemical adhesion and fusion processes, proper alignment methods, and application of body seam sealers and foams. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies.  
Note: Work Experience may be considered to meet the prerequisite. (1.2)  
Prerequisite: ACR 110, ACR 112 (ABR 110), and ACR 115 (ABR 115) (all C or better)  
Corequisite: ACR 138 (ABR 138) (C or better)  
Course fee

ACR 215  Automotive Detailing  
(Formerly ABR 215) This course will introduce students to theory and the fundamentals of interior and exterior vehicle cleaning, and vehicle finish defect correction. The course will focus on: vehicle interior trim identification, soiled/stains identification, interior odor removal/neutralizing and interior cleaning processes. Exterior cleaning and correction processes including identification of vehicle finish defects and finish correction will be discussed. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Corequisite: ACR 110 (C or better)  
Course fee

ACR 230  Structural Repair  
(Formerly ABR 230) This course will introduce the students to theory and the fundamentals of the vehicle’s structural system. The course will focus on the identification and analysis of structural damage using both manual and computer measuring systems, determining correct repair procedures, and straightening of structural panels. Replacement or sectioning of structural panels, panel corrosion protection, and restraint system will also be covered. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Prerequisite: ACR 110, ACR 112 (formerly ABR 110), and ACR 115 (formerly ABR 115) (all C or better)  
Corequisite: ACR 137 (C or better)  
Course fee

ACR 233  Automotive Refinishing III  
(Formerly ABR 133) This course will introduce the students to theory and the fundamentals of color hue, saturation, and brightness and the tinting of automotive finishes. The course will focus on color matching, application of automotive finishes during the blending processes, and spray techniques. Students will also be introduced to waterborne base automotive finishes. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Prerequisite: ACR 132 (formerly ABR 131) and ACR 215 (formerly ABR 215) (both C or better)  
Course fee

ACR 234  Refinishing IV - Custom Painting  
(2-2) 3 Hours  
This course will introduce the students to theory and the fundamentals of flames, pinstriping, wood grains, texture finishes, mural design, gold leafing, air brushing, and graphic design for automotive applications. The course will focus on the design, set-up, and application of custom finishes. Application techniques using air-brushes, mini-jet spray guns, pinstriping brushes, and other non-conventional equipment will also be covered. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Prerequisite: ACR 233 (formerly ABR 133) (C or better)  
Course fee

ACR 235  Damage Analysis and Shop Procedures  
(2-2) 3 Hours  
(Formerly ABR 235) This course will introduce students to theory and the fundamentals of identifying types of vehicle damages post collision. The course will focus on the preparation of written damage analysis, computerized analysis systems, and training on body shop management and operation systems. The course is designed for students who are interested in pursuing a career within the insurance industry as a damage analyzer, or a career as a collision shop manager/estimator. Customer relation skills and issues will be discussed. Classroom discussions and hands-on labs utilizing live vehicles and training aids will be used to enhance proficiencies. (1.2)  
Prerequisite: ACR 110 and ACR 112 (formerly ABR 110) (both C or better)  
Course fee

AUT 110  Introduction to Automotive Technology  
(2-3)  
This course provides the beginning automotive technician the opportunity to increase his or her knowledge of certain mechanical actions and reactions related to the automobile. Proper and safe use of hand and precision tools, and use of common automotive supplies, such as bolts, gaskets, will be covered. (1.2)  
Course fee

AUTOMOTIVE TECHNOLOGY  
(AUT)  
Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044  

AUT 110  Introduction to Automotive Technology  
(2-3)  
This course provides the beginning automotive technician the opportunity to increase his or her knowledge of certain mechanical actions and reactions related to the automobile. Proper and safe use of hand and precision tools, and use of common automotive supplies, such as bolts, gaskets, will be covered. (1.2)  
Course fee

290 2019-2020 College of Lake County Catalog
### Course Information and Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>AUT 111</td>
<td>Engine Repair</td>
<td>This course covers repair of engines, including theory, diagnosis, measurement, light machining, and correct reassembly procedures. The lubrication, cooling, and fuel support systems are included. Note: The students will be required to provide their own basic tools. (1.2) Corequisite: AUT 110 Course fee</td>
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<tr>
<td>AUT 112</td>
<td>Braking Systems</td>
<td>This course provides instruction in the theory of operation, diagnosis, and servicing of automotive drum and disc brake systems. Students will perform complete brake service including the proper machining of drums and rotors. Diagonally split brakes, four wheel discs, anti-lock systems will be covered. Note: The students will be required to provide their own basic tools. (1.2) Corequisite: AUT 110 Course fee</td>
</tr>
<tr>
<td>AUT 113</td>
<td>Suspension and Alignment</td>
<td>This course covers theory of operation, diagnosis, maintenance, repair and adjustment procedures pertaining to steering gears, steering linkages, wheels and tires, and suspensions. Note: The students will be required to provide their own basic tools. (1.2) Corequisite: AUT 110 Course fee</td>
</tr>
<tr>
<td>AUT 131</td>
<td>Auto Electrical I</td>
<td>This course offers the beginning automotive technician an opportunity to gain understanding of the theory, operation, and testing of basic electricity, the automotive battery, starting systems, charging systems, and lighting systems. Note: Students will be required to provide their own basic tools. (1.2) Corequisite: AUT 110 Course fee</td>
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<tr>
<td>AUT 132</td>
<td>Manual Drive Train and Axles</td>
<td>This introductory course focuses on the repair and overhaul of manual transmissions, transaxles and drive line components. Theories of operation, diagnosis, maintenance, and repair procedures pertaining to manual transmissions, transaxle and drive line components are covered. Note: The students will be required to provide their own basic tools. (1.2) Corequisite: AUT 110 Course fee</td>
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<tr>
<td>AUT 231</td>
<td>Auto Electrical II</td>
<td>This course covers the theory of operation, diagnosis, and repair of body wiring, lighting circuits, accessories, gauges, and networks. Note: The students will be required to provide their own basic tools. (1.2) Prerequisite: AUT 131 (C or better) Course fee</td>
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<tr>
<td>AUT 232</td>
<td>Automatic Transmission and Transaxle</td>
<td>This course focuses on the repair and overhaul of automatic transmissions. Theories of operation, diagnosis, maintenance, and repair procedures pertaining to automatic transmissions, automatic transaxles, and torque converters are covered. Note: The students will be required to provide their own basic tools. (1.2) Prerequisite: AUT 131 (C or better) Course fee</td>
</tr>
<tr>
<td>AUT 233</td>
<td>Advanced Driveline Systems</td>
<td>This course covers advanced topics in design and diagnosis for manual transmission, automatic transmission, coupling devices, four wheel drive (4WD) systems, and all wheel drive (AWD) systems. In addition current trends and future technologies in driveline systems will be examined. This course is designed for students and professionals specializing in driveline technologies. Note: Students will be required to provide their own basic tools. (1.2) Prerequisite: AUT 232 and AUT 132 (all C or better) or Consent of Instructor with current A2 and A3 Automotive Service Excellence (ASE) certifications or approved work experience</td>
</tr>
<tr>
<td>AUT 251</td>
<td>Powertrain Controls</td>
<td>This course focuses on the diagnosis, testing, and service of computerized powertrain control systems. Topics will include diagnosis and repair of computer and network operation, sensors and inputs, advanced charging, starting and ignition system. Advanced electronic test equipment including Scan Tools, DMM’s and Oscilloscopes will be emphasized. Note: Students will be required to bring their own tools. (1.2) Prerequisite: AUT 111 and AUT 131 (both C or better) Course fee</td>
</tr>
<tr>
<td>AUT 252</td>
<td>Powertrain Management</td>
<td>This course provides students with the opportunity to review and enhance their theory and service skills in automotive electrical systems, fuel systems, engine mechanical diagnosis, emission control systems, and electronic engine control systems. Students will work with engine analyzers and hand-held test equipment common to the automotive service industry. Note: The students will be required to provide their own basic tools. (1.2) Prerequisite: AUT 111, AUT 131, AUT 231 and AUT 251 (all C or better) Course fee</td>
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<tr>
<td>AUT 275</td>
<td>Air Conditioning and Heating</td>
<td>This course gives the automotive technician the opportunity to gain an understanding of the theory of automotive air conditioning, heating and ventilation systems and the related service procedures. Students may also gain certification in recycling and recovery of refrigerants. Note: The students will be required to provide their own basic tools. (1.2) Prerequisite: AUT 131 (C or better) Course fee</td>
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COURSE INFORMATION AND DESCRIPTIONS

AUT 290  Automotive Service
(2-6)  4 Hours
This is the capstone course in the automotive program. It gives the student the opportunity to practice operations in a shop environment and situation similar to the repair industry including shop operations and vehicle repair. All areas of the automobile are covered including engines, brakes, suspension, transmissions, electrical systems, and climate control. NOTE: The students will be required to provide their own basic tools.
Prerequisite: Consent of instructor or department chair and is in the last semester of automotive course work. Students must have earned a grade of C or better in all previous automotive courses.
Course fee

AUT 299  Special Topics in the Automotive Industry
(Var.)  0.5-5 Hours
This course is designed to provide automotive students with opportunities to explore the diversity of topics, businesses, and products within the automotive industry not specifically addressed by existing courses in the catalog. This course may be taken up to four times, any topic only once, for a maximum of 6 hours towards degree completion. (1.2)
May be taken four times, but any topic only once

BIOLOGY (BIO)

Biological and Health Sciences Division,
Room B213, (847) 543-2042

BIO 111  Human Form and Function
(3-2)  4 Hours
This course is intended to provide students with a preliminary, non-transfer level introduction to human anatomy and physiology. It is designed to prepare students requiring only a technical level of familiarity with human anatomy, providing the background required for fields such as surgical technology and Emergency Medical Technology- Paramedic. (1.2)
Prerequisite: College Reading and Writing Readiness
Course fee

BIO 120  Environmental Biology
(3-2)  4 Hours
This course focuses on the relationships between humans and the environment. Topics include ecology, population biology, modification of our environment, resource use, land use planning, pollution, and energy. The goal is to better understand the biological and social problems that human use and misuse of the environment cause. Students may not receive credit for both BIO 120 and BIO 140.
Note: Required, local field trips are scheduled during several (approximate 1/2) of the lab periods. Students are responsible for their own transportation to and from field sites. This course is recommended for non-science majors needing a one-semester lab science course.
(1.1)
Prerequisite: College Reading and Writing Readiness AND concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100-AND-Basic Algebra Readiness
Course fee
IAI: L1 905L

BIO 127  Introduction to Evolution
(3-0)  3 Hours
This course examines the concept of evolution and mechanisms by which evolution proceeds. An analysis of the evidence for evolution, a section on basic genetics, and a brief treatment of challenges to evolution are included. (1.1)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
Course fee
IAI: L1 907

BIO 128  Natural History of Selected Areas
(2-2)  3 Hours
This course examines a specific biogeographical area that has been selected for its unique biological communities. Organisms and ecological relationships are considered, and the effects of human activity are emphasized. Some of the areas that have been studied include the American Tropics, the Everglades, and the Appalachian Mountains.
Note: This course is taught as a field course and should be considered a general education elective; it will NOT meet the CLC laboratory science requirement. Camping, backpacking, and/or canoeing may be included. Travel expenses are paid by the student. (1.1)
May be taken twice, but any topic only once

BIO 140  Environmental Biology
without Lab
(3-0)  3 Hours
This non-lab course studies environmental issues that arise from the interaction of humans and the environment. Topics include ecology, population biology, modification of our environment, resource use, land use planning, and energy. The goal is to better understand both the problems brought about by human use and misuse of the environment and potential solutions for those problems. Students may not receive credit for both BIO 140 and BIO 120. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100-AND-Basic Algebra Readiness
IAI: L1 905
BIO 141 Concepts in Biology
(3-2) 4 Hours
This course emphasizes scientific inquiry through selected concepts of biology, such as organization, function, heredity, evolution and ecology. Biological issues with personal and social implications will be introduced to enable students to make informed decisions. A laboratory component will reinforce concepts introduced in the lecture portion of class.
Note: This course is recommended for non-science majors needing a one-semester lab science course and is not intended for students wishing to enter an allied health or pre-professional field. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or E1I 109 or E1I 110 or ENG 100-AND-Basic Algebra Readiness
Course fee
IAI: L1 906

BIO 143 Biology Laboratory
(0-3) 1 Hour
This laboratory course is designed for students who have taken the lecture component of a general biology course at another institution and are seeking credit for BIO 123- Principles of Biology in order to meet a prerequisite for BIO 244- Anatomy & Physiology or BIO 246 - Microbiology. Students will participate in labs that reinforce concepts such as scientific method, biomolecules, respiration, enzymes, and natural selection. Department consent required. (1.1)
Course fee

BIO 148 Introduction to Sustainability
(3-0) 3 Hours
This interdisciplinary course introduces students to the core principles and practices of sustainability. Content is developed from the three pillars of sustainability: economy, social equity, and the environment. Specific topics include ecological economics, lifecycle analysis, resources use, energy systems, conservation, environmental quality, social justice, human health, and food sovereignty. (1.1)
Prerequisite: College Reading & Writing Readiness, Basic Algebra Readiness, and 6 credit hours of college coursework and consent of instructor

BIO 149 Genetics and Society
(3-0) 3 Hours
This course examines cell structure and function, the nature of the gene, cell division (mitosis vs. meiosis), Mendelian genetics, hereditary disorders, recombinant DNA technology, the genetic evidence supporting evolution, and ethical issues that arise due to our increased knowledge and technology as it relates to genetics. (1.1)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
Course fee
IAI: L1 906

BIO 161 General Biology I
(3-3) 4 Hours
This course introduces general biological principles of life processes common to all organisms. Topics covered include the nature of life, unifying themes underlying biology, chemical basis of life, cell structure and function, energetics, cell reproduction, concepts of genetics and inheritance patterns, molecular genetics, and biotechnology. This course is the first semester of a two semester sequence intended for biology majors and students seeking careers in medicine, pharmacy, dentistry, occupational therapy, physical therapy, or veterinary medicine.
Note: Knowledge of chemistry is helpful. (1.1)
Prerequisites: MTH 108 or MTH 107 (both C or better) or appropriate score on the Math Placement Test or Math ACT of 22 or higher AND College Reading and Writing Readiness
Course fee
IAI: L1 906, BIO910

BIO 162 General Biology II
(3-3) 4 Hours
This course examines the following areas of biology: ecology, evolution, systematics, biological diversity, and various systems. Laboratory work includes field and laboratory experiments and computer simulations. This course is the second semester of a two semester sequence intended for biology majors and students seeking careers in medicine, pharmacy, dentistry, occupational therapy, physical therapy, or veterinary medicine. (1.1)
Prerequisite: BIO 161(C or better)
Course fee
IAI: L1910L, BIO910

BIO 210 Independent Research in Biology
(Var.) 1-3 Hours
This course is designed for students who wish to conduct independent research in the life sciences and potentially share their results at local and regional science competitions. Students will be mentored by Biology faculty and conduct their research in a supervised environment. (1.1)
Prerequisites: BIO 120, BIO 123, BIO 141, or BIO 161 (C or better in any one) or Instructor Consent
Course fee

BIO 221 General Zoology
(2-4) 4 Hours
This course examines the structure, function, natural history, and phylogeny of animals. Basic principles of evolution, origins and content of major phyla, and vertebrate phylogeny are included. The evolution of the vertebrates is emphasized. (1.1)
Prerequisite: BIO 161(C or better)
Course fee

BIO 222 General Botany
(2-4) 4 Hours
This course is a comparative study of organisms including photosynthetic protists, fungi, and plants. Morphology, both microscopic and macroscopic, and lifecycle are emphasized with a focus on evolutionary advancements within the taxa. Identification includes representative species of each taxa in addition to plant family characteristics. Ecology with an emphasis on plant conservation is included. (1.1)
Prerequisite: BIO 120, BIO 123, BIO 161 or HRT 121 (C or better in any one)
Course fee

BIO 225 Environmental Problems
(2-4) 4 Hours
This course is a continuation of the study of ecology and current environmental problems that were introduced in BIO 120. Topics include hazardous wastes and chemicals, species extinction and management, and pollution of Lake Michigan. The emphasis in lab will be to study various types of pollution and ecological processes. (1.1)
Prerequisite: BIO 120 (C or better)
Course fee
COURSE DESCRIPTIONS

BIO 226  Field Biology
(2-2)  3 Hours
This course provides students with the opportunity to study plant and animal communities in various biomes. Topics include life histories and interdependence of organisms within the communities, and collection, identification, and preservation of specimens. Department consent required. Note: This course is taught as a field course and should be considered a general education elective; it will NOT meet the CLC laboratory science requirement. Camping, backpacking, and/or canoeing may be included. Travel expenses are paid by the student. (1.1) May be taken twice, but any topic only once

BIO 244  Anatomy and Physiology I
(3-2)  4 Hours
This course is the first of a two semester Anatomy and Physiology sequence that begins with an introduction to homeostasis and feedback loops. The structure and function of the following body systems will be explored: the integumentary system, skeletal system, muscular system and nervous system. Within each body system, students learn the normal anatomy and physiology of the system as well as some diseases associated with each system. Human skeletons, human models, preserved sheep organs, and preserved cats are used in labs as representatives of human anatomy. (1.1) Prerequisite: BIO 123 (formerly BIO 121) or BIO 161 (all C or better) Course fee

BIO 245  Anatomy and Physiology II
(3-2)  4 Hours
This course is a continuation of BIO 244. It builds on the general information about homeostasis and the specific body systems covered in BIO 244. Within each body system, students learn the normal anatomy and physiology of the system as well as some diseases associated with each system. This course begins with the endocrine system, followed by the cardiovascular system, lymphatic and immune systems, respiratory system, digestive system (including metabolism), urinary system (including fluid and electrolyte regulation), and the reproductive system. Human skeletons, human models, preserved sheep organs, and preserved cats are used in labs as representatives of human anatomy. (1.1) Prerequisite: BIO 124 or BIO 244 (C or better) Course fee

BIO 246  Microbiology
(2-4)  4 Hours
This course examines microorganisms with an emphasis on the bacterial groups. Morphology, principal activities and properties of bacteria, yeasts, molds, viruses, selected algae, and protozoan will be discussed. The role of microorganisms in natural systems, infection, immunity, foods, and industry will be covered. Laboratory techniques in handling, culturing, and identifying microorganisms will be emphasized. (1.1) Prerequisite: BIO 123 (formerly BIO 121) or BIO 161 (all C or better) Course fee

BIO 299  Special Topics in Biology
(Var)  1-3 Hours
This course addresses the in-depth study of special topics in biology that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may include environmental issues, risks to human health, implications of recent research in Biology, etc. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours towards degree completion. (1.1) Course fee May be taken four times for credit toward degree

BUSINESS ADMINISTRATION (BUS)

Business and Social Sciences Division, Room T302, (847) 543-2047

BUS 111  Fundamentals of Finance
(3-0)  3 Hours
Study of basic methods and quantitative tools of Business Finance. Short and long term investment decision making for businesses and individuals. (1.1) Prerequisite: College Reading and Writing Readiness AND ACC 110 or higher ACC course

BUS 113  Human Resource Management
(3-0)  3 Hours
This course provides a broad overview of relevant human resource management concepts, incorporating legal and ethical issues. Topics include staffing, hiring, training and development, performance evaluation, employee terminations, compensation and benefits, union versus non-union workforces, and workforce diversity issues. BUS 113 and RMC 113 are cross-listed. (1.2) Prerequisite: College Reading and Writing Readiness

BUS 115  Elements of Supervision
(3-0)  3 Hours
This course introduces the role of the supervisor and how it fits in the overall management of an organization. Emphasis is on how the supervisor can impact a department’s productivity. Topics will include: supervisory planning, time management, organizing and delegating tasks, training and coaching employees, Equal Employment Opportunity guidelines, labor relations, managing conflict and stress in the work environment, creating a safe and healthy work environment, and productivity improvement. BUS 115 and RMC 115 are cross-listed. (1.2) Prerequisite: College Reading and Writing Readiness

BUS 119  Personal Finance
(3-0)  3 Hours
This course covers the basics of financial planning, including budgeting, managing expenses, investments, insurance, estate planning, retirement planning and tax planning. Basic investment principles, such as forms of risk, historical returns, and risk/return tradeoff are explored. The major investment alternatives, stocks, bonds, mutual funds, and real estate, are examined. (1.2) Prerequisite: College Reading and Writing Readiness

BUS 121  Introduction to Business
(3-0)  3 Hours
This course provides a broad overview of the principles, functions and careers in business. Topics included are: economics, global business, ethics, business structures, entrepreneurship, management, marketing, accounting, finance and operations management. (1.1) Prerequisite: College Reading and Writing Readiness
BUS 131  Entrepreneurship  (3-0)  3 Hours
This course focuses on the entrepreneurial process and prepares students for developing a mindset for thinking creatively. The course examines the concepts and tools related to the development of new entrepreneurial ventures, including developing an idea, starting a new venture, growing the venture, successfully harvesting (selling) it and starting again. In a pragmatic way, students are engaged to discover critical aspects of entrepreneurship and what level of competencies, experience, attitudes, resources, and networks are required to pursue entrepreneurial opportunities. (1.2)
Prerequisite: College Reading and Writing Readiness
Recommended: BUS 121

BUS 132  Business Ethics  (3-0)  3 Hours
This course introduces students to the principal ethical theories and concepts of human conduct and character and will provide a critical evaluation of these theories and concepts as they apply to particular moral problems and business decision making and policy. The class will evaluate the principles, values and standards that guide behavior in the business world. Students will study and analyze various business scenarios to determine ethical and non-ethical behavior. This course will include a large amount of case study work to aid students in identifying ethical behavior in the current business environment and provide opportunities to practice sound ethical decision making. (1.2)
Prerequisite: College Reading and Writing Readiness
Recommended: BUS 121

BUS 212  Business to Business Marketing  (3-0)  3 Hours
Business to Business (B2B) Marketing provides students with an understanding of how to market products and services to organizations rather than consumers. Market development, market mix concepts and target market planning are studied. (1.2)
Prerequisite: BUS 121 or BUS 227

BUS 213  Principles of Professional Selling  (3-0)  3 Hours
An efficient, skilled sales force can positively impact every organization. Principles of Professional Selling provides students with the skills to efficiently and effectively communicate value and develop long-term relationships with customers and prospects. Students will see how a win-win customer relationship develops. They will learn to recognize a problem, develop solutions, and provide the important post-sale service and support. (1.2)
Prerequisite: BUS 121

BUS 214  Advertising  (3-0)  3 Hours
This course provides an understanding of advertising within the integrated marketing communications of the firm. Principles and practical applications of promotional research, consumer behavior, media identification and selection, creative strategy, copyrighting, layout, budgeting and legal aspects of advertising and promotion will be covered. Students will develop an advertising campaign for a single product, service or small business. (1.2)
Prerequisite: BUS 121
IAI: MC 912

BUS 215  Operations Management  (3-0)  3 Hours
This class will give students a broad, practical perspective towards the field of Operations Management, a core business function. Students will examine concepts and problems encountered in planning, operating and controlling the production of goods and services. Topics include scheduling, inventory management, logistics, quality assurance, supply chain management, facility location and the use of state of the art computer systems to better manage operations.
BUS 215 and SCM 215 are cross-listed. (1.2)
Prerequisite: Basic Algebra Readiness and BUS 121

BUS 219  Small Business Management  (3-0)  3 Hours
This course is focused on the role of small business in our society, the problems and opportunities connected with starting a new venture, and the management skills required to successfully operate the on-going business. Students will explore the strategic and organizational factors that lead to profitability and growth. The course is intended to meet the needs of those now managing a small business, those considering the possibilities of entrepreneurship and those who wish to learn more about how small businesses operate. (1.2)
Prerequisite: BUS 121 (C or better) or Department Consent

BUS 221  Business Law I  (3-0)  3 Hours
This course introduces principles of American law governing business and personal transactions. Areas covered include contracts, torts, agency, employment, and business structures. The course also introduces the American legal environment: the court system, the lawmaking process, and government regulation. (1.1)
Prerequisite: PLS 110 (C or better) or BUS 121 (C or better) or Department Consent

BUS 222  Business Law II/Corporate Securities Law  (3-0)  3 Hours
This course provides an overview of various forms of business structures; including sole proprietorships, partnerships and corporations as well as other forms of business. Additional topics covered include the Uniform Commercial Code (UCC), leases, secured transactions and the laws administered by the Securities and Exchange Commission. The student will learn how to draft documents that are important to these fields of law.
BUS 222 and PLS 212 are cross-listed. (1.1)
Prerequisite: PLS 110 (C or better) or BUS 221

BUS 223  Principles of Management  (3-0)  3 Hours
This course is a study of management theories, emphasizing the management functions of planning, decision-making, organizing, leading and controlling which are relevant in a variety of organizations. Emphasis is on theories, concepts, and models related to these key management functions with the intent to better understand the manager’s role in contributing to an organization’s desired objectives. (1.1)
Prerequisite: BUS 121
BUS 227  Principles of Marketing  
(Formerly BUS 122) This course provides students with the elements and best practices of the marketing world and the application of those practices. Students will explore the basic fundamentals of market research through situation analysis of an industry's environment, examination of a business's strengths and weaknesses and insights into target marketing. Students will then analyze the situation and learn to develop product, price, distribution and promotion strategies accordingly. Emphasis is on basic marketing principles and solving business problems through a formal written marketing plan. (1.1)  
Prerequisite: BUS 121 (C or better) or Department Consent

BUS 233  Management Skills  
This course focuses on the actions of managers as they perform their planning/leading/organizing/controlling responsibilities. Students in this course will both study and practice critical management competencies. These competencies include problem-solving, relationship building, motivating, leading teams, performance management, conflict resolution, delegating, and change management.  
AOS 233 and BUS 233 are cross-listed. (1.2)  
Prerequisite: BUS 121 or AOS 214 or Department Consent

BUS 234  Principles of Retailing  
This course is focused on the world of retailing from a managerial viewpoint. Students will explore the different types of retailers, multichannel retailing, consumer buying behavior, retail marketing strategies, selecting retail site locations, supply chain management, effective merchandising, pricing, store layout/design, store management and customer service. The course is intended to meet the needs of those now working in a retail environment and those wishing to learn more about how retail businesses operate.  
BUS 234 and RMC 234 are cross-listed. (1.2)  
Prerequisite: BUS 121 (C or better) or Department Consent

BUS 237  Managerial Communication  
This course will guide students in developing the communication skills needed to be successful as a manager. The course is organized in a workshop format, in which students develop, refine and practice communication skills used by successful managers. The course includes a focus on both oral and written skills used in business at a management level. The content of the course will also include a focus on organization, non-verbal (both delivery and listening) and presentation skills. At the conclusion of the course, students will be able to prepare written business documents such as proposals, memos, and emails; organize and conduct meetings and write meeting minutes; and make formal and informal business presentations. Students will have developed communication skills that effectively inform and persuade their audience in addition to enhancing their credibility as managers.  
AOS 237, BUS 237 and RMC 237 are cross-listed. (1.2)  
Prerequisite: AOS 111 or ENG 121

BUS 238  Project Management  
This course will focus on the concepts and tools related to the management of projects within organizations. Students will examine all phases of project management including planning, scheduling, control, and termination. Topics include writing project plans, developing work breakdown structures, project scheduling, resource management, earned value analysis, and project risk management. (1.2)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
Recommended: BUS 121

BUS 239  Social Media/Social Networking in Business  
This course provides an introduction to the use of social media and social networking within a business context. The course provides an overview of the role of social media and networking in building and managing customer relationships as a component of the marketing program. Students will develop the tools to communicate with customers using the major social network platforms such as Facebook, Linkedin, Twitter and blogs.  
AOS 239 and BUS 239 are cross-listed. (1.2)  
Prerequisite: College Reading and Writing Readiness  
Course fee

BUS 253  Leadership  
This course will focus on the elements and concepts related to leadership. Various levels of leadership concepts will be examined including self-leadership, entrepreneurial leadership, team leadership, strategic leadership, and organizational leadership. Topics include leadership vision, culture and values, and strategy development and execution. Personal leadership competencies such as emotional intelligence, cross-cultural competencies, and leveraging via delegation and talent development will also be covered.  
AOS 253 and BUS 253 are cross-listed. (1.2)  
Prerequisite: BUS 121 or Department Consent.  
Recommended: BUS 223 or BUS 233 or AOS 233

BUS 270  Introduction to Global Business  
This course provides students with a broad overview of the field of international business, with an emphasis on international marketing, cultural diversity, economic systems and political environments. Students will compare and contrast methods of marketing in diverse cultures and explore how to deliver goods and services in international markets. Focus is on the global environment (political, cultural and economic) and various strategies for delivering value to customers across the globe. (1.2)  
Prerequisite: BUS 121 (C or better)  
Fulfills the CLC I/M Education Requirement.

BUS 299  Selected Topics in Business  
This course is designed to provide students with more information about specialized areas of business. These areas may be current issues that are of a career or management development nature.  
Note: Topics will be identified for each section of the course; prerequisite depends upon the selected topic. (1.2)  
May be taken four times for credit toward degree
COURSE INFORMATION AND DESCRIPTIONS

CAREER EXPLORATION ADULT EDUCATION (CRX)

Adult Education and ESL Division, Building 4 (847) 543-2021

Adult Education classes are intended for people who live in Lake County. They are not appropriate for students with B1, B2, F1, F2, J1 or J2 visas, nor are they appropriate for short-term visitors to the U.S. In general, students must be at least 18 years old in order to enroll in adult education classes. However, 16-year-olds and 17-year-olds may register with an official Secondary School Reference Form signed by their local High School authorized representative. U.S. High School graduates and 16-year-olds must meet additional eligibility requirements. New students must attend an orientation session before attending classes.

The Adult Education and ESL Division provides several specific types of educational opportunities and is funded in part by grants from the federal government.

CRX 10 Introduction to Career Foundations (Var.) 0.5-6 Hours
This Career Foundations curriculum strengthens reading, writing and employability skills such as job applications, resumes, hiring and interview practice as well as learning about making work and career training and education decisions. (1.7)
Course fee
May be taken four times for credit

CHEMISTRY (CHM)

Biological and Health Sciences Division, Room B213, (847) 543-2042

CHM 120 Chemical Concepts (3-2) 4 Hours
A survey course that includes the fundamentals of chemical composition, chemical calculations, solutions, states of matter, the periodic table, acids, bases and pH, radioactivity and nuclear processes, and a brief overview of organic and biochemistry.
Note: Recommended for non-science majors.
Prerequisites: MTH 102 or MTH 105 (both C or better) or an appropriate score on the Math Placement Test or Math ACT of 20 or higher (or SAT of 510 or higher) AND College Reading and Writing Readiness (1.1)
Course fee
IAI: P1 902L

CHM 121 General Chemistry I (3-4) 5 Hours
This course develops an analytical approach to solving chemical problems. The student is provided with principles that relate chemical structure, energy and reactivity and is introduced to the following topics: composition and properties of matter, nomenclature, stoichiometry, solutions, gas laws, thermochemistry, atomic structure and periodic trends, bonding, molecular geometries, and properties of liquids, solids and gases. This course is the first semester of a two semester sequence intended for chemistry majors, science majors, engineering majors, and students seeking careers in pre-professional health related fields. (1.1)
Prerequisite: One year of High School Chemistry (C or better) or CHM 120 (C or better) AND appropriate score on the Math Placement Test or Math ACT of 22 or higher AND College Reading and Writing Readiness
Course fee
IAI: P1 902L, CHM 911

CHM 122 General Chemistry II (3-4) 5 Hours
This course is the second semester of a two semester sequence intended for chemistry majors, and students seeking careers in pre-professional health-related fields. It continues some of the topics presented in CHM 121, General Chemistry I, in more detail. The student is also introduced to the following topics: dynamics of solution formation, various ways to express solution concentrations, colligative properties, chemical kinetics, reaction mechanisms, chemical equilibrium, acids, bases, hydrolysis, buffers, titration, solubility, thermodynamics, and electrochemistry. The course also includes introductory work in qualitative analysis. (1.1)
Prerequisite: CHM 121 (C or better)
Course fee
IAI: CHM 912

CHM 123 General Chemistry II (3-4) 5 Hours
This course is the second semester of a two semester sequence intended for chemistry majors, and students seeking careers in pre-professional health-related fields. It continues some of the topics presented in CHM 121, General Chemistry I, in more detail. The student is also introduced to the following topics: dynamics of solution formation, various ways to express solution concentrations, colligative properties, chemical kinetics, reaction mechanisms, chemical equilibrium, acids, bases, hydrolysis, buffers, titration, solubility, thermodynamics, and electrochemistry. The course also includes introductory work in qualitative analysis. (1.1)
Prerequisite: CHM 121 (C or better)
Course fee
IAI: P1 902L

CHM 124 General Chemistry II (3-4) 5 Hours
This course is the second semester of a two semester sequence intended for chemistry majors, and students seeking careers in pre-professional health-related fields. It continues some of the topics presented in CHM 121, General Chemistry I, in more detail. The student is also introduced to the following topics: dynamics of solution formation, various ways to express solution concentrations, colligative properties, chemical kinetics, reaction mechanisms, chemical equilibrium, acids, bases, hydrolysis, buffers, titration, solubility, thermodynamics, and electrochemistry. The course also includes introductory work in qualitative analysis. (1.1)
Prerequisite: CHM 121 (C or better)
Course fee
IAI: P1 902L

CHM 125 Elementary Organic Chemistry (3-4) 5 Hours
This course is a survey of organic chemistry. The course is designed for students who need a background in organic chemistry, but do not plan to make chemistry their career. This course is usually taken by students in agriculture, nursing, and allied health fields. Elementary Organic Chemistry studies the concepts of nomenclature, structure, physical properties of functional groups, reactivity, stereochemistry and biochemistry. The course includes both lecture and laboratory. (1.1)
Prerequisite: CHM 120 (B or better) OR CHM 121 (C or better)
Course fee

CHM 140 Chemistry for a Changing World (3-0) 3 Hours
This course emphasizes some basic principles of chemistry and their relationship to the modern world. This course will foster an interest in science by preparing students to make effective decisions by developing thinking skills that can be applied to challenges in a changing world. Note: students may not receive credit towards a degree for both CHM 140 and CHM 142. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: P1 903

CHM 141 Chemistry for a Changing World-LAB (3-2) 4 Hours
This course emphasizes some basic principles of chemistry and their relationship to the modern world. This course will foster an interest in science by preparing students to make effective decisions by developing thinking skills that can be applied to challenges in a changing world. Topics include air and water pollution, energy resources, basic biochemistry, and current scientific developments involving chemistry. Note: students may not receive credit towards a degree for both CHM 140 and CHM 142. (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
IAI: P1 903L

CHM 142 Elementary Organic Chemistry (3-0) 3 Hours
This course is a survey of organic chemistry. The course is designed for students who need a background in organic chemistry, but do not plan to make chemistry their career. This course is usually taken by students in agriculture, nursing, and allied health fields. Elementary Organic Chemistry studies the concepts of nomenclature, structure, physical properties of functional groups, reactivity, stereochemistry and biochemistry. The course includes both lecture and laboratory. (1.1)
Prerequisite: CHM 120 (B or better) OR CHM 121 (C or better)
Course fee

CHM 143 Introductory Organic Chemistry (3-4) 5 Hours
This course is a survey of organic chemistry. The course is designed for students who need a background in organic chemistry, but do not plan to make chemistry their career. This course is usually taken by students in agriculture, nursing, and allied health fields. Elementary Organic Chemistry studies the concepts of nomenclature, structure, physical properties of functional groups, reactivity, stereochemistry and biochemistry. The course includes both lecture and laboratory. (1.1)
Prerequisite: CHM 120 (B or better) OR CHM 121 (C or better)
Course fee

CHM 145 Introductory Organic Chemistry (3-2) 4 Hours
This course is a survey of organic chemistry. The course is designed for students who need a background in organic chemistry, but do not plan to make chemistry their career. This course is usually taken by students in agriculture, nursing, and allied health fields. Elementary Organic Chemistry studies the concepts of nomenclature, structure, physical properties of functional groups, reactivity, stereochemistry and biochemistry. The course includes both lecture and laboratory. (1.1)
Prerequisite: CHM 120 (B or better) OR CHM 121 (C or better)
Course fee
COURSE DESCRIPTIONS

CHM 161  Chemistry Laboratory  2 Hours
This laboratory course is intended for students who have taken a lecture component of a general chemistry course at another institution and are seeking credit for CHM 121 – General Chemistry I so as to meet a prerequisite for CHM 123 – General Chemistry II. Students will participate in labs that emphasize concepts such as safety, scientific method, physical and chemical properties, gases, thermochemistry, measurements and calculations, chemical reactions, titration, molecular models, and spectrophotometry. Department consent required. (1.1)
Course fee
IAI: CHM 913

CHM 222  Organic Chemistry I  5 Hours
This course introduces students to theoretical concepts and experimental techniques related to the chemistry of carbon compounds. Topics will include nomenclature, acid-base systems, alkanes, alkenes, alkynes, alkyl halides, alcohols, ethers, stereochemistry, and major substitution, addition, and elimination reaction mechanisms. The laboratory experiments will include basic techniques of separation and purification of organic compounds and synthesis of compounds using reactions presented in the lectures. This course is the first of a two-semester sequence and is intended for chemistry majors and students seeking careers in pre-professional medical-related fields. (1.1)
Prerequisite: CHM 123 (C or better)
Course fee
IAI: CHM 914

CHM 223  Organic Chemistry II  5 Hours
This course presents the fundamental principles of organic chemistry with an emphasis on the synthseses, reactions, mechanisms, structures and identification of organic compounds. Topics include nomenclature, instrumental analyses, aromatic compounds, carboxylic acids and their derivatives, aldehydes, ketones, condensation reactions, amines, and an introduction to biochemical molecules. Laboratory includes preparation and separation of organic compounds, analyses of properties and identification of organic compounds. This course is the second semester of a two semester organic chemistry sequence (CHM 222 followed by CHM 223) and is intended for chemistry majors and students seeking careers in other sciences and pre-professional medical-related fields. (1.1)
Prerequisite: CHM 222 (C or better)
Course fee
IAI: CHM 914

CHINESE (CHI)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

CHI 121  Beginning Chinese I  4 Hours
This course is the first semester of a one year introduction to Mandarin Chinese, the official standard language of Mainland China and Taiwan. Emphasis will be on developing basic listening, speaking, reading and writing skills within the context of the modern Chinese culture. (1.1)
Prerequisite: CHI 121

CHI 221  Intermediate Chinese I  4 Hours
This course is the first semester of one year of continuing study for beginning Chinese learners who have studied Book I and II, Elementary Chinese Reader, or have equivalent mastery of the Chinese language. Grammar and character writing review with continuation of development of listening, speaking, reading, and writing skills. (1.1)
Prerequisite: CHI 121

CHI 222  Intermediate Chinese II  4 Hours
This course continues to expand the knowledge of Chinese grammar, with emphasis in oral and written communication. Films, short videos, readings and materials from newspapers, magazines, and media are utilized so students explore the Chinese speaking world and cultures based on authentic materials. (1.1)
Prerequisite: CHI 221
Fulfills the CLC I/M Education Requirement.
IAI: H1 900

COMMUNICATION (CMM)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

CMM 111  Communication Skills  3 Hours
For students in career programs or individuals interested in improving communication skills. Acquaints students with a variety of interpersonal communication concepts and theories designed to improve communication competence. The focus is on interpersonal communication but intrapersonal communication is also addressed. Topics include the communication process and factors influencing it, cultural influences, verbal and non-verbal messages, relational maintenance, and productive conflict strategies. (1.2)

CMM 121  Fundamentals of Speech  3 Hours
For students interested in improving their oral communication competency. This course combines a theoretical basis with practical verbal and nonverbal skills to enhance public speaking effectiveness. Students learn how to develop, research, organize, adapt, deliver and critique messages. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: C2 900

CMM 122  Business and Professional Speaking  3 Hours
For students desiring additional and concentrated experience in public speaking. A workshop oriented course covering informative, demonstrative, persuasive and argumentative speaking. Basic goal is for student to think and speak comfortably and effectively before an audience. (1.1)
Prerequisite: College Reading and Writing Readiness

CMM 123  Dynamics of Small Group Discussion  3 Hours
The study of small groups with an emphasis on decision making and problem solving. A behavioral approach to group communication that includes leadership, interpersonal relationships, communication barriers, conflict resolution, etc. Although of general interest, course should be of special interest to students in business, teaching or psychology programs. (1.1)
Prerequisite: College Reading and Writing Readiness
CMM 124 Oral Interpretation (3-0) 3 Hours
Understanding and appreciation of literature through performing it orally in class, both individually and in groups. For students who desire more familiarity with literature and/or students interested in developing their speaking voice. (1.1) Prerequisite: College Reading and Writing Readiness
IAI: TA 916

CMM 125 Communication and Gender (3-0) 3 Hours
This course explores how gender influences the communications process. Components of male and female, male and male, female and female, interactions and how each affects our ability to communicate across and within the sexes are reviewed. Major theories of gender communication, and practical approaches to communicating more effectively with persons from the other and same genders will also be examined. (1.1) Prerequisite: College Reading and Writing Readiness

CMM 127 Intercultural Communication (3-0) 3 Hours
This course will examine the complex relationships between communication and culture by using social, psychological, interpretive and critical perspectives. Additionally, this course will allow one to consider the role that communication has in creating, maintaining, or challenging cultural assumptions, norms, rules and power structures and will also encourage one to consider the importance of social, historical, and cultural contexts in intercultural interactions. Students of CMM127 will explore how diverse underlying cultural orientations and patterns influence communication within and between cultures and will learn to evaluate their own and other’s communicative behaviors from a culturally sensitive perspective. Throughout the semester, students will build communication skills with a particular emphasis on bridging cultural barriers through in class and out of class activities. Theoretical and practical aspects of intercultural communication will be addressed with a focus on building culturally competent communication skills. (1.1) Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.

CMM 128 Interviewing Practices (3-0) 3 Hours
Techniques and skills to improve fluency, accuracy, and persuasiveness in one-to-one communication. Covers all types of interviewing and process of dyadic communication. (1.1) Prerequisite: College Reading and Writing Readiness

CMM 129 Argumentation and Debate (3-0) 3 Hours
This course provides an overview of the theory and practice of argumentation and debate including burdens of proof, stock issues, evidence, reasoning, and debate strategies and procedures. Students participate in debates on fact, value, and policy issues. (1.1) Prerequisite: College Reading and Writing Readiness

CMM 221 Applied Forensics (Var.) 1-3 Hours
This course provides practical experience in the preparation of public speeches, oral interpretation programs, group performances, and preparation of speaking situations for public presentations in forensic/speech competition. The student may take the course up to three times but for a maximum of three credit hours. (1.1) May be taken four times, but any topic only once

CMM 299 Special Topics in Communication (Var.) 1-3 Hours
This course addresses the in-depth study of special topics in communication that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may include campaign or presidential rhetoric, nonverbal communication, listening, or health, family or religious communication. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours toward degree completion. (1.2) May be taken three times, but any topic only once

COMPUTER AIDED DESIGN (CAD)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

CAD 110 CAD/CAM Concepts (2-2) 3 Hours
This course will introduce the student to how computers are used in Computer Aided Design. The course will cover basic functions of Windows operating system, as well as computer hardware and software and how the operating system relates to the use of both. Extensive use of the Internet will be used to download software and information. CAD software will be introduced including AutoCAD (for 2D drawings), Inventor (for 3D mechanical parts), and Revit (for 3D architectural models). (1.2) Prerequisite: College Reading and Writing Readiness or consent of instructor Course fee

CAD 111 CAD Drafting Application (3-2) 4 Hours
This course is designed to introduce the student to the tools and graphical communication techniques of the CAD drafting profession. Topics include geometric constructions, sketching, scales, multiviews, sectional views, auxiliary views, dimensioning, pictorial views, threads and fasteners, and assembly drawings. Drafting skills/knowledge are learned/gained through intensive classroom practice, discussions and demonstrations using professionally prepared materials (1.2) Course fee

CAD 117 Introduction to AutoCAD (2-2) 3 Hours
The course is designed to introduce students to the use of AutoCAD for computer-aided design and drafting. 2D drawing, modifying and dimensioning is emphasized. Note: Completion of CAD 110 is recommended. (1.2) Course fee
**COURSE DESCRIPTIONS**

**CAD 170**  
Introduction to SolidWorks  
(2-2)  
3 Hours  
(Formerly CAD 173) This course is designed as an introduction to the SolidWorks Computer Aided Design software. Topics will include part creation, use of features, assembly modeling, and drawing creation.  
Note: Completion of CAD 117 or a strong working knowledge of another CAD software is recommended prior to taking this course. (1.2)  
Course fee

**CAD 171**  
Introduction to Inventor  
(2-2)  
3 Hours  
The course is designed as an introduction to the Inventor Computer Aided Design software. Topics will include part creation, use of features, assembly modeling and drawing management.  
Note: Completion of CAD 117 or a strong working knowledge of another CAD software is recommended prior to taking this course. (1.2)  
Course fee

**CAD 176**  
Introduction to Creo  
(2-2)  
3 Hours  
This course is designed as an introduction to the Creo Computer Aided Design software. Topics will range from 3-dimensional solid modeling to detail drawing creation and assembly.  
Note: Completion of CAD 117, equivalent industrial experience, or strong working knowledge of another CAD software is recommended prior to taking this course (1.2)  
Course fee

**CAD 177**  
Civil Drafting  
(2-2)  
3 Hours  
This course will introduce students to software used in the preparation of civil and surveying drawings. Software studied includes AutoCAD and advanced applications such as Land Development Desktop and Civil 3D.  
Prerequisites: CAD 117 or EGR 121 or ARC 121 or consent of instructor  
Course fee

**CAD 178**  
Introduction to Revit  
(2-2)  
3 Hours  
(Formerly CAD 214) This course is designed as an introduction to the Revit Computer Aided Design software. Topics will include building 3D architectural project models with walls, window, doors, floors, roofs, stairs; creating schedules; adding views and annotation to the sheets to create construction documents.  
Note: Completion of ARC 121 or equivalent industrial experience recommended. (1.2)  
Course fee

**CAD 179**  
Introduction to Autodesk 3ds Max  
(2-2)  
3 Hours  
Animation and rendering of 3 dimensional objects for architects, graphic illustrators and product designers. Software emphasized is Autodesk 3ds Max. (1.2)  
Course fee

**CAD 211**  
Geometric Dimensioning and Tolerancing  
(2-2)  
3 Hours  
This course is a study of the current ASME Y14.5 Dimensioning and Tolerancing standard. It helps students interested in CAD advance their knowledge and skills of mechanical design/drafting operation utilizing an industrial CAD system. The emphasis is on the understanding of the principles and applications of geometric dimensioning and tolerancing standard. Common practice and techniques in creating a professional mechanical drawing will also be covered. (1.2)  
Prerequisite: CAD 170 (previously CAD 173) or CAD 171 or CAD 176  
Course fee  
May be taken four times for credit toward degree

**CAD 217**  
AutoCAD II  
(2-2)  
3 Hours  
Discussion and lab work are presented dealing with advanced drawing and dimensioning techniques, attributes, and individualized customization of AutoCAD menus and files. (1.2)  
Prerequisite: CAD 117 or EGR 121 or ARC 121  
Course fee

**CAD 270**  
SolidWorks II  
(2-2)  
3 Hours  
(Formerly CAD 174) This course is designed as a continuation of CAD 170 Introduction to SolidWorks. It expands the topics started in CAD 170. It also covers sheet metal part creation, basic mold design, and importing files from other CAD programs. (1.2)  
Prerequisite: CAD 170 (previously CAD 173)  
Course fee

**CAD 271**  
Inventor II  
(2-2)  
3 Hours  
This course is a continuation of CAD 171. It further explores the Inventor Computer Aided Design software. Topics include but are not limited to advanced part modeling, sheet metal parts, iParts, advanced assemblies, “Design Center”, border and titleblock creation, toolbar and command customization. (1.2)  
Prerequisite: CAD 171 (C or better)  
Course fee

**CAD 273**  
Advanced CAD Specialization  
(Var.)  
1-3 Hours  
The course is of a project nature where the student will select and complete one or more projects throughout the semester. There will be periodic reports to the instructor in the form of a formal written progress report. Specific prerequisite will be determined by the instructor. (1.2)  
Course fee

**CAD 276**  
Creo II  
(2-2)  
3 Hours  
This course builds upon CAD176 and further explores the Creo Computer Aided Design software. Topics include but are not limited to advanced part modeling, advanced assemblies, and an introduction to Creo Simulate (formerly Mechanica) as a design tool. (1.2)  
Prerequisite: CAD 176  
Course fee

**CAD 278**  
Revit II  
(2-2)  
3 Hours  
This course is designed as a continuation of CAD178, Introduction to Revit. It expands the topics started in CAD178. It also covers more advanced concepts such as Conceptual Massing, Family Creation, Site and Structural Tools, Design Options, Phasing and Rendering. (1.2)  
Prerequisite: CAD 178 (previously CAD 214) with a grade of C or better

**CAD 279**  
Design Visualization Using  
3ds Max Design  
(2-2)  
3 Hours  
This course is designed for students who are interested in using Autodesk 3ds Max Design software to enhance their 3D designs. Students will use the software to create 3D illustrations and rendering of products, interiors/exterior of buildings to produce professional presentation quality drawings. The topics include advanced modeling and modifiers, advanced materials, animation, and the use of mental ray rendering software.  
Note: Completion of CAD179, or familiarity with Autodesk 3ds Max Design, is recommended prior to taking this course.  
Note: This course is cross listed with ARC 216. (1.2)  
Course fee
COMPUTER INFORMATION TECHNOLOGY (CIT)

Business and Social Sciences Division, Room T302, (847) 543-2047

CIT 111 Comprehensive Spreadsheets (3-0) 3 Hours
Covers the advanced features of spreadsheet use and design. File building techniques, the creation of high-quality graphics, database features including query and table handling are also covered. Use of financial, date, and time functions will be included. Use of macros will cover automating operations, building and customizing spreadsheets with interactive macros, and improving macro performance including Visual Basic macros. (1.2)

Prerequisite: College Reading and Writing Readiness

Course fee

CIT 112 Comprehensive Database (3-0) 3 Hours
This course introduces the concepts and features of a PC-based relational database using Microsoft™ Access. Students will learn to create and modify tables, customized queries, forms and reports. Other topics include: embedding objects, creating macros, using Visual Basic for Applications (VBA), and database administrative tasks. Students will need to have basic knowledge of Windows and familiarity of basic application software functions to be successful in this course. (1.2)

Prerequisite: College Reading and Writing Readiness

Course fee

CIT 113 Introduction to SQL (3-0) 3 Hours
This course will cover the essential concepts of relational databases using SQL (Structured Query Language). Students will develop skills necessary to effectively interact with an SQL database. Emphasis is on the SQL commands required for designing, accessing and manipulating databases. Students will gain practical hands-on experience using lab exercises and lab experiences. (1.2)

Prerequisite: CIT 112 (Previously CIS 230)- AND - a CIT programming course or a passing score on the Programming Placement Test

CIT 119 Introduction to Office Software (2-2) 3 Hours
This course is a hands-on course for students wanting to learn the basics of productivity software including: word processing, spreadsheets, databases, and presentation software. Basic operating system tasks will also be presented. Software used for this class includes a current version of Windows, Word, Excel, Access, and PowerPoint.

Note: This course is not intended for CIT majors and does not apply towards any CIT degree or certificate. (1.2)

Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 or ELI 110 AND Basic Algebra Readiness or concurrent enrollment in MTH 114

Course fee

CIT 120 Introduction to Computers (3-0) 3 Hours
In this course students will learn about the significant role of computers in business and society. Students will be introduced to concepts addressing computer hardware and software, networking, multimedia, telecommunications, careers in the Information Technology field, and current computer-related issues. This course has a computer lab component where students get hands-on experience using a current integrated software package (Microsoft™ Office®) to better understand how computers are used in a business environment. (1.1)

Prerequisite: College Reading and Writing Readiness

Course fee

CIT 121 Operating Systems for A+ Certificate (3-0) 3 Hours
This course covers the essential elements of Operating Systems. Specific features along with general concepts of the selected operating system will be addressed. System optimization, memory management, identity management, installation, and software/hardware management will be an integral part of this course. This course covers the objectives for the latest A+ Operating System technologies test. (1.2)

Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

Course fee

CIT 131 Windows Operating System (3-0) 3 Hours
This course covers the essential elements of the latest Client Windows Operating System. Specific features along with general concepts of the Windows operating system will be addressed. System optimization, memory management, installation, and software/hardware management will be an integral part of this course. The course prepares a student for Microsoft Certified Professional (MCP) test. (1.2)

Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

Course fee

CIT 132 Linux Operating System (3-0) 3 Hours
This course introduces students to the Linux operating system and the skills they need to effectively use and administer the Linux operating system. The course includes Linux installation and configuration, shell commands and scripts, Linux file system and processes management, and basic system administration tasks. By the end of the course, students will be familiar with the Linux command-line environment, utilities, applications, as well as the graphical X Window environment. (1.2)

Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

Course fee

CIT 133 Network Automation (3-0) 3 Hours
This course introduces students to basic shell scripting concepts used in automating administrative tasks in the Windows and Linux operating systems. Students will learn how to run commands in the command-line interface, write and debug scripts, handle errors, employ script parameters, and establish script security. (1.2)

Prerequisite: CIT 130 or CIT 131

Corequisite: CIT 132

Course fee
CIT 134  Introduction to Programming Concepts  
(3-0)  3 Hours  
This course introduces students to programming logic constructs used in structured programming. Problem solving and structure types (sequence, decision, and repetition) will be presented. Other programming concepts presented in this course include: numeric and string variables, data input and output techniques, functions and procedures, arrays, and processing sequential files.  
Note: This course is a CIT core prerequisite and is required before taking a second level programming course. (1.2)  
Corequisite: CIT 120 or passing score on the Introduction to Computers Placement Test  
Course fee

CIT 138  Introduction to C# Programming  
(3-0)  3 Hours  
This course introduces students to the C# programming language. Students will create console-based and Graphical User Interfaces (GUI) applications. For the GUI applications, the student will build window-based and web-based forms, adding controls and setting properties for these controls. Design ideas for menus and the use of graphics, color, and layout will be explored. Classes and objects are introduced along with encapsulation, implementation and interface inheritance, and polymorphism as implemented in C#. The classes and objects of the .NET framework will be integrated into the building of the students’ C# applications. A number of simple application examples will be used to gain debugging experience in addition to developing original applications. (1.2)  
Prerequisite: CIT 134 or equivalent or a passing score on the Programming Placement Test  
Course fee

CIT 139  Cisco: Introduction to Networks  
(2-2)  3 Hours  
(Formerly CNA 111) This course covers the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of Internet Protocol (IP) addressing and the fundamentals of Ethernet concepts, media, and basic network operations are introduced. Students will build simple local area networks, perform basic configurations for routers and switches, and implement IP addressing schemes.  
Recommended: CIT 120  
(1.2)  
Course fee

CIT 141  Programming in C++  
(4-0)  4 Hours  
Extends the knowledge of programming by demonstrating how C++ implements the basic constructs of Object Oriented Programming (OOP). Encapsulation, inheritance and polymorphism, the three fundamental criteria for OOP, will be examined closely. Students will implement C++ programs organized as a cooperative collection of objects, each of which represents an instance of some class, and whose classes are all members of a hierarchy of classes united via different kinds of class relationships. In addition, exception handling and object persistence will be deployed in these classes. (1.1)  
Prerequisite: CIT 134 or equivalent or a passing score on the Programming Placement Test  
Course fee

I AI: CS 911  

CIT 151  Windows Server Administration  
(2-2)  3 Hours  
This course covers the implementation, management, maintenance, and provisioning services essential to the administration of Windows Server across multiple network infrastructure platforms. Major topics include installing and configuring servers, configuring server roles and features, administering print, storage and network services, configuring and managing server and group policies, implementing business continuity and disaster recovery, including managing high availability server configurations. Students will develop skills to qualify for a position as a network systems administrator or a computer support specialist. (1.2)  
Prerequisite: CIT 131 AND CIT 139 or CIT 150  
(all C or better)  
Corequisite: CIT 133  
Course fee

CIT 152  Network Security Fundamentals  
(3-0)  3 Hours  
This course is designed for administrators who are responsible for the day-to-day administration and security of Microsoft Windows. Students should have general knowledge of networking concepts and Windows OS to be successful in this course. This course will prepare the student for Security+ certification. (1.2)  
Prerequisite: CIT 130 or CIT 131 AND CIT 139 or CIT 150  
(all C or better)  
Course fee

CIT 155  Introduction to Computer Forensics  
(3-0)  3 Hours  
This course is designed to introduce students to crime scene investigation and processing, forensic science and computer forensics topics. Areas addressed in this course include: crime scene procedures and documentation, collecting and preserving evidence, computer forensic science, locating digital evidence, and basic legal principles related to computer forensics. Emphasis will be placed on the role of computer forensics with the other forensic sciences. (1.2)  
Prerequisite: College Reading and Writing Readiness  
Course fee

CIT 157  Configuring and Supporting Windows Devices  
(3-0)  3 Hours  
This course concentrates on help desk issues in the current Windows OS desktop and examines protection of content, mobile device management policy, virtualization with Hyper-V, application management using the Company Portal and the Windows Store. This course will prepare the students for the Microsoft Certified Solutions Associate exam (MCSA). (1.2)  
Prerequisite: CIT 120 or passing score on the Introduction to Computers Placement Test  
Course fee

CIT 159  Cisco: Routing and Switching  
(2-2)  3 Hours  
(Formerly CNA 112) This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with Routing Information Protocol (RIPv1), RIPv2, single-area and multi-area Open Shortest Path First (OSPF) protocol, Virtual Local Area Networks (VLANs), and Inter-VLAN routing in both IPv4 and IPv6 networks. (1.2)  
Prerequisite: CIT 139  
Recommended: CIT 131  
Course fee

302  2019-2020 College of Lake County Catalog
### Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIT 170</td>
<td>Web Page Development</td>
<td>3</td>
<td>This course introduces students to the technical aspects of web page development. Topics presented in this course include: creating web pages using Hypertext Markup Language (HTML), formatting web pages and designing web page layouts using Cascading Style Sheets (CSS), developing for the mobile web, formatting information using tables, creating web page forms with input fields, enhancing web sites with sound, video, and animation, and adding web page interactivity using the scripting language JavaScript. Students will also gain the skills required to publish and maintain web sites. (1.2) Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 Course fee</td>
</tr>
<tr>
<td>CIT 171</td>
<td>Web Page Scripting</td>
<td>3</td>
<td>This course is designed as an introduction to creating dynamic interactive Web pages and sites using client-side scripting, code embedded directly into a Web page. Topics presented in this course include: beginning through advanced concepts of Web page client-side scripting, browser object model (BOM), validating and submitting user input, passing user input data between Web pages during navigation, cookies, security issues, animation, document object model (DOM), dynamic HTML (DHTML), and updating Web pages with AJAX. Debugging techniques will be covered extensively. Students will also gain the skills required to publish and maintain Web sites. (1.2) Prerequisite: CIT 170 or DMD 116 Course fee</td>
</tr>
<tr>
<td>CIT 173</td>
<td>PHP Programming</td>
<td>3</td>
<td>This course is designed as an introduction to PHP, an open source, interpretive, cross-platform, HTML embedded server-side scripting language used to create dynamic Web sites. The main objective of this course is to provide students with the knowledge and skills necessary to design and develop dynamic database-driven Web pages using PHP. (1.2) Prerequisite: CIT 170 or DMD 116 Course fee</td>
</tr>
<tr>
<td>CIT 174</td>
<td>Adobe Dreamweaver</td>
<td>3</td>
<td>This course introduces students to the fundamentals of Adobe Dreamweaver, the industry’s leading application for developing websites. Students will gain the knowledge and hands-on skills they need to plan, build, and manage commercial websites using Dreamweaver’s intuitive visual interface. Topics covered in this course include Cascading Style Sheets (CSS) templates, images, links, tables, forms, frameworks, media objects, publishing, mobile websites, and accessibility. Best practices and current web standards are emphasized throughout the course. (1.2) Prerequisite: College Reading and Writing Readiness Course fee</td>
</tr>
<tr>
<td>CIT 218</td>
<td>Cisco: Scaling Networks</td>
<td>3</td>
<td>(Formerly CNA 113) This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality and resolve common issues with Open Shortest Path First (OSPF) protocol, Enhanced Interior Gateway Routing Protocol (EIGRP), Spanning-Tree Protocol (STP), and VLAN Trunking Protocol (VTP) in both IPv4 and IPv6 networks. In addition, students develop the knowledge and skills needed to implement Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) operations in a network. (1.2) Prerequisite: CIT 159 or Department Consent Course fee</td>
</tr>
<tr>
<td>CIT 219</td>
<td>Cisco: Connecting WAN Networks</td>
<td>3</td>
<td>(Formerly CNA 114) This course discusses the wide area networks (WAN) technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. In addition, students develop the knowledge and skills needed to implement Internet Protocol Security (IPSec) and Virtual Private Network (VPN) operations in a complex network. (1.2) Prerequisite: CIT 218 Course fee</td>
</tr>
<tr>
<td>CIT 239</td>
<td>Systems Analysis</td>
<td>3</td>
<td>This course will examine different software development methodologies for developing and implementing information systems. It discusses the use of Computer Aided Software Engineering (CASE) tools used to increase developers’ productivity. The student will capture the requirements, analyze the needs of these requirements and design a solution for satisfying the requirements for a project of their choice. The system concentrates on object-oriented techniques for representing the solution and uses the Unified Modeling Language (UML) to describe the requirements, analysis and design models for the student’s project. The design phase will examine the impact of user interfaces, database designs, and program and transaction control. Concepts of the systems development life cycle are presented along with support activities such as project management, configuration management and risk management, conversion and final evaluation. Business needs and the human aspects of EDP are stressed. (1.2) Prerequisite: CIT 135 or CIT 137 or CIT 138 or CIT 141 or higher level object oriented programming language Course fee</td>
</tr>
<tr>
<td>CIT 241</td>
<td>Advanced C++</td>
<td>3</td>
<td>Extends the students’ knowledge of C++ through the study of the application of data structures and an introduction to frameworks. The student will learn the basic concepts and the application of the normal data structures of vectors, linked lists, stacks, queues, and trees. These concepts will be examined through discussion on the implementation of these data structures in The Standard Template Library components. These studies will be based on C++ templates and C++ exception handling. The course will examine searching and sorting algorithms especially in relation to the data structures studied above. The course will also study the concepts and use of frameworks emphasizing the C++ Stream I/O classes and their relationships. With this knowledge, students will be able to apply appropriate data structures to solve programming problems. The student will understand the use of frameworks as a basis to solving a class of problems. SOFTWARE: MS-Windows and a recent C++ compiler with a supporting STL. (1.1) Prerequisite: CIT 141 Course fee</td>
</tr>
</tbody>
</table>

IAI: CS 912
CIT 252  Hardening the Infrastructure  
(3-0)  3 Hours  
This course provides students with hands-on experience in hardening a variety of networking systems. Topics include Linux and Windows operating systems, routers, wireless networks, auditing and contingency planning. This is one of the courses in a two-course series to prepare students for the industry-recognized Security Certification Network Professional Certification (SCNP). (1.2)  
Prerequisites: CIT 151 or CIT 230 (C or better), and CIT 152 (C or better) or instructor consent.  
Course fee

CIT 253  Network Defense and Countermeasures  
(3-0)  3 Hours  
In this capstone course students will use knowledge from previous courses to design a secure network infrastructure as a member of a project team. Topics introduced in this course will include managing and installing firewalls, implementing IPSec and VPNs, designing intrusion detection systems, routing fundamentals including the use of ACL’s and the fundamentals of wireless network infrastructures. This capstone course provides students with the practical skills necessary to enhance their network security background and prepare for Professional Security Certifications. (1.2)  
Prerequisite: CIT 252 (C or better) or Consent of Instructor  
Course fee

CIT 254  Advanced Windows Server Administration  
(3-0)  3 Hours  
This course covers the essential elements in implementing and administering Windows Server in medium to very large computing environments. This course uses the current Windows Server product and students learn how to install and configure Active Directory Domain Services (AD DS). It also covers functionality such as Active Directory Certificate Services (AD CS), Active Directory Federations Services (AD FS), and Web Application proxy implementations. This course prepares the student for one of the exams that leads to Microsoft Certified Solutions Associate (MCSSA: Server). (1.2)  
Prerequisite: CIT 151 (C or better) or Consent of Instructor  
Course fee

CIT 255  Server Virtualization Technologies  
(3-0)  3 Hours  
This course covers the fundamentals of enterprise class server virtualization, which forms the basis for private and public cloud technologies, as well as drastically reduces the data center footprint. Students will learn to install, configure and maintain a virtualization environment, including both server virtualization (ESX / Hyper-V) and virtual desktop infrastructure (VDI). Best practices will be covered for the leading virtualization vendors. (1.2)  
Prerequisite: CIT 151 or CIT 230 (either C or better) or Consent of Instructor  
Course fee

CIT 256  Windows Forensic Analysis  
(2-2)  3 Hours  
This course provides students with the knowledge and skills needed to master Windows forensic analysis topics using industry standard forensic tools. Areas addressed in this course include the New Technology File System (NTFS), steganography, case management, data acquisition and verification, bookmarking, search methodologies, signature and hash analysis, recovering data in unallocated space, examining Windows artifacts, parsing compound files, decoding encrypted data, and case reporting. (1.2)  
Prerequisite: CIT 130 or CIT 131 (either C or better)  
Course fee

CIT 258  Network Forensics  
(3-2)  4 Hours  
This course expands the Computer Forensics curriculum by presenting the science of forensic analysis of data commonly transmitted via modern computer networks. It extends the forensic topics presented in the computer evidence recovery courses (CIT156 and CIT256) by introducing and detailing the impact of modern networking to computer investigations. In addition to re-enforcing the knowledge of “passive” evidence collection techniques including network data tapping and safely examining malicious software. The student who satisfactorily completes this course will be ready to participate in formal evidence collection and analysis for a non-law enforcement organization. Further studies in law enforcement may be required for the student to leverage these skills as part of a criminal investigation. (1.2)  
Prerequisite: CIT 150 or CIT 139 AND CIT 256  
Course fee

CIT 259  Topics in Computer Forensics  
(Var.)  1-3 Hours  
This course is designed to meet the needs of students for specialized instruction in current Computer Forensics topics. Topics and course credit hours will be identified by individual section. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours towards degree completion. (1.2)  
Prerequisite: To be determined relative to topic  
Course fee  
May be taken four times for credit toward degree

CIT 272  Enterprise Messaging Administration  
(3-0)  3 Hours  
This course provides students with the knowledge and skills needed to configure and manage an enterprise messaging environment. It also provides guidelines, best practices, and considerations for optimizing mail server deployment. Major topics include managing users, mailboxes, servers, and security as well as monitoring and troubleshooting the mail server. (1.2)  
Prerequisite: CIT 151 (C or better) or Consent of Instructor  
Course fee

CIT 299  Selected Topics in Computer Information Technology  
(Var.)  1-4 Hours  
A course designed to meet the needs of students for specialized instruction in current computer information technology topics.  
Note: Topics will be identified for each section of the course. (1.2)  
Course fee  
May be taken four times, but any topic only once

COMPUTERIZED NUMERICAL CONTROL (CNC)

Engineering, Math and Physical Sciences  
Division, Room T302, (847) 543-2044

CNC 110  CNC Operations I  
(2-2)  3 Hours  
Set-up and operation of CNC FANUC and HAAS controlled industrial vertical milling machines and turning centers.  
Note: Machine shop experience or MTT 111 or MTT 112 is recommended. (1.2)  
Course fee
### CNC 111 Geometric Dimensioning and Tolerancing

**1 Hour**

This course will assist Machine Tool students to advance their knowledge and skills on the principles and applications of Geometric Dimensioning and Tolerancing techniques using the ASME Y14.5-2009 standard. (1.2)  
**Prerequisite:** Basic Algebra Readiness

### CNC 115 CNC Programming I

**3 Hours**

Provides students with the basic principles and practices of numerical control machining. Manual parts programming will be performed for CNC lathes and milling machines. Note: It is recommended that either CNC 110, MTT 112 or machine tool industrial experience should precede this course. Shop math skills or MTH 115 are also recommended. (1.2)  
**Course fee**

### CNC 210 CNC Operations II

**3 Hours**

Advanced set-ups, operations, and features of FANUC controlled CNC machine tools are covered including the use of a vertical machining center, and turning center and Wire EDM. (1.2)  
**Prerequisite:** CNC 110  
**Course fee**

### CNC 215 Advanced Mill Programming

**3 Hours**

A continuation of CNC 115 including advanced manual part programming on a FANUC and HAAS controlled CNC mill and 4 weeks of CNC Wire EDM. Sub programs, macros, threading milling rotation and other transformations are also included. Note: Industrial shop math or MTH 115 is strongly recommended. (1.2)  
**Prerequisite:** CNC 115  
**Course fee**

### CNC 216 Advanced Lathe Programming

**3 Hours**

Designed as a continuation of Computerized Numerical Control Lathe manual programming. The nature of the material will range from lathe G&M codes to advanced level conversational programming, sub programs, macro and other advanced techniques. Note: Industrial shop math or MTH 115 is strongly recommended. (1.2)  
**Prerequisite:** CNC 115  
**Course fee**

### CNC 217 Introduction to Wire EDM Machining

**3 Hours**

Designed as an introduction to the concepts of Operation and Programming of a FANUC CNC Wire Electrical Discharge Machine. The nature of the material will range from basic operation to G&M codes for programming. Note: Students with Machine Shop or CNC Programming experience may contact the department chair if interested in alternative methods of meeting the prerequisite. (1.2)  
**Prerequisites:** CNC 110 and CNC 115  
**Course fee**

### CNC 218 Introduction to Master CAM

**3 Hours**

Computer Aided Design and Manufacturing processes are discussed and implemented utilizing Master Cam software. Parts will initially be drawn in the CAD environment. The NC instructions necessary to drive a CNC machine tool to manufacture these parts will then be generated in the CAM environment. (1.2)  
**Prerequisites:** CNC 115 or MTT 112-AND-CAD 117  
**Course fee**

### CNC 219 CNC Specialization

**4 Hours**

An advanced CNC course in which the student chooses a topic of specialization. Topics may include areas such as programming 4 and 5 axis machines, NC tooling, conversational programming, robotics and CNC, digitizing, etc. Course work may be completed at an arranged industrial site. Note: Manual Part Programming experience is strongly recommended. (1.2)  
**Prerequisites:** CNC 215 or CNC 216 and MTH 117  
**Course fee**

### CNC 230 Master CAM II

**3 Hours**

Computer Aided Design and manufacturing processes are discussed and implemented utilizing Master Cam 3D software for the Mill, Lathe and Wire EDM machines. Parts will initially be drawn or imported from a CAD environment. The NC instructions necessary to drive a CNC machine tool to manufacture these parts will then be generated in the CAM environment. This is not a course to be taken without previous Mastercam, CNC, and CAD experience. (1.2)  
**Prerequisite:** CNC 218 or Instructor Consent

### CNC 250 Advanced Manufacturing

**3 Hours**

This capstone course will apply the knowledge and skills used in Computer Aided Design and manufacturing processes. The course will utilize Mastercam software, a CNC machining center and the student’s choice in CAD software. Students will learn the knowledge and skills necessary to import files from a CAD environment into Mastercam to create tool paths and generate a “G” code program, download the program to the CNC machine tool and setup the CNC machine to manufacture the part. (1.2)  
**Prerequisite:** CNC 110 and CNC 218 (both with C or better); AND CAD 117 or CAD 170 (previously CAD 173) or CAD 171 or CAD 176 (C or better); OR Consent of Instructor

### CRJ 219 Special Topics: CNC Machining Technology

**Var. 1-4 Hours**

This course provides students with additional information about specialized areas in CNC machining technology. Topics will be identified for each section of the course. This course is repeatable up to two times, any topic only once, for a maximum of 6 hours towards degree completion. (1.2)  
**Prerequisite:** To be determined relative to topic.  
**May be taken twice for credit toward degree**

### CRIMINAL JUSTICE (CRJ)

#### CRJ 118 Evidence Technology

**3 Hours**

This course is an introduction to the scientific methods involved in the recognition, collection, and preservation of physical evidence at crime scenes. The value of physical evidence will be demonstrated. Problems and procedures in handling evidence are examined. The use of scientific methods, techniques, and instrumentation will be explored. (1.2)  
**Prerequisite:** CRJ 219

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**College of Lake County Catalog 2019-2020**

305
CRJ 119  Principles of Direct Supervision  
(3-0)  3 Hours
This course is designed to provide the student with the knowledge and skills necessary for the supervision of inmates in the direct supervision environment. An emphasis will be placed on the evolution of direct supervision jails, as well as the management styles, interpersonal skills, policies and procedures, and day-to-day operations of direct supervision facilities. (1.2)  
Prerequisite: College Reading and Writing Readiness

CRJ 121  Introduction to Criminal Justice  
(3-0)  3 Hours
This course examines the legal process and the administration of justice in American society. Students will be exposed to the criminal process from the police function through adjudication, sentencing, and corrections, as well as the social, moral, and political issues involved in the administration of justice in a free society. (1.1)  
Prerequisite: College Reading and Writing Readiness
IAI: CRJ 901

CRJ 122  Introduction to Policing  
(3-0)  3 Hours
This course examines the history, structure, and behavior of police in America. Students will be exposed to various topics, such as: the heritage of American policing; police systems including federal, state and local policing; the patrol function; police discretion; police-community relations; police accountability; and police and the Constitution. (1.1)  
Prerequisite: College Reading and Writing Readiness
Recommended: CRJ 121

CRJ 123  Introduction to Criminology  
(3-0)  3 Hours
This course is designed to familiarize the student with the social and legal aspects of crime in American society. An emphasis is placed on the definition of crime and deviance, the nature and extent of the crime problem, the history of criminology, criminological theory, violent crime, economic crime, public-order crime, and victimology. (1.1)  
Prerequisite: College Reading and Writing Readiness
IAI: CRJ 912

CRJ 124  Introduction to Corrections  
(3-0)  3 Hours
This course examines the history, philosophy, and administration of corrections in America. An emphasis will be placed on philosophies of punishment, sentencing strategies, the prison community, alternatives to incarceration, and various reform efforts. Critical issues facing corrections will be examined. (1.1)  
Prerequisite: College Reading and Writing Readiness
IAI: CRJ 911

CRJ 125  Issues in Criminal Justice  
(3-0)  3 Hours
This course explores critical issues related to the criminal justice system. An in-depth study of a specific current issue in criminal justice will be offered. (1.2)  
Prerequisite: College Reading and Writing Readiness
May be taken twice, but any topic only once

CRJ 212  Traffic Law Enforcement  
(3-0)  3 Hours
This course is a survey of traffic law enforcement problems and responses. An emphasis will be on the history and growth of traffic problems, organization for traffic control, accident investigation, and the analysis and interpretation of accidents. Traffic laws in the Illinois Vehicle Code will also covered. (1.2)  
Prerequisite: College Reading and Writing Readiness

CRJ 213  Community Policing  
(3-0)  3 Hours
This course is a survey of community policing in the law enforcement field. An emphasis is placed on police-community relations, interpersonal skills, dealing with diversity, interacting with special populations in the citizenry, victims of crime, criminal offenders, and coordinated crime prevention efforts in the community. (1.2)  
Prerequisite: College Reading and Writing Readiness
Recommended: CRJ 121

CRJ 214  Substance Abuse and Criminal Justice  
(3-0)  3 Hours
This course examines drugs in American society from a criminal justice perspective, including the nature and extent of drug-taking behavior, the history and theories of drug use and abuse, the relationship between drugs and crime, drugs and the criminal justice system, the specific legally-restricted drugs in our society, drug prevention and treatment, and drug policy. (1.2)  
Prerequisite: College Reading and Writing Readiness
Recommended: CRJ 121

CRJ 215  Criminal Justice Internship  
(0-15)  3 Hours
This course is designed to broaden educational experience of students through appropriate observation of selected criminal justice agencies to correlate theory with actual practice. Students assigned to local criminal justice agencies and/or related agencies for a minimum of 30 semester hours completed and approval of criminal internship coordinator.

CRJ 216  Police Management and Supervision  
(3-0)  3 Hours
This course analyzes the administration and management of police operations. An emphasis is placed on the distribution of personnel, specialized units, communication models, leadership principles, budgetary issues, management theory, and supervisory techniques appropriate to law enforcement. (1.2)  
Prerequisite: College Reading and Writing Readiness

CRJ 219  Principles of Criminal Investigation  
(3-0)  3 Hours
This course is an introduction of criminal investigation procedures; theory and practice of investigations. An emphasis is placed on methods of investigation for different types of criminal activity. (1.2)  
Prerequisite: College Reading and Writing Readiness
Recommended: CRJ 121

CRJ 220  Independent Research  
(Var.)  1-3 Hours
This course involves independent research and study under the direct supervision of a faculty member. Subject must be approved by the assigned faculty member. (1.2)  
Prerequisites: Criminal Justice major and consent of the Criminal Justice department chair
CRJ 221  
**Criminal Law**  
(3-0)  
3 Hours  
This course explores the history and development of the criminal law as a system of social control. An emphasis is placed on legal principles and substantive law. Elements of a crime, specific statutes, and various affirmative defenses are analyzed. (1.1)  
**Prerequisite:** College Reading and Writing Readiness  
**Recommended:** CRJ 121

CRJ 222  
**Criminal Procedural Law**  
(3-0)  
3 Hours  
This course exposes the student to the field of criminal procedural law. The course will examine certain civil liberties guaranteed in the Bill of Rights to the U.S. and Illinois Constitutions and how they relate to law enforcement procedures of arrest, search and seizure, and interrogation. An emphasis will be placed on the rulings of the U.S. Supreme and Federal Appellate Courts as well as on the rulings of the Illinois Supreme and Appellate Courts. Basic rules of evidence and formal charging will also be discussed. (1.1)  
**Prerequisite:** College Reading and Writing Readiness  
**Recommended:** CRJ 121

CRJ 223  
**Ethics in Criminal Justice**  
(3-0)  
3 Hours  
This course offers a thorough study of ethical philosophies and their application to criminal justice practitioners. Aspects of morality, leadership, ethical reasoning, professional standards, and codes of ethics will be addressed. Resolution of ethical dilemmas will also be considered. The practical focus of ethical decision making topics will center on law enforcement and correctional ethics and will include scenarios. (1.1)  
**Prerequisite:** College Reading and Writing Readiness  
**Recommended:** CRJ 121

CRJ 224  
**Institutional Corrections**  
(3-0)  
3 Hours  
This course will provide students with exposure to a variety of perspectives about the operations of the largest and most expensive component of the American criminal justice system, Institutional Corrections. Jails and prisons in the United States house more than two million Americans and continue to grow. This course will help students gain an understanding of how these systems operate as well as how they attempt to control the rapid growth in inmate populations, institutions, staff and expenses. (1.1)  
**Prerequisite:** College Reading and Writing Readiness  
**Recommended:** CRJ 124

CRJ 227  
**Community-Based Corrections**  
(3-0)  
3 Hours  
This course examines the use of the community in the treatment and control of individuals in the correctional process. Students are exposed to such topics as probation, parole, restitution, community service, deferred prosecution, work release, halfway houses, group homes, and other strategies designed for community corrections. (1.1)  
**Prerequisite:** College Reading and Writing Readiness

CRJ 229  
**Juvenile Delinquency**  
(3-0)  
3 Hours  
This course examines juvenile delinquency in American society, including the historical, behavioral, legal, and correctional aspects of delinquency. Emphasis is placed on the nature and extent of delinquency in the United States, the traditional theories of delinquent behavior, and the legal processing of juvenile offenders. (1.1)  
**Prerequisite:** College Reading and Writing Readiness  
**Recommended:** CRJ 121  
**IAI:** CRJ 914

CRJ 230  
**Principles of Courtroom Testimony**  
(3-0)  
3 Hours  
This course offers an in-depth study of evidence and courtroom testimony for professionals. It will cover the ethical philosophies of courtroom and administrative hearing testimony and their application to practitioners in the field. Students will work toward mastering an understanding of basic courtroom evidence and testifying from scenarios. Upon completion of this course the student will be prepared to offer competent testimony at any trial or hearing. (1.2)  
**Prerequisite:** College Reading and Writing Readiness

CRJ 248  
**Psychology of the Criminal Mind**  
(3-0)  
3 Hours  
This course exposes the student to the field of Criminal Psychology. The purpose of this course is to develop an understanding as to the origins of criminal behavior and the clinical and social implications of violent crime. The course will examine the etiology, nature, assessment, and behavior of individuals who commit crime with an emphasis on violent crimes. Included in this examination will be the role of the family and other social factors, media violence, and genetics. The basic rules of crime scene analysis and processing will also be discussed. CRJ 248 and PSY 248 are cross-listed. (1.1)  
**Prerequisite:** PSY 121 (C or better)  
**Recommended:** CRJ 219

CRJ 270  
**Criminal Justice Assessment Seminar**  
(3-0)  
3 Hours  
This course is required of all the students completing the associate in applied science degree (A.A.S) in Criminal Justice. Students will be assessed as to the knowledge and foundational skills they have attained in the criminal justice program. Basic skills, thinking skills, and personal qualities will be evaluated as they relate to criminal justice occupations. Career development exercises will be conducted. A comprehensive examination is required. (1.2)  
**Prerequisite:** Sophomore Standing

DANCE (DNC)  
**Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040**

DNC 121  
**Introduction to Ballet I**  
(3-0)  
3 Hours  
This course is designed for students interested in the fundamentals of ballet, whether they are beginning ballet dancers, teachers of theater movement, returning dancers, or persons interested in dance as a fine art. It is also designed so that any college student will develop his/her kinesthetic intelligence (literacy) at the place and experience of his or her technical background. (1.1)

DNC 122  
**Modern Dance Technique I**  
(3-0)  
3 Hours  
This course is designed for students interested in the fundamentals of modern dance, whether they are beginning ballet dancers, teachers of theater movement, athletes, or persons interested in dance as a fine art. It is also designed so that a student will develop his/her kinesthetic intelligence (literacy) at the place and experience of his or her technical background. (1.1)

DNC 123  
**Jazz Technique I**  
(3-0)  
3 Hours  
This course is designed for students interested in the fundamentals of jazz dance, whether they are beginning dancers, teachers of theater movement, athletes, returning dancers or persons interested in dance as a fine art. It is also designed so that any student will develop his/her kinesthetic intelligence (literacy) at the place and experience of his or her technical background. (1.1)
COURSE DESCRIPTIONS

DNC 124  Beginning Yoga
(3-0)  3 Hours
In this course students will study the physical and philosophical foundations of Yoga, the ancient art of unifying the body and mind. Students will learn and practice physical postures (asanas), as well as techniques for proper breathing, relaxation and concentration. An introduction to the philosophy and history of Yoga are included in this study, which students will explore through readings and written assignments. Special attention will be paid to anatomy and kinesiology as it applies to the dancer. By the end of the course, students will demonstrate a kinesthetic awareness of the body, and the ability to use yoga as a tool for enhancing dance training, performance and daily living. This course is repeatable up to four times but will only count for graduation once. (1.1)

DNC 125  Elements of Dance Composition I
(3-0)  3 Hours
This course will explore the basic concepts of dance composition (i.e. space, time, gravity, energy), and aesthetic theories of choreography of dance, through variable choreographic assignments and exercises. This course will also include selected studies of acclaimed choreographers and their works in the history of dance. (1.1)

DNC 126  Dance Forms I
(3-0)  3 Hours
This course explores specific movements, styles, and social and cultural backgrounds of various dance forms. It will increase students' technical abilities as well as broaden their understanding of the history of selected dance traditions and practices throughout the world. Each semester, one to three various dance forms will be introduced. The students will be immersed in the physical characteristics of the movement aesthetics as well as the cultural context in which each dance form exists. Examples of dance forms include African, Indian, Native American, Tap, Irish, Flamenco, Kabuki, etc. (1.1)
May be taken twice for credit; any form/level once

DNC 129  Dance Practicum I
(Var.)  1-3 Hours
This course provides students with supervised practical experience in dance performance, technique studies, and/or production. Course can be tailored to various aspects of dance production including performance, choreography, teaching, directing, costume design, and lighting. Note: This course is repeatable for a maximum of 12 hours, but only 6 credits may be applied toward degree completion.
Prerequisite: Consent of Instructor
Recommended: Strong verbal communication skills
May be taken twice for credit toward degree

DNC 141  Beginning Hip Hop
(3-0)  3 Hours
This course is designed for students interested in the fundamentals of hip hop dance. The course will introduce students to the basic movement skills as well as develop an understanding of the historical and artistic aspects of hip hop culture. (1.1)

DNC 142  Beginning Capoeira
(3-0)  3 Hours
This course is designed for students interested in the fundamentals of Capoeira, an Afro-Brazilian martial art form that incorporates elements of dance, martial arts, music, and acrobatics. Students will be introduced to the basic movement skills, musical instruments and songs inherent in Capoeira, as well as engage students in developing an understanding of the historical and cultural aspects of Capoeira culture. (1.1)

DNC 143  Beginning Tap
(3-0)  3 Hours
This course is designed for students interested in the fundamentals of tap technique. Students will learn basic movement skills, rhythmic variations, tempo and musical phrasing through a series of tap combinations. Students will also develop an understanding of the historical and cultural aspects of tap as an American art form. (1.1)

DNC 160  Teaching Methods I
(3-0)  3 Hours
This course offers a philosophical and practical foundation for teaching movement-based arts across a variety of genres and ages. Students will be introduced to different educational philosophies while gaining practical skills for effective and safe teaching practices. Course topics include the development of a teaching philosophy, creating lesson plans with goals and objectives, classroom organization and management, basic alignment & kinesiology, technological modifications & enhancements for learning, as well as the impact of social, cultural, and psychological theories in relation to learning. Practical classroom teaching skills will also be studied & practiced; including verbal and hands-on cueing for correcting misalignment, teaching to different communities, the use of live and recorded music, and other topics that develop the confidence and wisdom of the movement teacher.
Recommended: Completion of advanced technique level. (1.1)

DNC 221  Intermediate Ballet Technique
(3-0)  3 Hours
This course is designed for students continuing beyond the fundamentals of ballet, and wishing to develop his/her ballet technique. Intermediate Ballet will particularly stress strength, flexibility, musical ability and endurance; as such barre exercises will progress to releve, and turns and batterie work will be doubled. Center work will also be extended, and if possible, some introductory pointe work will occur at mid-semester, (to be done only 15 minutes at the end of a class period). (1.1)
Prerequisite: DNC 121

DNC 222  Intermediate Modern Dance Technique
(3-0)  3 Hours
This course is designed for students continuing beyond the fundamentals of modern dance and wishing to develop their modern dance technique. Intermediate Modern Dance Technique is for beginning dancers, teachers of theater movement, athletes, or persons interested in dance as a fine art. Great choreographers will also be explored and imitated through various class sessions. (1.1)
Prerequisite: DNC 122
Intermediate Jazz Technique is designed for students continuing beyond the fundamentals of jazz technique to further develop their dance skills. The course is for intermediate dancers, teachers of theatre movement, returning dancers, athletes, or persons interested in dance as a fine art. Students will develop their kinesthetic literacy at the places and experiences of their technical backgrounds. Various great choreographers will be explored and imitated. (1.1)
Prerequisite: DNC 123
May be taken twice for credit toward degree

In this course students will deepen their study and practice of yoga. Students will master the basic knowledge learned in Beginning Yoga, while studying advanced poses and breathing techniques. The course will look more deeply into Indian philosophy, responding in writing to portions of India's classic text, the Bhagavad-Gita. Special attention will be paid to anatomy and kinesiology as it applies to the dancer. By the end of the course, students will demonstrate an advanced kinesthetic awareness of the body, the ability to perform advanced poses, and a deeper understanding of the philosophy and science of yoga. This course may be taken up to four times, but will only count one time towards graduation. (1.1)
Prerequisite: DNC 124

This course introduces students to an interdisciplinary, multicultural study of the art of dance. Combining an historical framework with various dance genres and a study of stylistic movement, the course introduces ancient and modern trends; a variety of genres, including ballet, modern, jazz, kabuki, court, and video; psychological and philosophical aspects of movement; and the work of selected choreographers. Students will examine cross-cultural and historical views of a variety of theatrical and non-theatrical dance forms and investigate the numerous ways that dance functions in different societies. Students will attend live dance performances and demonstrate the ability to contextualize their views within the framework of the course content. Students will also move from the study of history and the creative process of dance to the role of a member of the dance audience and dance critic. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: F1 906

This course is designed for students continuing beyond the fundamentals of hip hop dance, and with an interest in developing more advanced skills in hip hop technique. Intermediate hip hop is designed to expand the kinesthetic intelligence and cultural knowledge of hip hop as an art form. The course will introduce students to theories of how commercialization and globalization have impacted the evolution of hip hop across the world. (1.1)
Prerequisite: DNC 141 (C or better)

This course is designed for students continuing beyond the fundamentals of beginning Capoeira, and with an interest in developing more advanced skills in Capoeira technique. Intermediate Capoeira is designed to expand the kinesthetic intelligence and cultural knowledge of Capoeira as an art form. The course will introduce students to the developments of contemporary Capoeira and Capoeiristas who have made significant contributions to the development of Capoeira worldwide. (1.1)
Prerequisite: DNC 142 (C or better)

This course provides clinical practice in fundamental dental hygiene and instrumentation skills on manikin (typodont) models and student partners. (1.2)
Corequisite: HY 111
Course fee

This course provides students with an introduction to the knowledge and skills to control and prevent dental disease. Principles of disease transmission, infection control, patient assessment, treatment planning and fundamental instrumentation will be presented. (1.2)
Prerequisites: BIO 244 and BIO 245 (both C or better) AND Admission to the Dental Hygiene Program
Course fee

This course is a continuation of HY 111. The principles and procedures will be systematically presented through lectures, reading assignments and case-based activities. Emphasis will be placed on infectious diseases, patient assessment and treatment planning through case studies, instrument sharpening, ultrasonic scaling, fluoride supplements, advanced instrumentation and medical emergencies. (1.2)
Prerequisites: BIO 246, HY 113, HY 115, HY 117, HY 171 (all C or better)
Course fee

This course is a transition from the pre-clinic setting to beginning dental hygiene patient care. It is an orientation to clinic policies, procedures, and protocols as well as an opportunity to apply pre-clinical skills to patient care. (1.2)
Corequisite: HY 112
Course fee
DHY 115  Head and Neck Anatomy (2-0)  2 Hours
This course includes detailed study of the anatomy of the head and neck with special emphasis on the human skeletal, muscular, glandular, circulatory, nervous and epithelial structures of the head and neck. (1.2)  
Corequisite: DHY 111  
Course fee

DHY 116  Dental Radiology I (2-3)  3 Hours
This course provides the basic fundamentals of radiology. Theory in radiation physics, safety and biological effects of ionizing radiation will be introduced. The laboratory portion of the course introduces intraoral digital radiography and fundamental interpretation of dental radiographs. (1.2)  
Corequisite: DHY 112  
Course fee

DHY 117  Dental Anatomy (1-2)  2 Hours
This course introduces the students to terminology relating to anatomic structures of the oral cavity. Special emphasis is placed on the teeth and root morphology of both primary and permanent teeth and occlusal classification. (1.2)  
Corequisite: DHY 111  
Course fee

DHY 119  Nutrition and Biochemistry (2-0)  2 Hours
The course provides the students with a foundation of the fundamental principles of oral biochemistry, and biochemistry. Emphasis will be placed on nutrition and the effects of nutrition on the oral cavity and supporting structures of the teeth, and assessment of patient’s nutritional needs. (1.2)  
Corequisite: DHY 112  
Course fee

DHY 131  Oral Histology and Embryology (2-0)  2 Hours
This course provides students with an introduction to the microscopic characteristics of the tissues of the oral cavity. Human histology and orofacial embryology will be introduced. (1.2)  
Corequisite: DHY 111  
Course fee

DHY 132  Theory and Practice of Dental Hygiene II (1-0)  1 Hour
This course is a continuation of DHY 112. The fundamental theories necessary to perform oral prophylaxis treatment will be the focus. The principles and procedures will be systematically presented through lectures, reading assignments and case-based activities. (1.2)  
Prerequisite: DHY 112, DHY 114, DHY 116, DHY 119, DHY 174, and DHY 175 (all C or better)  
Course fee

DHY 134  Pain Management (1-2)  2 Hours
The course focuses on the safe and effective practice of local anesthesia in dentistry. Emphasis is on avoiding the complications that may result from hazards or errors in technique. (1.2)  
Corequisite: DHY 179  
Course fee

DHY 137  Preventive Dental Hygiene (2-0)  2 Hours
This course provides students with a foundation of knowledge in the activities of preventive dental hygiene. Topics include plaque and calculus control, etiology and progression of dental disease, tooth brushing and flossing techniques, dental hygiene aids, and care of appliances. (1.2)  
Corequisite: DHY 111  
Course fee

DHY 174  Introduction to Periodontics (2-0)  2 Hours
This course introduces the student to the fundamental theories of periodontics. The course focuses on macro and micro anatomy, biochemistry and physiology of the periodontium. Epidemiology, microbiology and the etiology of periodontal disease will also be included. (1.2)  
Corequisites: DHY 112  
Course fee

DHY 175  Dental Pharmacology and Anesthetic (2-0)  2 Hours
This course is an introduction to the study of drugs, including their pharmacologic effects, adverse reactions, indications, and contraindications as they relate to the patient’s medical history and dental hygiene treatment. (1.2)  
Corequisite: DHY 112  
Course fee

DHY 176  Dental Material and Expanded Function (2-2)  3 Hours
This course provides fundamental information about the use and manipulation of materials used in dentistry and expanded functions performed by dental auxiliaries. Emphasis is placed on materials and functions utilized by the dental hygienist. (1.2)  
Corequisite: DHY 179  
Course fee

DHY 179  Clinical Dental Hygiene II (0-6)  2 Hours
This course is a continuation of Clinical Dental Hygiene I. Analysis of assessment findings is emphasized in order to plan and implement individualized comprehensive dental hygiene patient care. (1.2)  
Prerequisite: DHY 112, DHY 114, DHY 116, DHY 119, DHY 174 (all C or better)  
Corequisite: DHY 132  
Course fee

DHY 211  Theory and Practice of Dental Hygiene III (2-0)  2 Hours
This course is a continuation of DHY 179. Emphasis is placed on medically compromised and special needs patients. (1.2)  
Prerequisite: DHY 134, DHY 176, and DHY 179 (C or better in all)  
Course fee

DHY 212  Theory and Practice of Dental Hygiene IV (2-0)  2 Hours
This course is a continuation of DHY 211. Emphasis is placed on professional relationships and the various roles dental hygienists encounter in the various dental specialties and personal preparation for dental hygiene practice. Includes practice management. (1.2)  
Prerequisites: DHY 211, DHY 213, DHY 215, DHY 219, DHY 232, and DHY 271 (C or better in each)  
Course fee

DHY 213  Clinical Dental Hygiene III (0-12 hours)  4 Hours
This course is a continuation of Clinical Dental Hygiene II. Problem solving, critical thinking, and self-evaluation are emphasized as well as timely dental hygiene patient care. (1.2)  
Prerequisite: DHY 179 (C or better)  
Corequisite: DHY 211  
Course fee
DHY 214  Clinical Dental Hygiene IV  (0-12 hours)  4 Hours
This course is a continuation of Clinical Dental Hygiene III with advanced clinical treatment techniques and emphasis on the dental hygiene diagnosis and non-surgical periodontal therapy. (1.2)
Prerequisite: DHY 213 (C or better)
Corequisite: DHY 212
Course fee

DHY 215  Dental Radiology II  (1-3)  2 Hours
This course is a continuation of DHY 116 Dental Radiology I. Extraoral radiography and advanced digital intraoral techniques are taught. Emphasis is placed on radiographic interpretation in conjunction with developing a comprehensive case study. (1.2)
Corequisite: DHY 211
Course fee

DHY 216  Ethics and Jurisprudence  (1-0)  1 Hour
This course focuses on the ethical and legal obligations of the dental professionals to the community and public they serve. (1.2)
Corequisite: DHY 212
Course fee

DHY 219  Advanced Periodontics  (2-0)  2 Hours
Course content includes additional knowledge required to diagnose and treat periodontal diseases, clinical management of the periodontium and adjunctive therapies relevant to the maintenance of periodontal health. Emphasis is placed on the differential diagnosis and treatment of periodontal disease. Surgical and post-surgical topics will also be covered in this course. (1.2)
Corequisite: DHY 211
Course fee

DHY 231  Board Review  (1-0)  1 Hour
This course provides the students with a review of the fundamental knowledge needed to be successful on the National and Regional Board Exams. Emphasis is on preparation for board exams. (1.2)
Course fee

DHY 232  General and Oral Pathology  (2-0)  2 Hours
This course focuses on the fundamentals of the general and oral pathological processes. Emphasis is placed on the diseases and disease processes of the periodontal tissues and oral structures. Clinical manifestations of disease will be correlated with dental hygiene practice. (1.2)
Corequisite: DHY 211
Course fee

DHY 271  Community Dentistry I  (2-0)  2 Hours
This course introduces the current concepts of community health. The course focuses on how community dental health issues relate to the delivery of dental care to society. Emphasis is placed on the value of the role of the dental hygienist in public health. Students will learn to review and interpret dental scientific literature. (1.2)
Corequisite: DHY 211
Course fee

DHY 272  Community Dentistry II  (0-4)  1 Hour
This course focuses on implementation and evaluation of community outreach programs and the delivery of dental care to society. (1.2)
Corequisite: DHY 212
Course fee

DIGITAL MEDIA AND DESIGN
(DMD)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

DMD 111  Introduction to Digital Media  (3-0)  3 Hours
This course will explore the variety of hardware and software now used to produce digital media, from simple audience-oriented presentations to highly interactive applications. Through lectures, demonstrations, and hands-on laboratory experience, we will examine the production techniques, application uses, trends, business and legal concerns, design elements, and the product evaluation standards currently used in the digital media industry. Students will develop the design, storyboards, and prototype for a project. (1.2)
Course fee

DMD 113  History of Graphic Design  (3-0)  3 Hours
This course is a general survey of the history of graphic design from its origins to contemporary practice. The goals of this course are to provide the following: the visual vocabulary of the development of signs and symbols, insight into the continuity of design thinking, understanding the social/political context of the practice, foundation for pursuit of research in the field of design. (1.2)
Prerequisite: College Reading and Writing Readiness
Course fee

DMD 115  Internet Fundamentals  (3-0)  3 Hours
This course addresses in detail everything students need to know to access, explore, and use the world's richest information resource: the Internet. The course examines software, online provider options, costs, the telecommunication process, E-mail, FTP, Chat, Usenet, the World Wide Web and Web 2.0. Students will get step by step instructions on how to access, research, and retrieve academic, personal, and professional information. (1.2)
Course fee

DMD 116  Web Design and Development  (2-2)  3 Hours
This course is an introduction to Web page design and creation using industry standard Web design software. Students will learn to use graphics, sound, video, animation, scripts, and Cascading Style Sheets (CSS) to enhance Web pages. The course will cover the basic concepts of Web design and color with an emphasis on designing for visual appeal and user-friendly navigation. Students will also gain a fundamental knowledge of HTML/XML and the skills to publish and maintain Web sites. 
Note: Recommended DMD 111 or DMD 115 or student must possess basic computer/Internet skills which include creating, saving, and editing files in the Windows or MAC operating systems; performing basic editing (copy/paste); copying files; using folders and subfolders to organize and manage files; downloading files off the Internet; opening Web sites; and using search engines. (1.2)
Course fee
COURSE DESCRIPTIONS

DMD 117 Concepts in New Media (3-0) 3 Hours
This course is an introductory evaluation of the critical concepts of new media, and their impact on our society and culture. Through readings, lectures, group discussions and hands-on experience, students will study the technical, economic, political, legal, aesthetic, and cultural implications of new media. (1.2) Prerequisite: College Reading and Writing Readiness Course fee

DMD 121 Introduction to Graphic Design (2-2) 3 Hours
This is a foundation course that develops a student’s ability to understand graphic design with a focus on print media but applies to interactive media as well. The student is introduced to basic design terminology, principles, theory, tools, and techniques used in today’s digitally produced communications. An emphasis throughout is a solid foundation in organizational skills and research associated with design. This course lays the foundation for more advanced digital design courses. Note: Student must possess basic computer/Internet skills which include creating, saving, and editing files in the Windows or MAC operating systems; performing basic editing (copy/paste); copying files; using folders and sub folders to organize and manage files; downloading files off the Internet; opening websites; and using search engines (1.2) Prerequisite: College Reading and Writing Readiness or Concurrent enrollment in ENG/ELI 109 or ELI 110 or ENG100.

DMD 125 Printing Production (3-0) 3 Hours
Printing Production focuses on current procedures that prepare designers and creative thinkers for real world situations in the printing industry. Sending a job to the print vendor can be a mysterious and expensive process of trial and error. Understanding print processes is an essential part of design that can assure a predictable outcome of deliverables. To manage a print job effectively, you must understand how print shops work, how to communicate with them, and how to identify the best design solution for your budget. Topics include print media software, apps and specifications; and various types of presses, substrates, bindings, and/or finishes. (1.2) Prerequisite: DMD 111 C or better or DMD 121 C or better

DMD 157 Introduction to Animation (2-2) 3 Hours
This course will introduce students to 2D animation using state-of-the-art industry relevant software and hardware. Students will explore various animation concepts and techniques including history, drawing, rotoscoping, basic movement, timing, soundtrack/dialogue synchronization, and editing. Through lectures, discussions, demonstrations and screenings students will view and discuss animation that is currently used in television, film, interactive media and the Internet. (1.2) Prerequisite: College Reading and Writing Readiness Course fee

DMD 173 Introduction to Digital Sound (3-0) 3 Hours
This course introduces students to the exploration of digital sound for multimedia. Students will learn how to manipulate wave files, understand various sound file formats, compressions, history of digital sound, and the difference between analog and digital sound editing. Students will write and develop sound scripts and sound projects for multimedia. Students will explore the different job functions of audio production and learn to work together in a team environment. The course will also introduce students to the basics of producing audio for the Web and interactive applications. (1.2) Course fee

DMD 174 Typography (2-2) 3 Hours
This course introduces students to the use of typography within the design process. Major topics to cover include anatomy of letterforms, type history, classification systems, methods of typographic communication, critical comparisons of type styles, contemporary trends and typography as image. Students will learn both technical and creative ways type can be used through lectures, discussion, critiques, and hands-on projects. The course explores 2D communication and design solutions using typography. (1.2) Prerequisite: DMD 113 or ART 122 Course fee

DMD 216 Interactive Scripting (2-2) 3 Hours
This course is designed for digital media designers who need to integrate advanced control management and interactivity into their media applications. Students will gain a fundamental knowledge of a popular scripting language for making media applications that users can interact with. The focus of the course is on using pre-designed models and functions in industry-standard software that embed the scripting language to create interactivity involving graphics, audio, video, animation and other media elements. Students will use creative and logical thinking while completing three major projects concerning animation, game, and Web site design. The concepts, principles, and steps of interaction design will be introduced and applied to the projects. (1.2) Prerequisite: DMD 116 or Consent of Instructor. Course fee

DMD 217 Multimedia Authoring (3-0) 3 Hours
This course is geared toward multimedia designers who will be creating kiosks, CD-ROM software, marketing and educational software, and interactive sites. Students will use a popular authoring software package to create an interactive multimedia presentation. The design, storyboarding, prototyping, testing and production techniques for creating a multimedia package will be followed with the final project. (1.2)

DMD 218 Advanced Web Design and Development (2-2) 3 Hours
This course takes DMD 116 Web Design and Development to another level and has a two-fold focus. A state-of-the-art Web design program will be used to explore advanced Web production skills such as layers and table-free layouts, templates, re-usable elements, external Cascading Style Sheets, XML, automation of dynamic HTML, and site management. Through projects, the course will also cover more advanced design concepts in Web site creation, such as efficient navigation design, designing for portability and accessibility, separating content from presentation for easy site updating and maintenance, planning interactivity, and search engine optimization. Throughout the course, students will also review how to adapt the basic principles of design to the Web environment, particular how to use color and typography creatively in Web design, and how to achieve effective Web page layout. (1.2) Prerequisite: DMD 116-OR- CIT 170 Course fee
DMD 219  Building Instructional Websites  
(3-0)  3 Hours  
Students will examine the application of instructional design to teaching through an Internet or Intranet. Students will be creating advanced web pages for use in a training or educational setting, examining methods of creating interactive learning experiences and examining methods to integrate learning strategies into online course material. (1.2)  
Prerequisite: DMD 111, DMD 115, DMD 116 or consent of instructor.

DMD 233  Digital Video Editing  
(2-2)  3 Hours  
This course introduces students to the basics of postproduction non-linear digital video editing for multimedia, video and web capabilities. Students will produce, edit, and optimize video using industry relevant editing software. Upon completion of the course students will be able to create and produce digital videos and incorporate compressed and rendered projects into CD ROMs, DVD and Web technologies. In addition to learning the technical capabilities of the software, students will discuss digital video theory, concepts of video art and design, and the role digital video plays in the world of film, animation, animation and Web interactivity. (1.2)  
Course fee

DMD 251  Advanced 3D Modeling  
(2-2)  3 Hours  
This course is designed as an advanced modeling course for students who are experienced with basic 3D modeling concepts and technical practice. The course introduces more sophisticated concepts and techniques such as polygon modeling, texture mapping, lighting and rendering. Through hands-on practice students will focus on modeling concepts and development relating to character, environmental, materials and lighting design. (1.2)  
Prerequisite: ART 264  
Course fee

DMD 253  Advanced 3D Animation  
(2-2)  3 Hours  
This course is designed as an advanced animation course for students who are experienced with basic 3D animation concepts and technical practice. The course introduces more sophisticated concepts and techniques with an emphasis on animation development through hands-on practice. The course will focus on animation concepts and creative animation design expanding students’ knowledge of topics, tools and techniques. (1.2)  
Prerequisite: ART 264  
Course fee

DMD 256  Dynamic Web Design and Development  
(2-2)  3 Hours  
This project-based, advanced course is developed for digital media designers who will be creating Web sites with dynamic content and secure data transfer. Students will learn to use industry-standard software/applications to set up Web sites with dynamic content and professional-quality customizable pages. Emphasis will be on how to use the built-in features of the software/applications to complete desired tasks, such as form processing, retrieving data from a database and updating the database from a Web interface, and giving the user password-secured access to Web sites. Students will learn the basic syntax of a popular server-side language for dynamic page generation. The database query language SQL will also be introduced. (1.2)  
Prerequisite: DMD 116 with a grade of C or better.  
Course fee

DMD 257  Interactive Animation  
(2-2)  3 Hours  
This course is an overview of developing and designing interactive presentations, animations and Web sites using an industry relevant, vector-based interactive animation program. Topics covered include storyboarding, 2D animation, scripting, navigational mapping and motion graphics. Upon completion of the course students should be able to design and create interactive presentations utilizing animations, audio, video, and navigational components incorporated into CD ROMs, DVD and Web technologies. In addition to learning the technical capabilities of the software, students will study Multimedia theory, concepts of interactive art and design, and the role interactive animation plays in the world of Web interactivity. (1.2)  
Prerequisite: DMD 116 or Consent of Instructor.  
Course fee

DMD 259  3D Special Effects  
(2-2)  3 Hours  
This course is designed as an advanced level computer course using state-of-the-art industry-relevant special effects 3D software. In conjunction with 3D modeling and animation, students will learn to create and produce special effects including: atmospheric effects, natural effects, smoke, explosions, motion blurs, and advanced texture and material generation. Concepts, theories and terms relating to special effects used in films, games, interactive media and the Internet will be discussed. (1.2)  
Prerequisite: DMD 251 and DMD 253  
Course fee

DMD 273  Advanced Electronic Graphic Publishing  
(2-2)  3 Hours  
This course is designed as an advanced study of two dimensional design principles for creating page layout. The course will provide students the opportunity to develop a complete print identity design system in support of a marketing strategy including strategies of consumer decision-making. Students will develop all aspects including a fully functioning prototype for a variety of different client needs. The course will look into the mass production issues as well as specialty types of print packages. (1.2)  
Prerequisite: ART 271 or DMD 121 and Basic Algebra Readiness  
Course fee

DMD 277  Digital Media Delivery  
(2-2)  3 Hours  
This advanced-level course will examine various software programs and techniques for generating, delivering and managing streaming/live media content. Students will learn digital media data types, compression technologies and streaming technologies. Tools and techniques for graphics and audio/video capture will be reviewed. Students will also explore applications for building content sharing in a networked environment. They will build a prototype Web application with streamed/live media content as a final project. (1.2)  
Prerequisite: DMD 116 and DMD 173 OR DMD 233 and College Reading and Writing Readiness OR Consent of Instructor  
Course fee

DMD 279  Packaging Design  
(2-2)  3 Hours  
This course is designed as an overview of two dimensional design principles for creating three-dimensional packaging. The history of design packaging and strategies of consumer decision-making will be explored. The course will provide students the opportunity to develop a complete package identity design system in support of a marketing strategy. Students will develop all aspects including a fully functioning prototype for a variety of different client needs. The course will look into the mass production issues as well as specialty types of packaging. (1.2)  
Prerequisite: Basic Algebra Readiness, DMD 174, and DMD 273  
Course fee
**COURSE INFORMATION AND DESCRIPTIONS**

**DMD 299**  
Selected Topics in Digital Media and Design (Var.)  
1-3 Hours  
This course addresses the in-depth study of special topics in digital media and design that explore cutting-edge knowledge, concepts and techniques, and new developments in the industry. Course content will vary depending on the topic being studied. (1.2)  
Course fee  
May be taken four times, but any topic only once

**EARLY CHILDHOOD EDUCATION (ECE)**

**Business and Social Sciences Division**,  
**Room T302, (847) 543-2047**

**ECE 116**  
Creative Activities (2-2)  
3 Hours  
This course focuses on facilitating creative activities and environments for young children ages three through eight. Course includes experiences in art, music, language arts, science, mathematics, and dramatic/social play. Each class involves discussion of child development theory, hands-on experiences in planning and implementing appropriate activities, exchange of ideas, and collaborative strategies. Note: Materials fee required. (1.2)  
Prerequisite: College Reading and Writing Readiness  
Course fee

**ECE 117**  
Creative Activities for Infants and Toddlers (3-0)  
3 Hours  
This course focuses on developing appropriate creative experiences and environments for children from birth through age three. Content includes choosing quality books, planning and implementing sensory activities, music and movement experiences, language play, exposure to the natural world, developing fine and gross motor skills, exploring art media, pretend play, and social interaction. Note: Materials fee required. (1.2)  
Prerequisite: College Reading and Writing Readiness  
Course fee

**ECE 121**  
Introduction to Early Childhood Education (3-0)  
3 Hours  
This survey course provides an overview of early childhood care and education including historical and cultural perspectives, organization, structure, programming, and evidence-based practices. Professional and evidence-based practices of highly-qualified early childhood educators are outlined with an emphasis on their ability to enhance development and learning of each and every child between the ages of birth and eight. Considerations for diversity of culture, language, race, socioeconomic status, gender, ethnicity, and ability will be included. Note: Students are required to complete ten hours of field observations in diverse early childhood settings. Current Illinois State Police criminal background check may be required. (1.2)  
Prerequisite: College Reading and Writing Readiness

**ECE 124**  
Child Development for Educators (3-0)  
3 Hours  
This course provides an overview of the theory and principles of human growth and development from conception through adolescence. Content includes an in-depth study of the inter-relatedness of physical, cognitive, social and emotional aspects of development. Development is studied in the context of family, gender, culture, language, ability, socioeconomic, diversity, and society. Special emphasis will be on the theories of Piaget, Vygotsky, Erikson, and Gardner with implications for applied classroom practice. ECE 124 and EDU 124 are cross-listed. (1.1)  
Prerequisite: College Reading and Writing Readiness

**ECE 132**  
Professional Ethics in Early Childhood Education (1-0)  
1 Hour  
This course acquaints the student with the importance of professional ethics in early childhood education as they apply to children, families, colleagues, community/society and administrators. Students will develop skill in making responsible professional judgments based on the Code of Ethical Conduct and Statement of Commitment set forth by the National Association for the Education of Young Children. (1.2)  
Prerequisite: ECE 121 (C or better)

**ECE 133**  
Family Child Care Management (3-0)  
3 Hours  
This course focuses on the specialized knowledge and skills needed to provide high quality family-based child care for children 6 weeks to 12 years of age. Topics include Illinois Department of Children and Family Services regulations and other legal requirements related to physical environment and health, safety and nutrition; child development principles and best practices; appropriate guidance and curriculum for multi-age groups; relationships with culturally diverse families and coworkers. Skills needed to operate a small business are also discussed. (1.2)  
Prerequisite: College Reading and Writing Readiness

**ECE 141**  
Health, Safety, and Nutrition for Young Children (3-0)  
3 Hours  
This course provides an overview of the health, safety and nutritional needs of young children and early childhood practices to ensure the health and well-being of each child in a group setting. Content includes roles and responsibilities of adults in meeting children’s diverse needs, the promotion of healthy lifestyle practices, understanding common childhood illnesses and injuries, meeting health, nutrition and safety standards, and planning nutritious meals that are appropriate for each child. (1.1)  
Prerequisite: College Reading and Writing Readiness

**ECE 214**  
Group Care of Infants and Toddlers (3-0)  
3 Hours  
This course is an overview of infant and toddler early care and education programs. Emphasis is on the care and protection of very young children; developmentally appropriate curriculum; working with diverse families; the impact and interaction of the physical environment and social climate on the young child. This course includes a required field experience of 20 hours at a site determined by the Instructor. (1.2)  
Prerequisite: ECE 121 AND ECE 124 or EDU124 (both C or better), and current Illinois State Police criminal background check may be required. Current medical documentation may be required.
ECE 215  Music Activities for Young Children (2-2)  3 Hours
This course emphasizes the role of music in the early childhood program through descriptive lecture and experiential music activities. The sequence of children’s musical development and the relationship between early music exposure and children’s physical, social/ emotional, and cognitive development will be covered. Skills in singing, listening, creative movement, and using rhythm instruments will be developed. Previous music experience is not required. (1.2)
Prerequisite: ECE 124 or EDU 124 (C or better)
Course fee

ECE 220  Observation and Assessment (3-0)  3 Hours
This course prepares students to complete authentic, alternative, classroom-based assessments on young children, as well as manage standardized tests in an appropriate manner. The course will further provide the student with the knowledge and skills to interpret and use the information gained to plan curriculum that is responsive to and supportive of children’s learning and development. Students will have the opportunity to engage in assessment processes through classroom observations, providing each student with a stronger understanding of child development skills. Students learn about and explore a variety of age, linguistically, individually, and culturally appropriate formal and informal assessments. Students will practice gathering and sharing information on each child’s skills, abilities, interests and needs, birth through age 8. Includes required daytime field experience hours in diverse settings.
Note: Current Illinois State Police criminal background check may be required. (1.1)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (both C or better)

ECE 223  Child, Family, and Community (3-0)  3 Hours
This course focuses on the diverse needs of the child within the context of family, school and community. The course will examine the interplay of diverse cultures, lifestyles, abilities, language and communication with the role of the early childhood environment and other community institutions. Students will gain an understanding of their professional role in supporting evidence-based practices that strengthen respectful, collaborative family/ child partnerships through effective use of community and family resources. (1.1)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (both C or better)

ECE 229  Language Development and Early Literacy (3-0)  3 Hours
This course focuses on the development of speech, language, and emergent literacy in the young child. Students will gain an understanding of how children progress through stages of language acquisition, as well as the influence of culture and diversity on language and literacy development. Students will explore and develop strategies for facilitating language development and emergent literacy, create integrated curriculum activities, and assess children’s literature for developmental and cultural appropriateness.
(1.1)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (both C or better)

ECE 231  School-Age Programming (3-0)  3 Hours
This course examines knowledge and skills needed to work effectively with school-age children from diverse cultural and socioeconomic backgrounds. It focuses on planning, organizing, and implementing appropriate curriculum for school-age children in organized childcare programs. (1.2)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (both C or better)

ECE 233  Young Children with Special Needs (3-0)  3 Hours
This course focuses on practical techniques for working with young children, from birth through age five, in inclusive early childhood settings. Characteristics of children with various types of special needs, as well as curriculum, routines, and classroom management strategies, are identified. The historical, philosophical, and legal basis for the importance of family involvement in early intervention services and programs is explored.
(1.2)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (both C or better)

ECE 241  Guidance and Social Development (3-0)  3 Hours
This course introduces practical principles and techniques for providing a balanced, child-centered approach to addressing the developmental needs and abilities of children in the early childhood years. Course content includes review of general theories of child guidance and how guidance encourages autonomy and self-discipline while promoting development of positive self-concept and early social development. Emphasis is placed on encouraging self-esteem, activities to promote pro-social behaviors, the relationship between the classroom environment and behavior, and the importance of observation to understand the underlying causes of behavior. (1.1)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (both C or better)

ECE 242  Math Activities for Young Children (3-0)  3 Hours
This course incorporates theories, research, and pedagogy as it relates to the emergence and development of mathematical concepts, knowledge, and skill development in young children. Includes review of basic mathematical concepts and terminology for teacher preparation in early childhood education. Emphasis is on the exploration of principles, methods, and developmentally appropriate materials within the early childhood classroom. Students learn and demonstrate how to promote children’s emerging math skills and concepts through hands-on discovery and play. Includes planning, preparation, and assessment techniques for relevant early childhood math curriculum. (1.1)
Prerequisite: ECE 121 AND ECE 124 or EDU 124 (all C or better)
Recommended: Basic Algebra Readiness Course fee
ECE 248 Early Childhood Assessment Seminar (3-0) 3 Hours
This capstone course is required for all students completing the Associate in Applied Science Degree (A.A.S.) in Early Childhood Education. This course provides students with the opportunity to synthesize, analyze, and apply their learning from their courses in Early Childhood Education in a comprehensive manner. As part of this course, students will be required to create a reflective and comprehensive ECE portfolio, complete 10 hours of participation in an approved early childhood learning center, and continue to develop an understanding of the National Association of Educating Young Children (NAEYC) standards, Illinois Professional Teaching Standards, and other current standards pertinent to early childhood teacher preparation. (1.2) Prerequisite: 30 Hours in ECE courses that include ECE 116, ECE 121, ECE 124 or EDU 124, ECE 141, ECE 220, ECE 223, ECE 229, ECE 233, ECE 241 and ECE 242 (all C or better).

ECE 250 Early Childhood Education Practicum - Infants and Toddlers (0-4) 2 Hours
This course provides students with the opportunity to apply evidence-based practices based on early childhood education principles and theories and is focused on the unique needs of infants and toddlers. Students work with diverse young children and families in high-quality, culturally, linguistically, and ability diverse early childhood settings under the supervision of a site supervisor and a college course work supervisor. 10-12 hours of classroom work with infants and/or toddlers will be required each week for a total of 150 hours.
Note: Students taking this course must be enrolled in the Early Childhood Education A.A.S. Current Illinois State Police criminal background check required along with current medical documentation. (1.2) Prerequisite: 30 Hours in ECE courses that include ECE 117, 121, 124, 141, 214, 220, 223, 229, 233, 241 and 242 (all C or better); CLC GPA 2.40 or above; Department Chair approval 60 days prior to the first day of semester. Concurrent Enrollment: ECE 250 and 251

ECE 251 Curriculum Development I (2-0) 2 Hours
This course covers the principles involved in planning, implementing and evaluating developmentally appropriate, evidence-based curriculum to meet the unique needs of infants and toddlers. The course focuses on relationships among developmental theory, philosophy, practice, and development of curriculum based on the needs and interests of young children including those who are culturally, linguistically, and ability diverse. The analysis of a wide range of early childhood curriculum models is emphasized. Note: Students taking this course must be enrolled in the Early Childhood Education A.A.S. (1.2) Prerequisite: 30 Hours of ECE courses that include ECE 116, 121, 124, 141, 220, 223, 229, 233, 241 and 242 (all C or better); CLC GPA 2.40 or above; Department Chair approval 60 days prior to first day of semester. Concurrent Enrollment: ECE 250 and 251

ECE 252 Early Childhood Education Practicum - Preschool (0-4) 2 Hours
This course provides students with the opportunity to apply evidence-based practices based on early childhood education principles and theories, focused on young children ages 3-5. Students work with diverse young children and families in high-quality, culturally, linguistically, and ability diverse early childhood settings under the supervision of a site supervisor and a college course work supervisor. 10-12 hours of classroom work with preschool-age children will be required each week for a total of 150 hours.
Note: Students taking this course must be enrolled in the Early Childhood Education A.A.S. Current Illinois State Police criminal background check required along with current medical documentation. (1.2) Prerequisite: 30 Hours of ECE courses that include ECE 116, 121, 124, 141, 220, 223, 229, 233, 241 and 242 (all C or better); CLC GPA 2.40 or above; Department Chair approval 60 days prior to first day of semester. Concurrent Enrollment: ECE 252 and 253

ECE 253 Curriculum Development II (2-0) 2 Hours
The principles involved in planning, implementing and evaluating developmentally appropriate, evidence-based curriculum for preschoolers are studied. The course focuses on relationships among developmental theory, philosophy, practice, and development of curriculum based on the needs and interests of young children including those who are culturally, linguistically, and ability diverse. The analysis of a wide range of early childhood curriculum models is emphasized. Note: Students taking this course must be enrolled in the Early Childhood Education A.A.S. (1.2) Prerequisite: 30 Hours in ECE courses that include ECE 116, 121, 124, 141, 220, 223, 229, 233, 241 and 242 (all C or better); CLC GPA 2.40 or above; Dept Chair approval 60 days prior to first day of semester. Concurrent Enrollment: ECE 252 and 253

ECE 254 Early Childhood Education Practicum - Administrative (0-8) 4 Hours
This course is a practicum designed for those individuals who are interested in serving as administrators or directors of early childhood programs. The focus of this practicum experience is the application of early childhood leadership strategies, administrative skills and knowledge. Students are supervised by a college instructor, while working closely with an assigned early childhood program administrator or director. Course assignments are focused on program assessment and improvement, staff training, parent education, and fiscal and business management. The student will be supervised by a qualified director for 300 documented hours as mandated by the Illinois Gateways to Opportunity Director Credential - Level I. Other requirements for this Illinois Director Credential also apply. See Department Chair for further information. (1.2) Prerequisite: Completion of all other course requirements for Administration and Leadership of Early Childhood Education Certificate 25EF; Overall G.P.A. of 2.5; and Consent of Department Chair 60 days prior to enrollment.
ECE 270  Organization and Administration of Early Childhood Programs (3-0) 3 Hours
This course is intended for students who are interested in becoming or who are currently serving as leaders of early childhood programs (directors, assistant directors, program coordinators). The course will acquaint students with the organization, regulation, management, and evaluation of programs serving young children. Course content includes staff management including staff selection, mentoring, supervision, and evaluation; parent and community relationships; children's educational programming; safety, design, and arrangement of the physical environment; use of technology; advocacy. Issues of culture and diversity are explored, as well as strategies for respectful communication, problem-solving, and collaboration with families and the community. (1.2) Prerequisite: ECE 121, ECE 124 or EDU 124, and 9 additional credit hours in Early Childhood Education (all with grades C or better).

ECE 299  Special Topics in Early Childhood Education (Var.) 1-3 Hours
These special topic courses will focus on a specific current issue in the area of early childhood care and education. A maximum of 6 credit hours of ECE 299 or EDU 299 may be used as elective toward an AAS or AA degree in early childhood education. (1.2) Prerequisite: To be determined relative to topic. May be taken four times, but any topic only once.

EARTH SCIENCE (ESC)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

ESC 120  Earth Science (3-2) 4 Hours
This course is designed for students of non-science or science major who are interested in physical features related to our dynamic earth. Topics of the course include some fundamental concepts and features in geology, meteorology and astronomy, such as earthquakes, volcanic activities, weathering process, surface water, atmosphere components, weather, the universe, the solar system, etc. Course materials are organized to enable students to understand how different components of our dynamic earth are related to one another. Most topics are assisted with hands-on lab exercises. (1.1) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness Course fee IAI: P1 905L

ESC 121  Physical Geology (3-2) 4 Hours
For those who wish to explore an interest in geology, major in geology, or satisfy lab science requirements. Topics include igneous rocks and volcanism, sedimentary rocks and stratigraphy, metamorphic rocks and metamorphism, weathering, mass wasting, streams, deserts and glaciers. Lab studies concentrate on minerals, rocks and topographic maps. (1.1) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness Course fee IAI: P1 907L

ESC 122  Historical Geology (3-2) 4 Hours
Primarily for those majoring in geology or those who wish to understand the geologic evolution of North America. Combines a regional and topical approach to continental development, crustal structure, and mountain building. Regional stratigraphy is integrated with the origin and evolution of plants and animals. Lab topics include structural geology, geologic maps, fossils, and a mapping project. (1.1) Prerequisite: ESC 121 Course fee

ESC 123  Introduction to Meteorology (3-0) 3 Hours
For the non-science major or those who wish to gain a comprehensive overview of the science of meteorology without a laboratory component. The primary goal of this course is to help students become better educated consumers of the massive amount of weather information now available to them. Topics will include high and low pressure systems, fronts, clouds, the jet stream, winter precipitation, thunderstorms and severe weather, hurricanes, air-ocean interactions (El Nino and La Nina), weather analysis, an introduction to weather forecasting, and human impacts on weather and climate. The student should be comfortable with interpreting maps, charts, and diagrams. Note: students may not receive credit toward a degree for both ESC 123 and ESC 127. (1.1) Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 IAI: P1 907

ESC 124  Oceanography (3-0) 3 Hours
For the non-science major or those who wish to gain a comprehensive overview of the science of oceanography. Topics include a history of oceanographic investigations; topography, structure, and evolution of the ocean basin; chemical and physical properties of ocean water and water masses; waves; tides; oceanic circulation; shoreline processes; estuaries; marine sediments; hurricanes; resources; fisheries; and ecology. (1.1) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness IAI: P1 905

ESC 125  Geology of the National Parks (3-0) 3 Hours
This introductory course is designed for students and community members who are interested in learning basic geologic features of national parks. No previous Geology or Earth Science knowledge is necessary. Topics include basic geologic principles and concepts, such as the Earth's materials (minerals and rocks), plate tectonics and various dynamic features related to the plate interactions, and a brief history of the Earth. Various unique geologic features in national parks are introduced and discussed. Note: This course is for students who are pursuing either non-science or science degrees and should help students prepare for a field travel/study course (ESC226, Field Geology, 3 credits) to various national parks offered in summers. (1.1) Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 IAI: P1 907

ESC 126  Geology of Illinois (2-0) 2 Hours
A survey of the principle aspects of Illinois geology, with emphasis on the landforms, rocks, soil, structure and glacial history of Illinois and parts of adjacent states. Also active geologic processes today, resource development, land and water use and management. (1.1) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
COURSE DESCRIPTIONS

ESC 127  Introduction to Meteorology with Lab  
(3-2)  4 Hours  
This course is intended for the non-science major or those who wish to gain a comprehensive overview of the science of meteorology with a laboratory component. The primary goal of this course is to help students become better educated consumers of the massive amount of weather information now available to them. Topics will include high and low pressure systems, fronts, clouds, the jet stream, winter precipitation, thunderstorms and severe weather, hurricanes, air-ocean interactions (El Nino and La Nina), weather analysis, an introduction to weather forecasting, and human impacts on weather and climate. The student should be comfortable with interpreting maps, charts, and diagrams.  
Note: students may not receive credit toward a degree for both ESC 123 and ESC 127. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100-AND-Basic Algebra Readiness  
IAI: P1 905

ESC 128  Great Mysteries of the Earth  
(3-0)  3 Hours  
This course is for the non-science major or those pursuing an interest in the geosciences. This course will examine selected mysteries, myths, and pseudoscience of our world from the content areas of earthquake myths, volcano myths, flood myths, landform myths, and mass extinctions through the application of the scientific method. Major topic examples may include Atlantis, Piltdown Man, and Noah's Flood. (1.1)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
IAI: P1 905L

ESC 129  Severe and Hazardous Weather  
(3-0)  3 Hours  
This course is designed for students who wish to gain a better understanding of the causes and impacts of various types of extreme weather. Meteorological concepts and processes that cause severe and hazardous weather will be presented in a non-technical manner during the first part of the course. Subsequently, specific types of severe and hazardous weather will be examined as well as an investigation of their historical, economic, and human consequences. Severe weather topics may include lightning, hail, tornadoes, floods, drought, cold and heat waves, blizzards, ice storms, wind storms, hurricanes, and El Nino/La Nina. Students should be comfortable interpreting maps, charts, and diagrams. (1.1)  
Prerequisite: College Reading and Writing Readiness O R concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 AND Basic Algebra Readiness  
IAI: P1 905

ESC 140  Introduction to Astronomy with Lab  
(3-2)  4 Hours  
This course is for the non-science major or those who wish to gain a comprehensive overview of the science of astronomy with a lab component. This descriptive treatment of astronomy will include topics such as the history of astronomy, the solar system, stellar evolution, the Milky Way, and beyond. Students may not receive credit toward a degree for both ESC 140 and ESC 141. (1.1)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
IAI: P1 906L

ESC 141  Introduction to Astronomy  
(3-0)  3 Hours  
This course is for the non-science major or those who wish to gain a comprehensive overview of the science of astronomy. This descriptive treatment of astronomy will include topics such as the history of astronomy, the solar system, stellar evolution, the Milky Way, and beyond. Students may not receive credit toward a degree for both ESC 140 and ESC 141. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 AND Basic Algebra Readiness  
IAI: P1 906

ESC 226  Field Geology  
(2-2)  3 Hours  
Introduction to basic geological field methods and application of geological concepts through field studies of selected regions. May include camping, backpacking, canoeing, and/or hiking, occasionally under rigorous conditions. Travel expenses are paid by the student. Should be considered a general education elective; will NOT meet CLC laboratory science requirement. (1.1)  
Course fee  
May be taken twice, but any topic only once

ESC 299  Special Topics in Earth Science  
(Var.)  1-4 Hours  
This course is designed to provide students with information about specialized areas in Earth Science including areas such as geology, meteorology, oceanography, astronomy or climatology. Topics will be identified by course section: see course schedule for specific information. (1.1)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
May be taken four times, but any topic only once

ECONOMICS (ECO)

Business and Social Sciences Division,  
Room T302, (847) 543-2047

ECO 110  Economics for Business and Industry  
(3-0)  3 Hours  
This course is a brief survey of both microeconomic and macroeconomic principles to provide the student with the basic tools to understand current economic problems and policies. It is intended for students pursuing an AAS degree. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 AND Department Consent  
Recommended: Basic Algebra Ready

318  2019-2020 College of Lake County Catalog
ECO 221  Principles of Macroeconomics  
(3-0)  3 Hours  
The course surveys basic economic concepts with an emphasis on macroeconomic analysis and fiscal and monetary policies. 
Current economic problems such as inflation, unemployment, and stagflation are explored and discussed from diverse economic models (e.g.: Classical, Neo-Keynesian, Neo-Classical, Monetarist, and Rational Expectations Models). The discussions also include an analysis and critique of macroeconomic policies. (1.1)  
Prerequisite: College Reading and Writing Readiness AND MTH 102 OR MTH 105 (C or better) OR higher level math course (C or better) OR AOS 122 (C or better) OR appropriate score on Math Placement Test OR appropriate score on Math ACT or SAT 
IAI: S3 901

ECO 222  Principles of Microeconomics  
(3-0)  3 Hours  
This course deals with economic decision making at the level of the individual household, the individual firm, and individual markets. The course covers basic microeconomic concepts such as competitive markets, supply and demand, elasticity, consumer theory, theory of the firm, competitive firms, monopoly, oligopoly, and monopolistic competition, resource pricing and select current economic problems. (1.1)  
Prerequisite: College Reading and Writing Readiness AND MTH 102 OR MTH 105 (C or better) OR higher level math course (C or better) OR AOS 122 (C or better) OR appropriate score on Math Placement Test OR appropriate score on Math ACT or SAT 
IAI: S3 902

ECO 223  Money, Banking, and Financial Markets  
(3-0)  3 Hours  
The course emphasizes the economic and monetary history and theory of money and banking in the United States. Primary focus is given to the role that banks and financial institutions serve in economic development. Also discussed are the impacts of Federal Reserve monetary policy decisions on the aggregate economy using macroeconomic analysis. The relative effectiveness of monetary policy on financial markets is also evaluated. (1.1)  
Prerequisite: ECO 221 (C or better)
EDU 225  Educational Psychology  
(3-0)  3 Hours  
This course addresses psychological principles underlying educational practice. Theories concerning cognitive and psychological development, human learning, and motivation are studied with emphasis on application for instruction, including assessment. Emphasis will also be placed on learner-centered instruction and diversity. (1.1)  
Prerequisite: ECE 121 or EDU 121 (both C or better) AND ECE 124 or EDU 124 (both C or better) OR PSY 121 (C or better) 

EDU 226  Introduction to the Foundations of Reading  
(3-0)  3 Hours  
This course is an introduction to theory and practice in teaching reading and related language arts areas. It includes information on basic components of reading and language arts instruction and on the importance of literacy learning. It introduces Illinois Learning Standards in the areas of reading and language arts. (1.1)  
Prerequisite: EDU 121 AND EDU 124 or ECE 124 (both C or better) 

EDU 242  Observational/ Clinical Experience in Education  
(0-2)  1 Hour  
This course is a pre-student teaching practicum. It allows students who are considering the field of education an opportunity to observe and interact with certified teachers and children in a classroom setting. Required participation includes a minimum of 30 clock hours in the public/private school classroom. A weekly 30 minute seminar is provided for students to focus on classroom issues including classroom management, effective teaching methods, and learning styles. Students will discuss positive/negative classroom situations as they gain experience through this practicum. Supervision will be provided by a cooperating teacher and the college instructor.  
Note: (ECE 121 or EDU 121) AND (ECE 124 or EDU 124) are recommended but not required before taking this course. Corequisites may also be taken as prerequisites. A criminal background check is required for this course. Please wait for instructions on the first day of class. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Corequisite: ECE 121 or EDU 121 or EDU 222 or EDU 225  
May be taken three times for credit toward degree 

EDU 299  Special Topics in Education  
(Var.)  1-3 Hours  
Special topics in the field of education will be developed. Topics will focus on a specific current issue in the areas of early childhood, elementary, secondary, or special education. A maximum of 6 credit hours of EDU 299 or ECE 299 may be used as elective credit toward an AA or AAS degree in education. (1.1)  
Prerequisite: College Reading and Writing Readiness  
May be taken four times, but any topic only once 

EDU 999  Preparing for the TAP or ACT+Writing  
(Var.)  1-3 Hours  
This course is designed to prepare prospective teachers to take and pass the Test of Academic Proficiency (TAP) by refreshing or improving skills and abilities in Reading, Writing, and Mathematics. This course is repeatable up to three times, any topic only once, for a maximum of 3 hours toward degree completion. This course will also prepare students who wish to take the ACT plus writing test, as an alternative to the TAP. (1.1)  
Prerequisite: College Reading and Writing Readiness and Basic Algebra Readiness OR Consent of Department  
Recommended: ENG 121 and MTH 121 (both C or better)  
May be taken three times, but any topic only once 

EDUCATIONAL WORK EXPERIENCE (EWE)  

Career and Job Placement Center, Room A111, (847) 543-2059  

EWE 120  Job Readiness Skills  
(1-0)  1 Hour  
This course focuses on job readiness skills to prepare students to apply for an internship/job, improve in a current internship/job, or successfully work towards a promotion. Topics covered include networking, resume writing, interviewing, social media tools, self-awareness, conflict resolution and time management. (1.2)  

May be taken four times for credit toward degree 

EWE 121  Introduction to Volunteerism  
(1-0)  1 Hour  
This course is designed to introduce students to the ideas and responsibilities of volunteering. Students will be made aware of various service-oriented volunteer agencies and activities. They will choose a volunteer experience where both the agency involved and the student contract to perform definite and supervised services for a specific period of time. (1.1) 

EWE 220  Internship I  
(Var.)  0.5-3 Hours  
An internship offers an individualized learning experience through the linking of an academic program to a structured employment setting. The learning outcomes for the internship are coordinated and agreed upon by the student, faculty, and employer. Course assignments throughout the term support these learning outcomes, and assist in academic, career, and professional preparedness. This is a variable credit course (.5-3 credits), with 75 internship hours required per credit. Student could take this course up to 4 times and earn the maximum credit (3 credits) for each time for a total of 12 credit hours. (1.2)  
Corequisite: EWE 120 and Department Consent  
May be taken four times for credit toward degree 

EWE 270  Internship II  
(Var.)  0.5-3 Hours  
This course is intended for students completing a second internship experience. An internship offers an individualized learning experience through the linking of an academic program to a structured employment setting. The learning outcomes for the internship are coordinated and agreed upon by the student, faculty, and employer. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning outcomes. This is a variable credit course (.5-3 credits), with 75 internship hours required per credit. Student could take this course up to 4 times and earn the maximum (3 credits) credit for each time for a total of 12 credit hours. (1.2)  
Prerequisite: EWE 220 (C or better)  
May be taken four times for credit toward degree
ELECTRICAL ENGINEERING TECHNOLOGY (EET)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

EET 113  Solid State Electronics
(3-2) 4 Hours
This course is an introduction to semiconductor devices and their applications. Operating principles and characteristics of diodes, transistors, JFETS, MOSFETs and thyristors are discussed. Transistor models using the h and r parameters are covered. Various transistor configurations and biasing techniques are studied. Device functionality and applications are discussed and range from power supplies, voltage regulators, small signal/power amplifiers, amplifier response analysis (Bode Plot) to operational amplifiers. (1.2)
Prerequisite: MTH 122
Corequisite: EET 176
Course fee

EET 115  Electronic Laboratory Techniques
(1-2) 2 Hours
An introduction to electronic measurement techniques, the identification and testing of electronic components, and Ohm’s law and power law. Lab safety concepts, proper use of basic laboratory equipment such as oscilloscopes, DMM, power supplies, frequency counter and signal generators are introduced. Additional topics include: soldering and desoldering of components, breadboarding, how to keep a lab notebook and schematic reading. The student will be expected to pursue and complete a laboratory project of his/her choice with the instructor’s approval. (1.2)
Corequisite: EET 170
Course fee

EET 130  Introduction to Renewable Energy Sources
(3-2) 4 Hours
This course provides an overview of renewable (essentially carbon-free) energy sources with an emphasis on Solar, Wind and Geothermal technologies. Students will acquire an understanding of various renewable energy systems and their underlying physical and technological principles, economics, environmental impact and how these technologies can be integrated into an overall energy system. (1.2)
Prerequisite: MTH 102 or equivalent with a grade of C or better and College Reading and Writing Readiness

EET 170  DC Circuit Fundamentals
(1.5-1) 2 Hours
Topics include definition of voltage, current, resistance, conductance, and power. Also includes Ohm’s Law, Kirchhoff’s Laws as applied to series, parallel and series-parallel circuits. Calculation of power dissipation, use of voltage and current dividers, recognition and use of Wheatstone Bridge circuits. (1.2)
Prerequisite: College Reading and Writing Readiness
Recommended: MTH 117
Course fee

EET 173  DC Analysis-Network Theorems
(1.5-1) 2 Hours
Introduction to network theorems and solutions, to include Thévenin’s Theorem, Norton’s Theorem, Mesh analysis, Nodal analysis, Superposition and other analysis techniques. (1.2)
Prerequisite: EET 170
Corequisite: MTH 122
Course fee

EET 174  AC Fundamentals
(1.5-1) 2 Hours
Introduction to AC circuit fundamentals. Study of circuitry consisting of AC sources, resistors, inductors, capacitors and transformers. Course material covers, reactance, impedance, vectors, current and voltage phase relationships, apparent and reactive power, complex notation. Q, resonance and filters are discussed. (1.2)
Prerequisite: EET 173
Corequisite: MTH 123
Course fee

EET 175  AC Analysis and Circuit Theorems
(1.5-1) 2 Hours
AC network theorems and solutions, to include Thévenin’s Theorem, Norton’s Theorem, Max Power Transfer Theorem, Mesh analysis, Nodal analysis, superposition and other analysis techniques. Series and parallel resonance will also be included with discussion of passive filter operation. EET 175 is a continuation of EET 174 for the Electrical Engineering Technology AAS degree. (1.2)
Prerequisite: EET 174
Corequisite: MTH 123
Course fee

EET 176  Circuit Analysis and Network Theorems
(3-2) 4 Hours
This course introduces students to DC and AC analysis with network theorems, including Thévenin’s Theorem, Norton’s Theorem, Max Power Transfer Theorem, mesh analysis, nodal analysis, branch analysis, superposition and other analysis techniques. Passive filter operation will be covered including series and parallel resonance, the use of Bode plots and an introduction to transfer functions. (1.2)
Prerequisite: EET 174
Corequisite: MTH 122 or MTH 123 or MTH 144
Course fee

EET 211  Advanced Solid State Electronics
(3-2) 4 Hours
This is a continuation of EET 113 with an emphasis on the development of frequency response characteristics of operational amplifiers, open and closed loop response, negative and positive feedback, active filters, oscillators/timers, voltage regulators, basic op-amp circuits, data conversion circuits and control circuits. (1.2)
Prerequisite: EET 113
Course fee

EET 212  Electronic Communications Systems
(2-3) 3 Hours
Principles of operation and design of electronics equipment including radio fundamentals, radio receivers, transmitters, antennas and transmission of RF energy. Digital communications will be covered. (1.2)
Prerequisite: EET 113, EET 174 and EET 175
Course fee

EET 216  Microprocessors I
(3-2) 4 Hours
Introductory course in microprocessors dealing with hardware and software. The PIC micro controller will be used as the target processor. Hardware configuration including CPU, Memory, I/O, and Assembly language programming with the PIC 16F84 instruction set will be studied. This course also provides a means to learn about embedded Microcontroller-based programming techniques through the use of Microchip integrated MPLAB environment. (1.2)
Prerequisite: EET 223 AND MCS 141 or CIT 134 or consent of instructor
Course fee

2019-2020 College of Lake County Catalog 321
### COURSE INFORMATION AND DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EET 223</td>
<td>Introduction to Digital Electronics</td>
<td>3-2</td>
<td>4</td>
</tr>
<tr>
<td>EET 230</td>
<td>Electrical Machinery</td>
<td>2-3</td>
<td>3</td>
</tr>
<tr>
<td>EET 299</td>
<td>Special Topics in Electrical/</td>
<td>(Var.)</td>
<td>1-4</td>
</tr>
<tr>
<td></td>
<td>Electronics Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELC 114</td>
<td>Motor and Machine Controls</td>
<td>2-3</td>
<td>3</td>
</tr>
<tr>
<td>ELC 171</td>
<td>Programmable Logic Controllers</td>
<td>2-2</td>
<td>3</td>
</tr>
<tr>
<td>ELC 172</td>
<td>Applied AC Circuit Theory</td>
<td>1.5-1</td>
<td>3</td>
</tr>
<tr>
<td>ELC 271</td>
<td>Advanced Programmable Controls</td>
<td>2-3</td>
<td>3</td>
</tr>
<tr>
<td>ELC 276</td>
<td>Electrical Industrial Safety</td>
<td>2-0</td>
<td>2</td>
</tr>
</tbody>
</table>

**COURSE DESCRIPTIONS**

**EET 223 Introduction to Digital Electronics (3-2) 4 Hours**
(Formerly EET 213) This course covers principles of operation, performance, and design of digital circuits and digital instrumentation. Number systems including binary, Boolean algebra and the application to digital logic; combinatorial and sequential circuits; digital logic application to electronic instrumentation; basic Hardware Description Language (VHDL) and lab work with CMOS & FPGAs (Field Programmable Gate Arrays) will be covered. (1.1)
**Prerequisite:** MTH 122 or MTH 144 AND EET 115 (C or better) OR Department Consent
**Course fee**

**EET 230 Electrical Machinery (2-3) 3 Hours**
Principles of design and construction of many types of motors and generators including servos, synchros, motor and generator control circuits, and industrial application. Course oriented to troubleshooting and repair techniques. 
**Note:** ECL 114 is recommended. (1.2)
**Prerequisite:** EET 170, EET 174 or ELC 172
**Course fee**

**EET 299 Special Topics in Electrical/ Electronics Engineering (Var.) 1-4 Hours**
This course will provide students with more information about specialized topics in areas of analog or digital electronics, telecommunications, industrial controls, system design software or related topics. **Note:** Topics will be identified for each section of the course. May be taken four times, but any topic only once for credit towards the degree. (1.2)
**Prerequisite:** To be determined relative to topic
**May be taken four times, but any topic only once**

**ELECTRICAL TECHNOLOGY (ELC)**

**Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044**

**ELC 113 Basic Instrumentation and Shop Practice (1-2) 2 Hours**
An introduction to electronic measurements, repair and construction techniques and the identification and testing of electronic components.
**Note:** Recommended preparation concurrent enrollment in EET 170 and ELC 172 or equivalent knowledge. (1.2)
**Course fee**

**ELC 114 Motor and Machine Controls (2-3) 3 Hours**
Describes control circuits and components used in industry with particular attention to motor controls. Material includes controller characteristics and applications.
**Note:** Recommended preparation EET 170 and ELC 172 or equivalent knowledge. (1.2)
**Course fee**

**ELC 171 Programmable Logic Controllers (2-2) 3 Hours**
In this course, students will learn what a Programmable Logic Controller is, how a PLC works, and how to install a PLC in an automated system. Students will also learn the basics of programming a PLC using a relay ladder logic and Boolean functions. Troubleshooting systems with PLC’s will also be studied.
**Note:** Recommended preparation EET 170 and ELC 172 or equivalent knowledge. (1.2)
**Course fee**

**ELC 172 Applied AC Circuit Theory (1.5-1) 3 Hours**
Fundamentals of AC circuit theory and application. Includes topics of capacitance, inductance, time constants, reactance, RLC AC circuits, transformers, relays, filters and mathematics as required. ELC 172 is a continuation of EET 170 for the Electrical/ Electronic Maintenance Certificate. (1.2)
**Note:** Recommended preparation EET 170 and MTH 114 or MTH 117 or equivalent knowledge.
**Course fee**

**ELC 271 Advanced Programmable Controls (2-3) 3 Hours**
This course will address application and interfacing aspects of programmable control not covered in the introductory course ELC 171. Topics included in this course cover information on data acquisition and data file manipulation, analog to digital and digital to analog interfacing, networking of PLC’s, and touch panel interface operation. (1.2)
**Prerequisite:** ELC 171 or Instructor Consent
**Course fee**

**ELC 276 Electrical Industrial Safety (2-0) 2 Hours**
This course provides a study of the safety practices and procedures that are required in the electrical industry. The nature of electrical work places electricians in potentially harmful situations on a regular basis. Electricians must be aware of the proper safety precautions in order to avoid accidents which could lead to injury or even death. This course will include safety related to electrical shock, safety requirements in the use of power tools, safety in the working environment. (1.2)

**ELECTRICIAN APPRENTICESHIP (EAP)**

**Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044**

**EAP 111 Electrician Apprenticeship Work Experience I (0-4) 2 Hours**
This course provides a planned educational experience in the Electricians Apprenticeship program by placing the student in a supervised educational work experience. Specific learning objectives agreed upon by the student and the students work supervisor shall be accomplished through “on the job” experience and training. This course is the first of a series of five work-based learning (apprenticeship) courses to be completed. The student will complete an EAP course in each of the five years of the apprenticeship.
**Note:** Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician.
(1.2)

**EAP 112 Electrician Apprenticeship Work Experience II (0-4) 2 Hours**
This course provides a planned educational experience in the Electricians Apprenticeship program by placing the student in a supervised educational work experience. Specific learning objectives agreed upon by the student and the students work supervisor shall be accomplished through “on the job” experience and training. This course is the second in a series of five work-based learning (apprenticeship) courses to be completed. The student will complete an EAP course in each of the five years of the apprenticeship.
**Note:** Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician.
(1.2)
EAP 113  Electrician Apprenticeship
Work Experience III
(0-4)  2 Hours
This course provides a planned educational experience in the Electricians Apprenticeship program by placing the student in a supervised educational work experience. Specific learning objectives agreed upon by the student and the students work supervisor shall be accomplished through “on the job” experience and training. This course is the third in a series of five work-based learning (apprenticeship) courses to be completed. The student will complete an EAP course in each of the five years of the apprenticeship. (1.2)
Note: Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician

EAP 114  Electrician Apprenticeship
Work Experience IV
(0-4)  2 Hours
This course provides a planned educational experience in the Electricians Apprenticeship program by placing the student in a supervised educational work experience. Specific learning objectives agreed upon by the student and the students work supervisor shall be accomplished through “on the job” experience and training. This course is the fourth in a series of five work-based learning (apprenticeship) courses to be completed. The student will complete an EAP course in each of the five years of the apprenticeship. (1.2)
Note: Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician

EAP 115  Electrician Apprenticeship
Work Experience V
(0-4)  2 Hours
This course provides a planned educational experience in the Electricians Apprenticeship program by placing the student in a supervised educational work experience. Specific learning objectives agreed upon by the student and the students work supervisor shall be accomplished through “on the job” experience and training. This course is the fifth in a series of five work-based learning (apprenticeship) courses to be completed. The student will complete an EAP course in each of the five years of the apprenticeship. (1.2)
Note: Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician

ELECTRONIC INFORMATION TECHNOLOGY (EIT)

EIT 110  Topics in Mathematics for Computer and Electronics Technicians
(3-0)  3 Hours
Mathematics topics are studied which have direct application in the fields of electronics and computer technology. Topics include mathematics concepts required to understand and analyze electronics and computer problems. (1.2)

EIT 111  Digital and Network Fundamentals
(3-2)  4 Hours
This is an introductory course in digital electronic concepts and networking fundamentals. The course will introduce basic Boolean Algebra including masking concepts. LAN network fundamentals will be studied including peer to peer networks using TCP/IP protocols and Ethernet media. Laboratories will include experiments in logic and small networks and peer to peer networks will be implemented. Note: Completion of EIT 170 is recommended, not required. (1.2)
Course fee

EIT 116  Fiber Optic Fundamentals
(2.5-1)  3 Hours
This course is an introduction to the theory and application of fiber optics as a means of data transmission. This course will cover fiber optic cabling, connectors, splices and tools, power budgets, fiber optic design, installation and testing, and broadband applications. Students completing the course will have a solid foundation in fiber optic networking and will also be prepared to attempt industry supported examinations allowing them to become Certified Fiber Optic Technicians. (1.2)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

EIT 210  Data and Network Communications
(3-2)  4 Hours
This course will deal with the fundamental of data communications in network environments. Baseband transmission as well as encoded data transfer methods will be studied. Protocols will be investigated in detail including Ethernet and Sonet at the data transmission level. Frequency spectrum and bandwidth issues will be studied. Routers and routing will be introduced.

Laboratories will deal with communication hardware and network interconnections. Note: Completion of EIT 111 is recommended, not required. (1.2)
Course fee

EIT 230  Secure Wireless Networking
(2-2)  3 Hours
This course will cover the basics of planning and implementing a wireless network, with special focus on using adequate data security techniques. Gateway security, including building gateways and firewalls, and authentication and encryption methods for wireless networks will be explored. Note: Completion of EIT 111 and ELC 172 are recommended, not required. (1.2)
Course fee

EIT 250  Wireless Data Communications
(2-2)  3 Hours
This course will deal with issues encountered with data communications in a wireless networked environment. Radio frequency technologies will be studied, along with data transmission, protocols, hardware and software installation and support, wireless device applications and security.
Note: Technologies might include: WiMax, Mesh, EVDO, CDMA and others. (1.2)
Prerequisite: EIT 230 (C or better)
Recommended: EIT 210 (C or better)

ELECTRONICS ENGINEERING TECHNOLOGY (ELT)

ELT 111  Electronic Drafting
(1-3)  2 Hours
Drawing of electronic components and wiring diagrams, with emphasis on national standards and codes. Pspice schematic capture and PC board software will be introduced. (1.2)
Course fee

ELT 117  Industrial Digital Electronics I
(2-2)  3 Hours
An introduction to digital electronics with an emphasis on analysis and troubleshooting aspects of digital electronics. It is a part of the one year certificate maintenance program. Note: Recommended preparation high school algebra or concurrent enrollment in MTH 114 and EET 170 or equivalent knowledge. (1.2)
Course fee
ELT 151  PC Hardware Fundamentals  
(2-2)  3 Hours 
This course will cover the basic components of a PC, including motherboards, memory, disk drives, cases and power supplies. Computers will be disassembled, reassembled and configured to operate.  
Note: Recommended preparation CIT 120 and concurrent enrollment in EET 170 or equivalent knowledge. (1.2)  
Course fee

ELT 152  PC Peripherals and Troubleshooting  
(2-2)  3 Hours 
This course will cover the common peripheral components of a PC, including modems, Sound cards, network interface cards (NIC), and printers. Additionally, troubleshooting of hardware components will be presented, including diagnostic hardware and software. Preventative maintenance issues will be explored. (1.2)  
Prerequisite: ELT 151  
Course fee

ELT 172  Applied Communications Circuits  
(2-2)  3 Hours 
A survey of various communications systems. AM/FM radio systems as well as video communications systems will be included. The troubleshooting aspects of the various circuits will be emphasized.  
Note: Recommended preparation EET 170 and ELC 172 or equivalent knowledge. (1.2)  
Course fee

ELT 217  Microprocessors II  
(2-2)  3 Hours 
Second course in microprocessor electronics and follows EET 216 Microprocessors I. Intended to be part of the Associates in Applied Science degree in Electronics. 80xxx series of microprocessors are covered with introductions to assembly language and C. Concentration is on control applications.  
Note: Recommended preparation EET 216 or equivalent knowledge. (1.2)  
Course fee

EMERGENCY MEDICAL TECHNICIAN (EMT)  

BIOLOGICAL AND HEALTH SCIENCES DIVISION, ROOM B213, (847) 543-2042

EMT 111  Emergency Medical Technician-Basic  
(5-4)  7 Hours 
This course prepares students to take the licensing examination to become an EMT-B, including classroom instruction, practical demonstrations and testing, and clinical experience. The course is offered at associated hospitals and fire departments in Lake County. (1.2)  
Prerequisite: High school diploma or GED AND College Reading and Writing Readiness AND Basic Algebra Readiness.  
Other: 18 years of age or older (at the time of licensure testing)  
Course fee

EMT 114  Paramedic Clinical Practicum  
(0-16)  3 Hours 
This course consists of approximately 250 hours of supervised, in-hospital, clinical experience and is offered at associated hospitals in Lake County. (1.2)  
Corequisites: EMT 131 and EMT 115

EMT 115  Paramedic Field Experience Practicum  
(0-16)  3 Hours 
This course prepares students to take the licensing examination to become an EMT-Paramedic. The course consists of approximately 250 hours of supervised, ambulance, pre-hospital patient care experience which includes basic and advanced life support, observation and participation in patient assessment, management, immobilization, transport with ongoing assessment and treatment, and communication skills. Students are required to participate in a specific number of calls and/or hours on duty, depending on the agency, which may require more than the listed number of clinic hours. The course is offered at associated hospitals in Lake County. (1.2)  
Corequisites: EMT 131 and EMT 114

EMT 131  Introduction to Advanced Pre-hospital Care  
(3.5-1)  4 Hours 
This is the first of five courses in Advanced Pre-hospital Care which prepare students to take the licensure examination to become EMT-Paramedics. Each course consists of classroom instruction and practical skills demonstration and testing. This introductory course will address the fundamentals of paramedic practice, including pathophysiology, pharmacology, medication administration and advanced airway management. The course is offered at associated hospitals in Lake County. This course is an approved program by the IDPH under the guidelines of the U.S. Department of Transportation. (1.2)  
Prerequisite: BIO 111 OR BIO 124 OR BIO 244 and 245 (all C or better) and current Illinois licensure as an EMT-B or EMT-I  
Corequisite: EMT 114 and 115 & current CPR certification (Health Care Provider Level: American Heart Assc or American Red Cross)

EMT 132  Patient Assessment  
(1.5-1)  2 Hours 
This is the second of five courses in Advanced Pre-hospital Care which prepare students to take the licensure examination to become EMT-Paramedics. Each course consists of classroom instruction and practical skills demonstration and testing. This course builds on assessment skills of the basic EMT with special emphasis on advanced patient assessment at the scene. It includes classroom instruction and practical skills demonstration and testing. The course is offered at associated hospitals in Lake County. This course is an approved program by the IDPH under the guidelines of the U.S. Department of Transportation. (1.2)  
Corequisite: EMT 131

EMT 133  Medical Emergencies  
(4.5-1)  5 Hours 
This is the third of five courses in Advanced Pre-hospital Care which prepare students to take the licensure examination to become EMT-Paramedics. Each course consists of classroom instruction and practical skills demonstration and testing. This course will teach the student how to identify and treat many of the medical emergencies likely to be encountered in the pre-hospital setting, including topics in pulmonology, cardiology, infectious diseases, and behavioral disorders. It includes classroom instruction and practical skills demonstration and testing. The course is offered at associated hospitals in Lake County. This course is an approved program by the IDPH under the guidelines of the U.S. Department of Transportation. (1.2)  
Prerequisite: EMT 132 (C or better)
EMT 134 Trauma Emergencies (2.5-1) 3 Hours
This is the fourth of five courses in Advanced Pre-hospital Care which prepare students to take the licensure examination to become EMT-Paramedics. Each course consists of classroom instruction and practical skills demonstration and testing. This course details the anatomy, physiology, and pathophysiology of trauma. It incorporates advanced pre-hospital care from the mechanism of injury analysis to shock/truma resuscitation. The course is offered at associated hospitals in Lake County. This course is an approved program by the IDPH under the guidelines of the U.S. Department of Transportation. (1.1)
Corequisite: EMT 133

EMT 135 Special Considerations and Operations (5.5-1) 6 Hours
This is the fifth of five courses in Advanced Pre-hospital Care which prepare students to take the licensure examination to become EMT-Paramedics. Each course consists of classroom instruction and practical skills demonstration and testing. The course includes neonatal, pediatric, geriatric, home health care and specially challenged patients, and incident command, ambulance service, rescue, hazardous material, and crime scene operations. It includes classroom instruction and practical skills demonstration and testing. The course is offered at associated hospitals in Lake County. This course is an approved program by the IDPH under the guidelines of the U.S. Department of Transportation. (1.2)
Corequisite: EMT 134

ENGINEERING (EGR)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

EGR 121 Engineering Design Graphics (2-3) 3 Hours
This is an introductory course in the Engineering Transfer and Engineering Technology curriculum. The course emphasizes the use of graphical communication for engineers, designers and drafters to communicate technical ideas in the context of the engineering design process used in industry. Topics include technical sketching, multiview and pictorial drawings, section views, auxiliary views, dimensioning and tolerancing, detailed part drawings, assembly drawings, the design process, and 3D parametric solid modeling. A design project is incorporated, emphasizing functional analysis, with creation of functional prototypes is included.
Note: Previous experience in 3D solid modeling software is recommended, but not required for this course. (1.1)
Prerequisite: MTH 115 (C or better) or MTH 117 (C or better) or Geometry Proficiency or Consent of Instructor
Course fee
IAI: EGR 941

EGR 125 Engineering Statics (3-0) 3 Hours
This course covers analysis of static structures for engineering transfer students. Topics include particle statics, general principles and force vectors, rigid body equilibrium, moments of inertia, distributed forces and centroids, analysis of structures, virtual work, and friction. Theory is applied to analyze engineering structures such as trusses, frames, and machines. This course is designed for students interested in the Engineering Transfer curriculum.
Note: Students may not receive credit towards graduation for both EGR 125 and EGR 221. (1.1)
Prerequisite: MTH 145 (C or better)
Corequisite: PHY 123
IAI: EGR 945

EGR 140 How to Make Almost Anything (2-3) 3 Hours
This course provides an introduction to the digital manufacturing and prototyping technologies commonly used in engineering design today. It is based on the Massachusetts Institute of Technology (MIT) course by the same name that started the “fab lab” revolution. Technologies used include 3D printing, laser cutting, Computerized Numerical Control (CNC), print/cut graphics, microprocessors, sensors, instrumentation, and electronics. This course is based in CLC’s Baxter Innovation Lab and is heavily project based. This course is appropriate for any student seeking to develop or improve their ability to make prototypes of their designs. (1.1)
Prerequisite: Basic Algebra Readiness
Note: Students may not receive credit towards graduation for both EGR 215 and EGR 216. (1.2)
Prerequisite: EGR 115 (C or better)
Course fee
IAI: EGR 943

EGR 222 Engineering Mechanics of Materials (3-0) 3 Hours
This course is an engineering study of the elementary mechanics of deformable bodies/strength of materials. The course includes analysis of: the elastic and inelastic relationships between external forces acting on engineering structures and the stresses and deformations produced; tension and compression members; members subjected to torsion and to bending; buckling (columns) combined stresses; repeated loads (fatigue); energy loads and impact; and influences of the properties of materials. This course is designed for Engineering Transfer students. (1.1)
Prerequisite: EGR 125 or EGR 221 (both C or better)
IAI: EGR 945

EGR 225 Engineering Dynamics (3-0) 3 Hours
This course introduces students to particle kinematics (rectilinear and curvilinear); Newton’s laws; energy, work, and momentum methods; planar dynamics and rigid bodies; rigid body kinematics; impulse and momentum; and vibrations. Application to engineering structures and mechanical systems emphasized. This course is designed for students interested in the Engineering Transfer curriculum.
Note: Students may not receive credit towards graduation for both EGR 225 and EGR 221. (1.1)
Prerequisite: EGR 125 (C or better) and PHY 123 (C or better)
Corequisite: MTH 246
IAI: EGR 943
EGR 260 Introduction to Circuit Analysis (3-2) 4 Hours
This course will introduce circuit analysis at the engineering level. It will include the standard analysis tools such as nodal analysis, mesh analysis, Thévenin’s and Norton’s theorems and superposition. Impedances are defined and AC steady state analysis is carried out as well as analysis of transients in simple circuits. LaPlace transform analysis is introduced as are bode plots and transfer functions. The course will also cover three phase circuits and transformers. Operational amplifiers are also introduced.
Note: For Electrical/Computer Engineering majors interested in Digital Circuits, see EET 233 (Introduction to Digital Electronics). (1.1)
Prerequisite: MTH 146 (C or better)
Corequisite: PHY 124 and MTH 246 or MTH 227
IAI: EGR 931L

EGR 299 Special Topics in Engineering (Var.) 1-3 Hours
This course addresses the in-depth study of special topics in engineering that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may be drawn from any of the various engineering disciplines, including mechanical, electrical, civil, computer, biomedical, chemical, etc. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours toward AES degree completion. (1.2)
May be taken four times for credit toward degree

ENGLISH (ENG)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

ENG 100 English Composition Support (2-0) 2 Hours
This course is designed for students who have not met the language prerequisite, but whose academic proficiency test scores indicate that they are close to that achievement. Each section of ENG 100 is linked with a section of ENG 121 and the two courses are taught by the same instructor. In this class, students will work on developing, revising, and editing papers assigned in their ENG 121 class; on strategies for reading challenging course texts and on developing successful student skills. (1.4)
Prerequisite: CLC English Placement Test score between 480 and 504 or ENG 108 or ELI 108 (C or better) or ELI 103 and ELI 104 (B or better) or ELI 110 (C or better) or Language Proficiency

ENG 104 Individual Topics in Writing and Reading (1-0) 1 Hour
English 104 is a module designed to help students develop their competencies in writing and/or reading. The instruction is self-paced and self-scheduled. Each student, with an assigned tutor and under the supervision of the writing Center Coordinator, will design an individualized program of work, which will consist of three to five “target areas.” Working with a tutor, students will write three to five short papers and work through various specifically focused exercises and activities related to the target area that they have chosen. Students must attend at least 12 conferences with a tutor. For evaluation, students will submit a portfolio of their work, including a writing assignment reflecting upon their experiences and progress in the course. (1.4)

ENG 108 Strategic Reading and Writing I (6-0) 6 Hours
This developmental course is designed to provide time-intensive experience with critical reading, writing, and thinking skills to prepare for college-level coursework. (1.4)
Prerequisite: APT score of 80 or higher OR ELI 103 and ELI 104 (both C or better) OR ELI 110 OR College Reading and Writing Readiness

ENG 109 Strategic Reading and Writing II (3-0) 3 Hours
This developmental course is designed to provide experience with critical reading, writing, thinking, and research skills to prepare for college-level coursework. (1.4)
Prerequisite: APT score of 122 or higher OR ENG 108/ELI 108 (C or better) OR ELI 103 and ELI 104 (both B or better) OR ELI 110 (C or better) OR College Reading and Writing Readiness

ENG 113 Technical Communication Practicum (3-0) 3 Hours
Technical Communication Practicum provides work simulation experience in a variety of writing areas according to the student’s major occupational area. The purpose of the course is to allow development and evaluation of writing assignments taken from the student’s supervised experiences to on-the-job simulation with the responsibilities of the technical writer. (1.2)
Prerequisite: ENG 126

ENG 120 Technical Composition I (3-0) 3 Hours
A beginning college level writing course. Emphasis is on writing with conciseness, precision and objectivity. Specifically covered are business letters, memoranda, periodic reports, descriptions of mechanisms and processes, instructions and proposals. A variety of business and technical communication projects are completed, all based on practical situations in the students’ fields of study. Graphic elements/unit on publishing technology. (1.2)
Prerequisite: College Reading and Writing Readiness

ENG 121 English Composition I (3-0) 3 Hours
This course is designed to help students develop their competence in college-level writing and in the analysis of texts so they can enter the dialogue of the academic community. This course includes the analysis and practice of argument and the use of critical thinking to read, analyze, and produce college-level texts. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: C1 900

ENG 122 English Composition II (3-0) 3 Hours
This course further the work done in English Composition I by providing students more experience as academic writers, readers, researchers and critical thinkers. To help students construct their own meaning while engaging with the texts of others, they will develop the ability to collect, evaluate, and incorporate varied sources in thoughtfully-written analyses and arguments. Students’ work should demonstrate the ability to position themselves within the context of academic and societal conversations using a variety of texts, which may include literature, arguments on various issues, news articles, films, advertisements, and websites. (1.1)
Prerequisite: ENG 121 (C or better)
IAI: C1 901R
ENG 123  Mass Communications  
(3-0)  3 Hours  
Mass Communications is designed to provide an overview of the history, nature, functions and responsibilities of the mass communications media from a global perspective with an emphasis on their continuous and evolving role in American society. The course introduces students to the different but converging media, the information they transmit, the entertainment they provide, the markets they seek and the audiences they serve. Students will explore the ethical, legal and business considerations that journalists, artists, management and ownership face in American society. (1.1)  
Prerequisite: College Reading and Writing Readiness  
IAI: MC 911

ENG 124  Newswriting I  
(3-0)  3 Hours  
This course is designed to introduce students to the fundamentals of gathering, analyzing, organizing, writing, and editing news for a mass audience reached by different but converging media. Students will be introduced to the techniques of reporting, including direct observation and interviewing as well as the use of online and hard-copy documents. Students also will develop journalistic reporting and writing skills transferable to a variety of platforms, with an emphasis on verifying information as well as writing to meet professional deadlines. (1.1)  
Prerequisite: College Reading and Writing Readiness  
IAI: MC 919

ENG 126  Advanced Composition: Scientific and Technical Communications  
(3-0)  3 Hours  
This course is a transferable advanced composition course stressing the writing process for students in scientific and technical majors. It covers writing concisely, precisely, and clearly for a variety of purposes and audiences. It includes a multi-source research paper, writing scientific and technical reports, writing abstracts and summaries of magazine articles, writing letters, proposals, resumes, instructions, and descriptions. Students will read, write, and think critically about a variety of issues in the scientific and technical discourse communities including the environment and the ethics of new technology. (1.1)  
Prerequisite: ENG 120 or ENG 121(either C or better)  
IAI: C1 901R

ENG 127  Introduction to General Linguistics  
(3-0)  3 Hours  
This introductory course will explore the origins of language, its internal structure and its function. This course will analyze language in terms of its phonology, morphology, grammar, syntax, semantics and pragmatics. In addition, the course will examine the application of linguistic theory to second language learning and teaching. (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 128  Linguistics and Society  
(3-0)  3 Hours  
This course will introduce students to some of the important principles of linguistics, as well as to the complex nature of language acquisition and use within any given society. The course will discuss some of the unique characteristics of human languages, the various theories of first and second language acquisition, the interrelation between language and gender and language and ethnicity and the social and political ramifications of different language attitudes; in addition, the course will examine the communicative and social significance of different Speech Acts. (1.1)  
Corequisite: EL 110 or College Reading and Writing Readiness

ENG 129  Women in Literature  
(3-0)  3 Hours  
This course introduces students to the wealth of literature by and/or about women. Discussion of readings, films and other media enables students to analyze the portrayal of women in literature and to trace the historical development of writing by women. It will explore the significant historical conditions and contributions of this underrepresented group within the Western World. (1.1)  
Prerequisite: ENG 120 or ENG 121(C or better)  
Fulfills the CLC I/M Education Requirement.  
IAI: H3 911D

ENG 137  Document Design in Technical Writing  
(3-0)  3 Hours  
This course will introduce the student to the elementary principles of document design in technical writing. In addition to reading about these principles, they will have the opportunity to read articles written by experts in the field that will apply to these principles. By the end of the course, the student will be able to design and write an instructional document for a general audience and justify the design they chose. (1.2)  
Prerequisite: College Reading and Writing Readiness

ENG 220  Introduction to Scripts for Screen  
(3-0)  3 Hours  
This course will introduce students to the concepts, structure and format needed to develop reading scripts for TV and film. Students will complete several invention and writing exercises in this screenwriting genre. They will analyze professional and student scripts. The course emphasizes creative expression and in-class workshop methodology. (1.1)  
Prerequisite: ENG 121 (C or better)

ENG 222  Creative Writing  
(3-0)  3 Hours  
This course is designed to introduce students to a variety of approaches, writing techniques and stages of the craft of writing in the genres of prose fiction, creative nonfiction and poetry. Students will complete writing exercises in these genres. They will analyze professional prose and poetry. The course emphasizes creative expression and critique of student writing. (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 223  Early American Literature  
(3-0)  3 Hours  
In this course, students will read and study selected writings of a number of major American writers from the colonial period up to 1900. Students will explore this literature in light of its social, historical, philosophical, aesthetic, and critical contexts. They also will examine the role of this literature in the shaping American culture and defining the national identity. (1.1)  
Prerequisite: ENG 120 or ENG 121(either C or better)  
IAI: H3 914

ENG 224  Creative Writing II  
(3-0)  3 Hours  
This course is designed to focus on the creative process in one of three specific genres—prose fiction, prose creative nonfiction or poetry. The course will emphasize the creative process and the ability to critique and analyze texts in the topic genre in a workshop format. Class sessions will use the discussion of student and professional writing as the point of departure for an in-depth study of the topic genre. Individual conferences will supplement lectures and workshops to afford students a detailed response to their writing. (1.1)  
Prerequisite: ENG 121 (C or better)
COURSE DESCRIPTIONS

ENG 225 Survey of British Literature I
(3-0) 3 Hours
This course introduces students to the authors and texts that have greatly influenced the literature of English speakers. From the first English epic to the poems, prose, and drama of the Eighteenth Century, the works covered reflect the major artistic developments of Pre-Romantic British literature and provide a background to modern writing in the English language. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) IAI: H3 912

ENG 226 Survey of British Literature II
(3-0) 3 Hours
This course introduces students to British and Anglophone literatures from the Romantic, Victorian, Modern, and Postmodern periods. Students will explore the philosophical, social, aesthetic, and critical contexts of selected literature from the nineteenth, twentieth, and twenty-first centuries. Note: ENG 225 and 226 are independent courses. ENG 225 is not a prerequisite for ENG 226. (1.1) Prerequisite: ENG 225 or ENG 121 (C or better) IAI: H3 913

ENG 227 Introduction to Shakespeare
(3-0) 3 Hours
Introduction to Shakespeare offers an examination of the writer’s works and their historical and literary background through readings and discussions of selected comedies, histories and tragedies. Videotapes of performances will be shown in class. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) IAI: H3 905

ENG 228 World Literature
(3-0) 3 Hours
This course examines representative writers of European, Asian, African, Middle Eastern, and Latin American literature. It surveys the classics and the influential works from societies around the world, their periods and movements from ancient times to the present. It will introduce the study of the significant conditions and contributions of these underrepresented groups. Omitted or represented sparingly are British and North American writers, since other courses focus on these authors. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) Fulfills the CLC I/M Education Requirement. IAI: H3 906

ENG 229 American Literature: 20th Century to Present
(3-0) 3 Hours
This course introduces students to American literature in the 20th and 21st centuries and is designed to acquaint them with selected major writers of prose fiction, nonfiction, poetry, and drama. Students will explore this literature in light of its social, historical, philosophical, aesthetic, and critical contexts. They also will examine the role of this literature in shaping American culture and defining the national identity. (1.1) Prerequisite: ENG 120 or ENG 121 (either C or better) IAI: H3 915

ENG 240 Introduction to Poetry
(3-0) 3 Hours
The course is designed to introduce students to the world of English and American poetry, both traditional and modern. Emphasis will be on the relationship between meaning and form in individual poems, and class discussion will allow for student analysis, interpretation and critical evaluation. (1.1) Prerequisite: ENG 120 or ENG 121 (either C or better) IAI: H3 903

ENG 243 Introduction to Fiction
(3-0) 3 Hours
The course is designed to introduce students to a wide variety of English, American, and Continental short stories, both traditional and modern. At least two longer short stories will be read, and at least one novel will be selected later in the course. Emphasis will be on the relationship between meaning and form in individual stories and the novel, and class discussion will allow for student analysis, interpretation and critical evaluation. (1.1) Prerequisite: ENG 120 or ENG 121 (either C or better) IAI: H3 901

ENG 244 Mythology and Fairy Tales
(3-0) 3 Hours
This course introduces students to the study of myths, legends, and fairy tales from various cultures. Students will consider Greek, Norse, and Hindu mythology as well as Grimm’s fairy tales. The lasting power and influence of mythological themes and archetypal symbolism will be explored. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) Fulfills the CLC I/M Education Requirement. IAI: H9 901

ENG 246 Latin American Writers
(3-0) 3 Hours
This course introduces students to significant Latin American writers. Drawing upon poetry, short fiction, novels and memoirs in English, the course will present and discuss the significant conditions and contributions of people of this underrepresented culture. The assigned readings will be in English and will exemplify trends in Latin American literature. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) Fulfills the CLC I/M Education Requirement. IAI: H3 908N

ENG 247 International Women Writers
(3-0) 3 Hours
This course introduces students to the literary contributions of women writers outside of the United States, Britain, and Europe. Modern novels and stories, ancient to modern poems, and other media will give students windows to view the concerns, triumphs, dreams, politics, and family lives of women in international cultures. This course will introduce the study of the significant conditions and contributions of this underrepresented group. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) Fulfills the CLC I/M Education Requirement. IAI: H3 911D

ENG 249 Children’s Literature
(3-0) 3 Hours
This course introduces students to significant works, authors and trends in literature written for children and young adults. Emphasis will be placed on identifying various literary genres, developing criteria for evaluation of texts as well as exploring multicultural works. (1.1) Prerequisite: ENG 120 or ENG 121 (C or better) IAI: H3 918

ENG 260 Introduction to Writing Center Theory and Practice
(3-0) 3 Hours
This course is designed to introduce student tutors to the fundamental issues of theory and practice underlying writing center work. Topics will include practical strategies and techniques for effective tutoring in a variety of situations and with a diversity of writers as well as theoretical issues involving language, literacy, and difference. (1.1) Prerequisite: ENG 121
ENG 261 Methods of Teaching English Language Learners (ELLs)  
(3-0) 3 Hours  
This course will discuss approaches to teaching English Language Learners (ELLs). Techniques for needs assessment, syllabus design, selection of course materials and assessment will be introduced. Current methods of teaching academic content in English to ELLs will also be presented. (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 262 Theories of Teaching ELLs and Bilingual Education  
(3-0) 3 Hours  
This course will introduce the prominent theories of second language acquisition and teaching with a special emphasis on the instructional models for teaching of English Language Learners (ELLs). In addition, the course will discuss the relationship between theory and practice and the relevance of theory to the language classroom. (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 263 Early American Minority Writers  
(3-0) 3 Hours  
This course introduces students to the wealth of literature contributed by minority writers before 1920. For this course minority will be defined as groups who have not traditionally been represented in the American Literary Canon. Such groups include, but shall not be limited to, African Americans, American Indians, Asian Americans, Hispanic/Latino Americans, working class Americans, and gay/lesbian Americans. This course will explore the significant historical conditions and contributions of these underrepresented groups within the United States. All forms of literature will be covered--folktales, poetry, short stories, novellas, plays, autobiographies, memoirs, and oral forms. (1.1)  
Prerequisite: ENG120 or ENG 121 (C or better)  
Fulfills the CLC I/M Education Requirement

ENG 265 Teaching Grammar to ELLs  
(3-0) 3 Hours  
This course will begin with a brief historical perspective of transformational, structural and traditional methodologies used in teaching English Language Learners (ELLs). In addition, the course will focus on a descriptive analysis of English and some of the nuances of English grammar. Finally, the course will consider the role of grammar instruction in the English language classroom. (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 266 Professional Communication  
(3-0) 3 Hours  
Professional Communication is a sophomore-level course designed for students who have completed their composition requirements and are interested in furthering their writing skills for a variety of purposes. Students will learn about technical writing, writing for publication, writing magazine articles, writing company newsletters, doing research in the sciences and social sciences, writing in the professions, writing reports for industry, the impact of technology on writing and publishing, document design, writing computer manuals and online documentation. (1.2)  
Prerequisite: ENG 121 or ENG 126

ENG 267 Teaching Pronunciation to ELLs  
(3-0) 3 Hours  
This course will introduce students to the basic concepts in articulatory phonetics, including the physiology of articulation, phonetic characterization of individual speech sounds, stress at the word and sentence level, intonation patterns, rhythm and blending. Students will apply this knowledge in examining and developing methods and techniques used to teach pronunciation to English language learners (ELLs). (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 268 Assessment of ELLs  
(3-0) 3 Hours  
This course will provide participants with a basic understanding of assessment concepts and terminology. Current assessment tools used with English Language Learners (ELLs) will be introduced. The course will also examine alternative assessments and techniques for evaluating and designing effective assessments for ELLs. (1.1)  
Prerequisite: College Reading and Writing Readiness

ENG 271 Teaching English to Speakers of Other Languages Practicum  
(1-12) 3 Hours  
This course will include observation of experienced ESL teachers, as well as supervised teaching in an ESL setting. It will include evaluating course materials and planning and implementing of lesson plans that apply TESOL theory and methodology in the language classroom. (1.1)  
Prerequisite: ENG 127, ENG 128, ENG 261, ENG 262, ENG 265, ENG 267, ENG 268 and CMM 127 (all C or better) and consent of instructor
ENG 274  Teaching English as a Foreign Language Pedagogy  
(3-0)  3 Hours  
This course will discuss approaches to teaching English in a non-English speaking context, referred to as Teaching English as a Foreign Language (TEFL). There will be a brief overview of the methodological history of foreign language teaching. Strategies, approaches and techniques to develop learners’ receptive (listening and reading) and productive skills (writing and speaking) will be presented. In addition, the course will present ways to integrate language and content instruction. Please Note: This course does not satisfy the requirements of the ISBE ESL endorsement. (1.2)  
Prerequisite: College Reading and Writing Readiness  

ENG 275  Language Teaching Fieldwork  
(3-0)  3 Hours  
This practicum program allows students a chance to gain hands-on experience in a real classroom environment while using the skills and methods addressed in the TEFL courses. The practicum also gives students a chance to experiment with new classroom situations and program ideas in an environment where they can consult with others. Please Note: This course does not satisfy the requirements of the ISBE ESL endorsement. (1.2)  
Prerequisite: ENG 272 and ENG 273  
Corequisite: ENG 274  

ENGLISH LANGUAGE INSTRUCTION (ELI)  

ELI 101  Academic English-Beginning  
(6-0)  6 Hours  
This course offers intensive academic language instruction at the beginning level to English language learners who want to pursue academic studies in American colleges and universities or who want to practice their careers in the United States. The course is divided into two sections: one focuses on Reading and Oral Skills and the other focuses on Writing and Grammar. However, both sections provide integrated practice and reinforcement for students in all skills—reading, writing, listening, speaking, grammar and vocabulary—as well as American culture and study skills. (1.4)  
Prerequisite: ELI Accuplacer score of 120 or higher; OR College Reading and Writing Readiness  

ELI 102  Academic English-Intermediate  
(6-0)  6 Hours  
This course offers intensive academic language instruction at the intermediate level to English language learners who want to pursue academic studies in American colleges and universities or who want to practice their careers in the United States. The course is divided into two sections: one focuses on Reading and Oral Skills and the other focuses on Writing and Grammar. However, both sections provide integrated practice and reinforcement for students in all skills—reading, writing, listening, speaking, grammar and vocabulary—as well as American culture and study skills. (1.4)  
Prerequisite: Both sections (12 hours) of ELI 101 (C or better); OR ELI Accuplacer score of 171 or higher; OR College Reading and Writing Readiness  

ELI 103  Academic English - Advanced I  
(6-0)  6 Hours  
This course offers intensive academic language instruction at the advanced level to English language learners who want to pursue academic studies in American colleges and universities or who want to practice their careers in the United States. The course focuses on Writing and Grammar. However, it provides integrated practice and reinforcement for students in all skills—reading, writing, listening, speaking, grammar and vocabulary—as well as American culture and study skills. (1.4)  
Prerequisite: ELI Accuplacer score of 199 or higher OR College Reading and Writing Readiness  

ELI 104  Academic English - Advanced II  
(6-0)  6 Hours  
This course offers intensive academic language instruction at the advanced level to English language learners who want to pursue academic studies in American colleges and universities or who want to practice their careers in the United States. The course focuses on Reading and Oral Skills. However, it provides integrated practice and reinforcement for students in all skills—reading, writing, listening, speaking, grammar and vocabulary—as well as American culture and study skills.  
Note: ELI 103 and ELI 104 are independent courses. ELI 103 is NOT a prerequisite for ELI 104. (1.4)  
Prerequisite: 12 credit hours in ELI 102 with a grade of C or better; OR ELI Accuplacer score of 221 or higher; OR College Reading and Writing Readiness  

ELI 108  Academic Reading and Writing for English Language Learners  
(6-0)  6 Hours  
This course is designed for English language learners who have been educated in the US or who have lived for many years in the US but who still need to develop advanced academic reading and writing skills necessary to succeed in courses in American colleges and universities. This course will focus on necessary academic reading and writing skills as well as vocabulary enrichment and grammar practice that English language learners need to continue progress in the written forms of their second language. (1.4)  
Prerequisite: ELI Accuplacer score of 235 or higher OR APT score of 80 or higher OR ELI 103 (C or better) OR ELI 104 (C or better) OR ELI 110 OR College Reading and Writing Readiness  

ELI 109  Academic Reading and Writing for English Language Learners II  
(3-0)  3 Hours  
This course is designed for English language learners who have been educated in the US or who have lived for many years in the US but who still need to further enhance their academic reading and writing skills in order to succeed in courses in American colleges and universities. This course is also designed for advanced English Language Learners who have completed other ELI courses but still need additional ELI support in order to gain confidence in their reading and writing abilities. This course will focus on necessary academic reading and writing skills as well as vocabulary.
enrichment and grammar practice that English language learners need to continue progress in the written forms of their second language. Important study skills will also be practiced. There will be pronunciation practice of key vocabulary and group discussion on a regular basis. (1.4)

Prerequisite: ELI Accuplacer score of 285 or higher, OR APT - 122 or higher; OR ELI 103 and ELI 104 (both B or better); OR ELI 108, ELI 110, OR ENG 108 (all C or better); OR College Reading and Writing Readiness

**ELI 110 Academic English for English Learners - Transitional**

(9-0)  
9 Hours

This course is the fourth and highest level of intensive English language instruction. All English language skills are integratively taught and practiced: reading, writing, grammar, vocabulary, speaking and listening. The focus is on formal language, study skills and critical thinking skills that will help English learners successfully reach their future academic, professional or personal goals. This course meets the needs of English learners who want to continue their college studies at the College of Lake County, transfer to another college or university, practice their profession in the US or obtain language proficiency for personal reasons. (Please Note: Credit hours earned for ELI 110 may not be applied towards a degree and are not transferable to another institution.) (1.4)

Prerequisite: ELI 103 AND ELI 104 (both C or better) or ELI 108 (C or better) or ELI Accuplacer score of 250 or above or College Reading and Writing Readiness

**ENGLISH AS A SECOND LANGUAGE (ESL)**

**ESL 26 ESL: Academic Purposes: Level II: Speaking and Listening**

(3-0)  
3 Hours

Students learning English at level 2 of English language proficiency will practice speaking and listening in English to prepare them for later academic oral work. Course content will help students to sharpen appropriate speaking and listening skills such as: clarification and repetition requests, following oral instructions, responding correctly to dictated materials and giving oral presentations. (1.9)

Prerequisite: Appropriate score on the state mandated ESL test and/or instructor recommendation. (1.9)

**ESL 28 ESL: Academic Purposes: Level II: Reading**

(3-0)  
3 Hours

Students learning English at level 2 of English language proficiency will read in English to prepare for later academic reading assignments. Students will read short narrative, descriptive and explanatory passages. They will develop multiple comprehension strategies, such as finding the main idea, noticing chronological order and using picture dictionaries to clarify meaning of unfamiliar words. (1.9)

**ESL 29 ESL: Academic Purposes: Level II: Writing and Computer Skills**

(3-0)  
3 Hours

Students learning English at level 2 of English language proficiency will write in English to prepare them for later academic written assignments. Students will practice writing a description and writing a personal topic. They will strengthen their writing by adding specific details, revisiting and composing multiple drafts. This course includes basic word processing skills for writing future college papers and using the Internet as a resource for language learning. (1.9)

**ESL 30 Beginning Literacy Level 1.1**

(Var.)  
0.5-6 Hours

This course is for English Language Learners (ELL) who have a fundamental knowledge of English. This course continues to focus on reading, writing, listening and speaking in everyday situations, and looks to reinforce and strengthen students’ skills while addressing civics and community resources, workplace skills and employment, basic banking needs and some American culture.  

Prerequisite: Appropriate score on the state mandated ESL test and/or instructor recommendation. (1.9)

**ESL 31 Beginning ESL Literacy Level 1.2**

(Var.)  
0.5-6 Hours

This course is a continuation of English as a Second Language Beginning Literacy Level 1.1. It is for students who have a fundamental knowledge of English. This course continues to focus on reading, writing, listening and speaking in everyday situations, and looks to reinforce and strengthen students’ skills while addressing civics and community resources, workplace skills and employment, basic
banking needs and some American culture. Recommended: Students should be placed using the scores on the state mandated placement test for ESL Literacy level or by teacher recommendation. (1.9) Course fee May be taken four times for credit

ESL 36 Low Intermediate Listening and Speaking for College and Career Preparation (Var.) 0.5-6 Hours This course supports development of listening and speaking skills at the low intermediate level for English language learners in order to prepare them for the workforce and/or transition into a variety of college programs and certificates. Skills practiced in this class include asking for and giving clarification, pronunciation, preparing for and practicing a job interview, preparing and giving a class presentation. (1.9) Course fee May be taken four times for credit

ESL 37 Low Intermediate Grammar for College and Career Preparation (Var.) 0.5-6 Hours This course offers instruction of low intermediate level English grammar and structures to English language learners to strengthen their speaking and writing skills in preparation for workforce, life skills and transition into a variety of college programs. Structures covered in class include past and future verb tenses, forming questions, comparatives and superlatives and modal forms. (1.9) Course fee May be taken four times for credit

ESL 38 ESL: Academic Purposes: Level III: Reading (3-0) 3 Hours Students learning English at level 3 of English language proficiency will read in English to prepare for later academic written assignments. Students will practice writing about a process, narrating a past experiences and describing future goals. They will strengthen their writing by adding specific details, using paragraphs appropriately, revising and composing multiple drafts. This course includes basic word processing skills for writing future college papers and using the Internet as a resource for information and for language learning. (1.9) Course fee May be taken four times for credit

ESL 39 ESL: Academic Purposes: Level III: Writing and Computer Skills (3-0) 3 Hours Students learning English at level 3 of English language proficiency will write in English to prepare them for later academic written assignments. Students will practice writing about a process, narrating a past experiences and describing future goals. They will strengthen their writing by adding specific details, using paragraphs appropriately, revising and composing multiple drafts. This course includes basic word processing skills for writing future college papers and using the Internet as a resource for information and for language learning. (1.9) Course fee May be taken four times for credit

ESL 40 Beginning ESL Level 2.1 (Var.) 0.5-6 Hours This course is intended for English Language Learners who are beginning to communicate in English independently. This student may be able to participate in conversations in limited social settings. The focus of the course is to improve and extend learners speaking, reading and writing levels for life skills and workplace functions. Prerequisite: Appropriate score on the state mandated ESL test and/or instructor recommendation. (1.9) Course fee May be taken four times for credit

ESL 41 Beginning ESL Level 2.2 (Var.) 0.5-6 Hours This course is a continuation of Beginning Level 2.1. This course is intended for English as a Second Language learners who are just starting to communicate in English. The focus of this course is to improve and extend the student’s overall skills in reading, writing, listening and speaking by working on basic grammatical structures, and extending the student’s general knowledge of survival skills through reading and writing. Prerequisite: Student should have the appropriate score on the state mandated ESL exam and/or teacher recommendation. (1.9) Course fee May be taken four times for credit

ESL 42 High Beginning Level ESL 3.1 (Var.) 0.5-6 Hours This course is for English Language Learners who are still beginners in language learning but have some basic knowledge of and can use basic English structures to communicate. Learners entering this course should be able to ask and answer simple questions related to survival needs and basic social situations. Students should have some control of very basic grammar structures, intonation and use a speaking pace and rhythm that is slow and intelligible. Learners should also be able to use basic reading strategies to read adapted reading materials as well as copy simple notes, messages and short paragraphs with correct punctuation. Students are expected to be able to interpret simple directions, schedules, signs and maps and fill out simple forms with teacher assistance. Learners at this level should also be able to follow basic workplace directions accompanied by a demonstration. Prerequisite: Appropriate score on the state mandated ESL test and/or instructor recommendation. (1.9) Course fee May be taken four times for credit

ESL 43 High Beginning Level ESL 3.2 (Var.) 0.5-6 Hours This course is a continuation of High Beginning Level 3.1. This course is for students who are able to ask and answer simple questions related to survival needs and basic social situations. They should have some control of very basic grammar structures, intonation and speaking pace and rhythm; and also be able to use basic reading strategies to read adapted reading materials as well as write simple notes, messages and short paragraphs using present tense and past tense with correct punctuation. Prerequisite: Student should have the appropriate score on the state mandated ESL exam and/or teacher recommendation. (1.9) Course fee May be taken four times for credit

ESL 44 English as a Second Language - Writing Improvement I (Var.) 1.5-3 Hours This course is for English-as-a-Second Language students from the upper beginning to the advanced level who want to write better in English. Students will learn spelling rules and work on improving their vocabulary, sentence structure and paragraph organization. (1.9) Course fee May be taken four times for credit
Course fee related to texts and new vocabulary. (1.9)
Practice includes both oral and written work clues to find meanings of new vocabulary.
skim texts for information, and use contextual learn to use a monolingual dictionary, scan and
stories and essays and adapted non-fiction assignments. They will practice narrative and expository forms through written exercises, journals, personal essays, and summaries. This course includes basic word processing and skills for writing college papers. (1.9)
Course fee
May be taken four times for credit
ESL 46 High Intermediate Listening and Speaking for College and Career Preparation
(Var.) 0.5-6 Hours
This course supports development of speaking and listening skills at the high intermediate level for English language learners in order to prepare them for the workforce and/or transition into a variety of college programs and certificates. (1.9)
Course fee
May be taken four times for credit
ESL 47 High Intermediate Grammar for College and Career Preparation
(Var.) 0.5-6 Hours
This course offers instruction of high intermediate level English grammar and structures to English language learners to strengthen their speaking and writing skills in preparation for workforce, life skills and transition into a variety of college programs. Structures covered in class include pronoun forms, irregular past forms, modals, questions, progressive forms, future, and participial adjectives. Practice includes both oral and written activities. (1.9)
Course fee
May be taken four times for credit
ESL 49 ESL: Academic Purposes Level IV Writing
(3-0) 3 Hours
Students learning English at level 4 of English language proficiency will write in English to prepare them for later academic writing assignments. They will practice narrative and expository forms through written exercises, journals, personal essays, and summaries. This course includes basic word processing and skills for writing college papers. (1.9)
Course fee
May be taken four times for credit
ESL 50 Intermediate ESL Level 4.1
(Var.) 0.5-6 Hours
This course is for English Language Learners who can read, speak and write in English using everyday vocabulary within simple sentence structures and phrases. This student can participate in simple conversations and express basic survival needs in face-to-face scenarios. Learners can also generate simple notes and messages on their own; read and interpret simple workplace documents; and use some basic math skills after reading a simple word problem in English.
Prerequisite: Appropriate score on the state mandated ESL test and/or instructor recommendation. (1.9)
Course fee
May be taken four times for credit
ESL 51 Intermediate ESL Level 4.2
(Var.) 0.5-6 Hours
This course is a continuation of Intermediate Level 4.1. It is for students who can express basic needs and can engage in basic social conversations. Students are also able to monitor spoken comprehension using listening strategies and can decipher new words in context. Students can use reading strategies and context clues to interpret and hold a basic discussion about familiar topics and combine new and prior knowledge in a variety of text. This course extends the students’ basic knowledge of speaking, listening, reading, and writing through a variety of life skill and workplace topics.
Prerequisite: Appropriate score on the state mandated ESL test and/or teacher recommendation. (1.9)
Course fee
May be taken four times for credit
ESL 52 High Intermediate ESL Level 5.1
(Var.) 0.5-6 Hours
This course is for students who have a basic command of spoken English and who should be able to comprehend basic reading materials such as forms for everyday life and in the workplace. In this class, the student will fill out and complete simple job applications and give and receive basic oral instructions. This learner will also write basic paragraphs about daily life and personal scenarios with minimal assistance. The student will also become familiar with basic civil activities like going to court, being on jury duty, paying tickets and fines, and voting in an election.
Prerequisite: Appropriate score on the state mandated ESL test and/or instructor recommendation. (1.9)
Course fee
May be taken four times for credit
ESL 53 High Intermediate ESL Level 5.2
(Var.) 0.5-6 Hours
This course is a continuation of High Intermediate Level 5.1. It is for students who have a basic command of spoken English. The student should be able to comprehend basic medical terms and forms, complete simple job applications and follow basic oral instructions. The student should also be able to write basic instructions and simple paragraphs about daily activities and personal issues and should be capable of working with basic computer software and following basic technology instructions. This course will extend students speaking, listening, reading and writing skills based on a variety of life skill topics. 
Prerequisite: Appropriate score on the state mandated ESL test and/or teacher recommendation. (1.9)
Course fee
May be taken four times for credit
ESL 54 English as a Second Language - Writing Improvement II
(Var.) 1.5-3 Hours
This course is for English-as-a-Second Language students from the mid-intermediate to the advanced level who want to write better in English. Students will learn to write more complex sentences, to use more appropriate vocabulary for particular writing tasks and to compose well-developed paragraphs and longer compositions. (1.9)
Course fee
May be taken four times for credit
ESL 55  English as a Second Language - Conversation II  
(Var.)  1.5-3 Hours  
This course is for English-as-a-Second Language students at the upper intermediate and advanced level who are already familiar with English grammar and vocabulary items but wish to improve their ability to speak and understand English in various social and business situations. American slang and usage will be taught.  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 56  Low Advanced Listening and Speaking for College and Career Preparation  
(Var.)  0.5-6 Hours  
This course supports development of speaking and listening skills at the low advanced level for English language learners in order to prepare them for the workforce and/or transition into a variety of college programs and certificates.  
Prerequisite: Appropriate score on ESL Placement test or Department Consent  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 57  Low Advanced Grammar for College and Career Preparation  
(Var.)  0.5-6 Hours  
This course offers instruction of low advanced English grammar and structures to English language learners to strengthen their speaking and writing skills in preparation for workforce, life skills and transition into a variety of college programs. Structures covered in class include introductions to past participle forms, present perfect aspect, gerunds and infinitives, and pronoun reference in direct and indirect speech. Practice includes both oral and written activities.  
Prerequisite: Appropriate score on the ESL placement test or Department Consent  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 58  Low Advanced Reading for College and Career Preparation  
(Var.)  0.5-6 Hours  
This course will develop reading skills for students at the low advanced level of English language proficiency to prepare them for workforce, life skills and transition into a variety of college programs. They will read authentic short stories and adapted and non-adapted short nonfiction articles, and will interpret charts, tables, and non-prose information. Practice includes activities for vocabulary improvement and dictionary skills.  
Prerequisite: Appropriate score on the ESL placement test or Department Consent  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 59  Low Advanced Writing for College and Career Preparation  
(Var.)  0.5-6 Hours  
This course will develop writing skills for students at the low advanced level of English language proficiency to prepare them for various types of written assignments found in workplace and college preparatory settings.  
Prerequisite: Appropriate score on the ESL placement test or Department Consent  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 60  Low Advanced ESL 6.1  
(Var.)  0.5-6 Hours  
ESL 60 is for students who have acquired high level of English Language skills. In this course, students will practice following multi-step instructions, be introduced to high frequency idioms, participate in collaborative learning activities, and present short speeches or oral reports on familiar and unfamiliar topics. Students will be applying their language skills using such topics as Self Management and Improvement, Personal Finance, Health and Consumer issues, and Civic Responsibilities.  
Prerequisite: Appropriate score on the state mandated ESL exam and/or instructor recommendation.  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 61  Low Advanced ESL 6.2  
(Var.)  0.5-6 Hours  
This is a continuation of Advanced Level 6.1. This course is for students who can hold a conversation in English on everyday subjects and on new subjects with new vocabulary; they can clarify general meaning by rewording and summarizing content. They also have a good grasp of English grammar and grammar rules. In this course, students will practice reading, writing, speaking and listening in English from a variety of text, adapted and authentic.  
Prerequisite: Student should have the appropriate score on the state mandated ESL exam and/or teacher recommendation.  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 62  Advanced ESL 7.1  
(Var.)  0.5-6 Hours  
This course is for English Language Learners who are able to use advanced reading, writing and good communication skills in the workplace and a variety of other social settings. In this course students will improve their reading, writing, and speaking skills, and practice these skills using various everyday, academic and workplace topics that they may encounter on a day to day basis.  
Prerequisite: Appropriate score on the state mandated ESL exam and/or instructor recommendation.  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 70  English as a Second Language - Study Skills I  
(Var.)  1-3 Hours  
This class is for students who have achieved communicative competence but wish to refine listening, speaking, reading and writing skills. They will learn content in advanced areas relating to the writing skills GED test.  
(1.9)  
Course fee  
May be taken four times for credit  

ESL 71  English as a Second Language - Study Skills II  
(Var.)  1-3 Hours  
This class is for students who have achieved communicative competence but wish to refine listening, speaking, reading, and writing skills. They will learn content in advanced areas relating to the GED reading test.  
(1.9)  
Course fee
ESL 72  English as a Second Language Reading And Writing Skills  
(3-0)  3 Hours  
This class is for students who are already able to communicate in English but wish to upgrade their reading and writing skills for educational, business or personal reasons. Students will improve their reading comprehension, expand their vocabulary, learn to make inferences and scan for information and learn to write more correct and complex sentences, paragraphs and longer compositions. (1.9)  
Course fee  

ESL 73  English as a Second Language Speaking and Listening Skills  
(3-0)  3 Hours  
This course is for students who are already able to communicate in English but wish to improve their listening and speaking skills for business, educational or personal reasons. Students will learn to listen carefully, take notes and outline oral presentations, increase their speaking vocabulary and practice speaking in both informal discussions and more structured situations. (1.9)  
Course fee  

ESL 80  English as a Second Language Academic Purposes Intermediate I  
(3-0)  3 Hours  
This is the first portion of a course in intermediate English as a Second Language for students wishing to pursue academic studies in American colleges and universities. Students will improve their reading, writing, speaking and listening while focusing on a chosen content area. Emphasis will be on directions and sequencing in academic contexts. (1.9)  
Course fee  

ESL 81  English as a Second Language Academic Purposes Intermediate II  
(3-0)  3 Hours  
The second portion of a course in intermediate English as a Second Language is for students wishing to pursue academic studies in American colleges and universities. Students will improve their reading, writing, speaking and listening while focusing on a chosen content area introduced in English as a Second Language for Academic Purposes - Intermediate I. Emphasis will focus on series of directions and sequencing in academic contexts. (1.9)  
Course fee  

ESL 82  English as a Second Language Academic Purposes Intermediate III  
(3-0)  3 Hours  
The third portion of a course in intermediate English as a Second Language is for students wishing to pursue academic studies in American colleges and universities. Students will improve their reading, writing, speaking and listening while focusing on a chosen content area. Emphasis will be on American life and college academic culture. (1.9)  
Course fee  

ESL 83  English as a Second Language Academic Purposes Intermediate IV  
(3-0)  3 Hours  
This fourth portion of a course in intermediate English as a Second Language is for students wishing to pursue academic studies in American colleges and universities. Students will improve their reading, writing, speaking and listening while focusing on a chosen content area chosen in English as a Second Language for Academic Purposes-Intermediate III. Emphasis will focus on expressing comparisons. (1.9)  
Course fee  

ESL 95  Citizenship I  
(Var.)  3-4 Hours  
This course is designed to prepare people for the US Citizenship Immigration Services Naturalization test. (1.9)  
Course fee  
Note: May be taken four times for credit  

FIRE SCIENCE TECHNOLOGY  
(FST)  
Business and Social Sciences Division, Room T302, (847) 543-2047  
FST 111  Introduction to Fire Service  
(3-0)  3 Hours  
This course provides an overview of fire protection systems, introduction to fire protection and emergency services, pre-fire planning, and basic engine and truck company operations. Note: Experience in the fire service is recommended. (1.2)  
Prerequisite: FST 116  

FST 117  Fire Fighting Tactics and Strategy II  
(3-0)  3 Hours  
Continuation of FST 116, with advanced principles and methods associated with firefighting strategies and tactics, required of the company officer and chief officer. The course emphasizes multi-company alarm assignments, sectorization of the fireground, handling disasters and major fire incidents. Student participation of assigned fire simulation exercises will be required. (1.2)  
Prerequisite: FST 116  

FST 118  Incident Command  
(3-0)  3 Hours  
This course introduces students to the basic principles that firefighters, company officers and chief officer use when organizing and managing an emergency scene. This course will stress sectorization, scene safety, and scene management. Emergency fire, hazardous materials, underwater and medical scene management will be reviewed. (1.2)  
Prerequisite: FST 111 (C or better)
COURSE DESCRIPTIONS

FST 119  Fire Apparatus Engineer
(3-0)  3 Hours
A classroom and hands on course, designed for personnel who have or may have the responsibility as an apparatus engineer. This subject covers preventive maintenance, pumps and controls, water supply, pump testing, and hydraulics. The course is designed to meet the Office of the State Fire Marshal, and NFPA 1001 requirements, except for driving requirements that must be met by the individual department. (1.2)
Prerequisite: FST 111 (C or better)

FST 120  Introduction to Emergency Management
(3-0)  3 Hours
(Formerly EDM 111) This course introduces students to the field of emergency management. Students will be exposed to the terminology and definitions used in emergency and disaster management. Students will examine legal requirements, responsibilities, and laws pertaining to emergency management. An introduction to the incident command system is included. (1.2)
Prerequisite: College Reading and Writing Readiness

FST 130  Basic Operations Firefighter A
(3-2)  4 Hours
This course focuses on the organization and structure of a fire agency, fire behavior, building construction, safety issues in the fire service, communication procedures and practices, self-contained breathing apparatus, fire extinguishing agents, and ropes and knots. The course will include weekly lectures and lab sessions that focus on developing and enhancing practical skills. Students enrolled in this course will become active members of an assigned fire department.
Note: This is the first of three courses that prepares students to sit for the Office of the Illinois State Fire Marshal's Basic Operations Firefighters certification examination. (1.2)
Prerequisite: FST 111 (C or better)
Recommended: MTH 114 (C or better)
Course fee

FST 131  Basic Operations Firefighter B
(3-2)  4 Hours
This course focuses on fire service ladders, hose and related appliances, nozzles and streams, water supply, forcible entry and ventilation. The course will include weekly lectures and lab sessions that focus on developing and enhancing practical skills. Students enrolled in this course will be active members of an assigned fire department.
Note: This is the second of three courses that prepares students to sit for the Office of the Illinois State Fire Marshal's Basic Operations Firefighters certification examination. (1.2)
Prerequisite: FST 130 (C or better)

FST 132  Basic Operations Firefighter C
(3-2)  4 Hours
This course focuses on search and rescue, fire control, loss control, protecting evidence, fire detection, alarm, and suppression systems, prevention techniques, public education, wild land and ground cover firefighting, and firefighter safety and survival. The course will include weekly lectures and lab sessions that focus on developing and enhancing practical skills. Students enrolled in this course will be active members of an assigned fire department.
Note: This is the third of three courses that prepares students to sit for the Office of the Illinois State Fire Marshal's Basic Operations Firefighters certification examination. (1.2)
Prerequisite: FST 131 (C or better)

FST 173  Fire Instructor I
(3-0)  3 Hours
This course is designed to meet the needs of those individuals who wish to learn the techniques of instructing in the fire service. It is structured to provide basic information about human relations in the classroom environment, methods of teaching, and the proper method of writing lesson plans. Areas covered include: Orientation and description of the instructor’s job, roles and responsibilities of the fire service instructor, concepts of learning, human factors in learning, oral communications, methods of instruction, lesson plans, instructional materials, organizing the learning environment, testing and evaluation, records and reports, and practical application. Persons currently recognized by the Office of the State Fire Marshall (OSFM) as a firefighter are eligible to challenge the OSFM end-of-course exam.
Note: FST 111 and/or one year active service experience in the fire service is recommended. (1.2)
Prerequisite: FST 111 (C or better)

FST 174  Fire Instructor II
(3-0)  3 Hours
This course is a continuation of FST 173. Teaches advanced principles and techniques of instruction. This course is structured to provide information about human relationships in the teaching-learning environment, methods of lesson and course development. Materials covered will include performance objectives, instructional materials development, evaluation and references. (1.2)
Prerequisite: FST 173

FST 177  Fire Prevention Principles I
(3-0)  3 Hours
This course provides fundamental knowledge relating to the fire service. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation. (1.2)
Prerequisite: FST 111 (C or better)

FST 179  Fire Protection Systems
(3-0)  3 Hours
This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. (1.2)
Prerequisite: FST 111 (C or better)

FST 180  Principles of Fire and Emergency Services Safety and Survival
(3-0)  3 Hours
This course introduces the basic principles and history related to the national firefighters life safety initiatives focusing on the need for cultural and behavioral change throughout the emergency services. (1.2)
Prerequisite: FST 111 (C or better)

FST 181  Fire Behavior and Combustion
(3-0)  3 Hours
This course explores the theories and fundamentals of how and why fires start, spread, and are controlled. The use of water and other extinguishing agents are compared to determine how they extinguish different classes of fires. Major focus of this course is related to terms and concepts associated with chemistry and dynamics of fire. (1.2)
Prerequisite: FST 111 (C or better)
and solve issues related to disaster events of responders. Student groups will work to plan will involve an in-depth understanding of the mitigate such events. Additional emphasis organizations will interact to respond and of unified response and how multiple, diverse on helping students understand the concept impact our country. Emphasis will be placed modern day terrorism and how government helping students understand the issues relating (Formerly EDM 212) This course focuses on solve water supply problems. (1.2) 

FST 218 Fire Officer Supervision (3-0) 3 Hours 
Introduction to objectives and techniques of fire company management. Acquaints the student with the role and function of the company officer. Discussion of management theories and practices; includes planning, organizing, staffing, directing and controlling. (1.2) 
Prerequisite: FST 111 (C or better)

FST 273 Fire Science Business (3-0) 3 Hours 
The advanced study of management principles and techniques used by mid-level officers. These studies will include: management of resources; personnel, money, facilities, and time; principles of delegation, problem solving and motivation. (1.2) 
Prerequisite: FST 111 (C or better)

FST 274 Fire Administration and the Law (3-0) 3 Hours 
This course focuses on the management principles and techniques used by current or future chief officers in the fire service. It acquaints the student to principles of public relations, labor relations, personnel management, information management, and administrative liability, including: criminal and civil liability, disciplinary hearings, avoiding lawsuits, administrative investigations, and State and Federal Regulations. (1.2) 
Prerequisite: FST 111 (C or better)

FST 279 Special Topics in the Fire Service (3-0) 3 Hours 
This course will take a subject of topical interest such as rescue practices, water supply analysis or reporting systems and cover that subject in depth. Because topics will vary widely from year to year a student may seek approval to repeat this course once for credit. (1.2) 
May be taken twice for credit toward degree

FRENCH (FRN) 

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

FRN 121 Beginning Conversational French I (4-0) 4 Hours 
Fundamentals of language necessary for understanding, speaking, reading and writing of French. Practice in pronunciation from dialogues and pattern practices. (1.1) 

FRN 122 Beginning Conversational French II (4-0) 4 Hours 
Fundamentals of language necessary for understanding, speaking, reading, and writing of French. Practice in pronunciation from dialogues and pattern practices. This is a continuation of FRN 121. (1.1) 
Prerequisite: FRN 121 OR Tailwind score 42 or above or Instructor Consent
GENDER AND SEXUALITY STUDIES (GXS)

Business and Social Sciences Division,
Room T302, (847) 543-2047

GXS 121 Introduction to Gender Studies (3-0) 3 Hours
This course provides an introduction to the interdisciplinary field of gender studies. It will explore the varied perspectives of gender and gender issues, including the biological, psychological, sociological, and anthropological approaches. Also included is a discussion of the philosophical, political, historical, and economic perspectives, as well as a literary analysis of gender. The course will also introduce students to potential career opportunities within the field. (1.1)
Prerequisite: FRN 122 OR Tailwind score 50 or above or Instructor Consent
IAI: S7 904D
Fulfills the CLC I/M Education Requirement.

GXS 221 Theories of Feminism (3-0) 3 Hours
With an emphasis on the social science perspective, this course explains the theoretical nature of individual and institutional oppression of underrepresented groups, as well as promote greater economic, social, and political equality for men and women. The course will provide an in-depth analysis of classic and contemporary theories of feminism from a multidisciplinary, social science perspective. It will introduce students to the prominent feminist scholars, as well as offer a discussion of the feminist movement as the basis for social policy and social activism. (1.1)
Prerequisite: GXS 121 (C or better)
Recommended: SWK 228
Fulfills the CLC I/M Education Requirement.

GXS 229 Sex, Gender, and Power (3-0) 3 Hours
This course will examine the major sociological concepts, theories, and research methods in relation to gender issues. It will explore the development of gender roles cross-culturally, as well as the consequences of dividing society along gender lines. Topics for discussion may include: gender role socialization, cross-cultural definitions of gender, underrepresentation on the basis of gender, gender differences in communication, gender issues in relation to the family, workplace, and schools, media images of men and women, and gender-based violence.
GXS 229 and SOC 229 are cross-listed. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: SOC 121
Fulfills the CLC I/M Education Requirement.
IAI: S9 900
Fulfills the CLC I/M Education Requirement.

GXS 299 Special Topics in Gender and Sexuality Studies (Var.) 1-3 Hours
This course addresses the in-depth study of special topics in gender and sexuality that do not have specific courses in the catalogue. Course content will vary depending on the topic being studied and may include gendered topics in biology, psychology, sociology, anthropology, philosophy, political science, history, economics or literature. This course may be taken up to four times for a maximum of 6 credit hours towards degree completion. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
May be taken four times, but any topic only once

GEOGRAPHY (GEG)

Engineering, Math and Physical Sciences Division,
Room T302, (847) 543-2044

GEG 120 Principles of Physical Geography (3-2) 4 Hours
This introductory physical science course examines the processes and agents that help to shape and change the environment in which humans live, as well as the spatial interrelationships that exist between the earth’s heat and energy systems and weather, climate, biogeography (soils, vegetation), landforms, forces of erosion and human activities. The lab component requires students to apply the scientific method to a variety of problems/exercises related to physical geography. Some exercises may involve field work and local field trips. The lab exercises integrate map reading and interpretation skills. (1.1)
Prerequisite: College Reading and Writing Readiness
AND Basic Algebra Readiness
Course fee
IAI: GE G

GEG 212 Physical Geography (3-0) 3 Hours
This introductory physical science course examines the processes and agents that help to shape and change the environment in which humans live. Emphasis is placed on the interrelationships that exist between the earth’s heat and energy systems and the
weather, climate, soils, vegetation, streams, oceans, landforms, and human activities. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: P1 909

GEG 122 Cultural Geography
(3-0) 3 Hours
This introductory social science survey course is designed to help students acquire geographic knowledge about human cultural trends and activities. A wide range of current and urgent world concerns such as population control, cultural differences, urbanization, economic livelihoods, and state and nation systems, are placed in a human-geographic context. The course will also assist students gain better geographic perceptions on current world affairs. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S4 900N

GEG 123 World Regional Geography
(3-0) 3 Hours
This introductory social science course emphasizes the human and physical geography of the world’s major regions. Each region is surveyed as to its location and component countries and peoples, world importance, distinctive physical and cultural characteristics, relations to other areas of the world, and the major problems and potentialities associated with each. Students will gain a better geographic perspective on current affairs and an enhanced appreciation of travel. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S4 900N

GEG 223 German Civilization I
(3-0) 3 Hours
Composition and conversation based on readings in nineteenth and twentieth century German literature with emphasis on style. (1.1)
Prerequisite: GER 222 OR Tailwind score 72 or above or Instructor Consent
IAI: H1 900

GEG 224 German Civilization II
(3-0) 3 Hours
Composition and conversation based on readings in nineteenth and twentieth century German literature with emphasis on style. A continuation of German 223. (1.1)
Prerequisite: GER 223 OR Tailwind score 72 or above or Instructor Consent
IAI: H1 900

GER 222 Intermediate German II
(4-0) 4 Hours
This course reviews and expands the use of German grammar by introducing more advanced structures into verbal and written communication. Films, material from newspapers and magazines, and from other media will enable students to use authentic materials that are culturally relevant to explore further the German speaking world and its culture. (1.1)
Prerequisite: GER 221 (C or better) OR Tailwind score 58 or above or Instructor Consent
Fulfills the CLC I/M Education Requirement.
IAI: H1 900
 COURSE DESCRIPTIONS

HWP 240  Contemporary Health Issues  (3-0)  3 Hours
This course is a survey of issues related to holistic health as they pertain to personal growth and quality of life. Emphasis is placed upon behavioral changes and strategies for lifetime wellness. (1.1)
Prerequisite: College Reading and Writing Readiness

HWP 257  Health and Wellness Practicum I  (0-5)  1 Hour
This course will introduce students to the process of structured field observation. Opportunities will focus on careers in health and wellness promotion. Regular contact time with an instructor will also be provided. (1.2)
Prerequisite: HWP 257 (C or better) and Consent of Instructor
Course fee

HWP 258  Health and Wellness Practicum II  (0-5)  1 Hour
This course will introduce students to supervised competency- based practice in health and wellness. This on-the-job training in the greater Lake County area provides students with the opportunity to demonstrate acquired skills and knowledge and to continue to develop as a professional. Included will be group seminar sessions with other students and regular meetings with the CLC instructor/supervisor. (1.2)
Prerequisite: HWP 257 (C or better) and Consent of Instructor

HWP 260  Sport and Exercise Nutrition  (3-0)  3 Hours
This course will introduce students to the relationship between fundamental nutrition principles and sport and exercise science. The efficacy of performance-based dietary supplements and related ethical issues will also be explored. (1.1)
Prerequisite: College Reading and Writing Readiness

HWP 280  Introduction to Complementary and Integrative Health Care  (3-0)  3 Hours
This course provides an introduction to the theoretical and applied evidence-bases for complementary and integrative health and medical practices. Students will explore the etiology, scope-of-practice, and efficacy of natural products, mind and body practices, and other complementary health approaches. This course is well-suited for aspiring and current health care professionals as well as transfer students interested in their personal health and well-being. (1.1)
Prerequisite: College Reading and Writing Readiness

HWP 290  Principles of Wellness Coaching  (3-0)  3 Hours
This course will explore the six dimensions of contemporary health as they specifically apply to the wellness coaching continuum. Theoretical coaching constructs will be introduced and practical application will be encouraged through a variety of class activities. (1.1)
Prerequisite: College Reading and Writing Readiness

HWP 299  Special Topics: Health and Wellness Promotion  (Var.)  1-4 Hours
This course is designed to provide students with an in-depth study of special topics in health and wellness. Course content and requirements will vary depending on the topic studied. Additionally, this course may be taken up to four times for credit toward degree. (1.2)
Prerequisite: College Reading and Writing Readiness
May be taken four times, but any topic only once

HEALTH INFORMATION TECHNOLOGY (HIT)

Biological and Health Sciences Division, Room B213, (847) 543-2042

HIT 111  Medical Terminology  (3-0)  3 Hours
This course introduces students to medical terminology used in the healthcare field. Emphasis is on word construction using prefixes, roots, and suffixes. Definitions, spelling, pronunciation, and abbreviations are also included. (1.2)
Prerequisite: College Reading and Writing Readiness

HIT 113  Ethical and Legal Aspects of Medical Records  (2-0)  2 Hours
This course introduces students to legal and ethical issues applicable to health information. State and Federal laws on privacy, confidentiality, and release of information relative to the health record are studied. (1.2)
Prerequisite: College Reading and Writing Readiness

HIT 115  Fundamentals of Health Information Technology  (2-2)  3 Hours
This course introduces students to the healthcare delivery system, regulations and standards, and the health information department and profession. Health data content and structure as well as the application of techniques to ensure quality documentation for all types of healthcare facility records are also introduced. (1.2)
Prerequisite: College Reading and Writing Readiness
Course fee

HIT 117  Basic CPT Coding  (2-2)  3 Hours
This course introduces students to the theory, structure, and organization of the Current Procedural Terminology (CPT) coding system. Emphasis will be on the application of coding principles to accurately assign CPT codes to health records. The role of CPT codes in billing and reimbursement will be included. (1.2)
Prerequisite: HIT 111 (C or better)
Corequisite: BIO 111 or BIO 245 (both C or better)
Course fee

HIT 119  Pharmacology  (1-0)  1 Hour
This course introduces students to pharmacology. Content includes terminology, drug classifications, therapeutic use, side effects, contraindications and interactions. Common dosage ranges and routes of administration will also be discussed. (1.2)
Prerequisite: HIT 111 (C or better)
Corequisite: BIO 111 or BIO 245 (both C or better)
Course fee

HIT 131  Basic ICD-10-CM Coding  (2-2)  3 Hours
This course introduces students to the ICD-10-CM classification system with an emphasis on the application of coding guidelines used to accurately assign diagnostic codes in all healthcare settings. The impact of proper code assignment and its relationship to billing and reimbursement will be addressed. ICD-9-CM will be discussed as a legacy system. (1.2)
Prerequisite: HIT 111 (C or better)
Corequisite: BIO 111 or BIO 245 (both C or better)
Course fee
HIT 132  Basic ICD-10-PCS Coding  
(1-2)  2 Hours  
This course introduces students to the ICD-10-PCS classification system with an emphasis on coding guidelines used to accurately assign procedure codes in the hospital setting. The impact of proper code assignment and its relationship to billing and reimbursement will be addressed. ICD-9-CM will be discussed as a legacy system. (1.2)  
Prerequisite: BIO 111 or BIO 245 AND HIT 111 (all C or better)  
Course fee

HIT 171  Insurance Procedures for the Medical Office  
(1-2)  2 Hours  
This course introduces students to health records and insurance processing procedures in the medical office. Emphasizes the relationship between health information and billing procedures. Brief overview of hospital billing is included. (1.2)  
Prerequisite: College Reading and Writing Readiness

HIT 212  Professional Practice Experience in Health Information Technology I  
(1-15)  4 Hours  
This course is the first of a two semester sequence of supervised clinical experience in health facilities.  
Note: A satisfactory health screening, background check, and drug screen must be on file with the college prior to the clinical affiliation. The student will be responsible for his/her transportation to and from the health facility. The student must be enrolled in his/her final Fall semester in the HIT program.  
Assignments and schedules may vary by facility. (1.2)  
Prerequisites: HIT 113 and HIT 115 (both C or better), and admission into the HIT program  
Course fee

HIT 213  Professional Practice Experience in Health Information Technology II  
(.5-.7.5 hours)  2 Hours  
This course is the second of a two semester sequence of supervised clinical experience in various areas pertaining to health information.  
Note: A satisfactory health screening, background check, and drug screen must be on file with the college prior to the clinical affiliation. The student will be responsible for his/her transportation to and from the health facility. The student must be enrolled in his/her final Spring semester in the HIT program.  
Assignments and schedule may vary by facility. (1.2)  
Prerequisite: HIT 212 (C or better)  
Corequisite: HIT 218 (C or better)  
Course fee

HIT 215  Medical Science  
(2-2)  3 Hours  
This course introduces students to human conditions and diseases of all body systems. Emphasis is on etiology, manifestations, method of diagnosis, and treatment. (1.2)  
Prerequisite: HIT 111 (C or better)  
Course fee

HIT 217  Health Information Systems and Data Literacy  
(2-2)  3 Hours  
This course introduces students to health information systems concepts including selection and implementation, data quality, storage and retrieval, and security and privacy. Electronic health record concepts and HIM applications are discussed. (1.2)  
Prerequisite: HIT 115 (C or better) and admission into the HIT program  
Course fee

HIT 218  Seminar in Health Information Technology  
(2-0)  2 Hours  
This course requires students to apply the academic knowledge acquired in the HIT curriculum to specific challenges encountered in the health information management workplace. The focus is on critical thinking, problem-solving, teamwork, and ethics. It also includes a review of HIT content areas with strategies for preparing for the national exam. Additionally students will select a health information topic of interest, summarize a literature search in a written report, and present the substance of the study orally. (1.2)  
Corequisite: HIT 213 (C or better)

HIT 232  Quality Management in Healthcare Statistics  
(2-2)  3 Hours  
This course introduces students to the principles of quality management. Content includes quality assessment and management, risk and utilization management, and credentialing. The collection, preparation, and analysis and interpretation of healthcare statistics are also introduced. The functions and uses of registries, with emphasis on the cancer registry, are studied. (1.2)  
Prerequisite: HIT 115 (C or better) and admission into the HIT program  
Course fee

HIT 271  Advanced Coding  
(1-2)  2 Hours  
This course explores the more complex areas of ICD and CPT coding introduced in previous coding courses. Students will apply coding principles and guidelines related to complex diagnoses and procedures. Coding from actual patient records is emphasized. The use of coding references and coding software is integrated into the course. (1.2)  
Prerequisite: HIT 117, HIT 131, HIT 132, and HIT 215 (all C or better)  
Course fee

HIT 272  Reimbursement Systems in Healthcare  
(1-2)  2 Hours  
In this course students will learn the history, rationale, and methodology of the systems used by third-party payers to determine the reimbursement that health care providers will receive. Reimbursement concepts include fee-for-service, managed care, capitation systems, Diagnosis-Related Groups (DRGs), Resource Based Relative Value Scale (RBRVS), Ambulatory Payment Classifications (APCs) and related concepts. The use of the charge description master (chargemaster) in reimbursement will be discussed. The importance of compliance with regulations and the related issues of fraud and abuse will also be addressed. (1.2)  
Prerequisites: HIT 115 (C or better) AND one coding course (HIT 117, HIT 131, HIT 132) (C or better) AND admission into the HIT program  
Corequisite: A second coding course (HIT 117, HIT 131, HIT 132) (C or better)
HEATING AND AIR CONDITIONING (HVAC) ENGINEERING TECHNOLOGY (HET)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

HET 110 Basic Refrigeration Systems (2-4) 4 Hours
This course introduces students to basic refrigeration theory and practice in Heating, Ventilation, Air-Conditioning and Refrigeration (HVACR). The function and operational characteristics of the mechanical refrigeration system including condensers, evaporators, compressors, refrigerant metering devices, sustainable energy sources and refrigerants are covered. The use and operation of service manifolds, leak detection, system evacuation and charging, test equipment, flaring, soldering and brazing skills are covered.
Note: The student will be required to purchase basic hand tools that will be used in this and other refrigeration and air conditioning courses. (1.2)
Course fee

HET 111 HVAC Electrical I (2-4) 4 Hours
This course introduces students to basic AC and DC circuitry, the laws of electricity, wiring of basic HVACR equipment, and safety procedures with an emphasis placed on sustainable energy sources through the use of lectures, demonstrations, and lab experiences. The function and operational characteristics of various types of electric controls including thermostats, defrost controls, relays, and contactors are studied, along with capacitors, power distribution, motors, and protective devices. This course introduces the National Electrical Code, the use of meters, schematics, wiring diagrams, electrical troubleshooting, electrical service procedures and electrical test equipment.
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Course fee

HET 115 Carpentry I (2-2) 3 Hours
This course covers the essential details of frame dwelling construction. Content covered includes footings, girders, floor joists, floor openings, subflooring, balloon and platform types of framing, and rough framing of window and door openings. The proper and safe usage of power and hand tools will also be covered. (1.2)
Course fee

HET 119 HVAC Electrical II (2-4) 4 Hours
This course covers intermediate AC and DC circuitry, the laws of electricity, wiring of HVACR equipment, and safety procedures with an emphasis placed on sustainable energy sources. Through lectures, demonstrations, and lab experiences, students will learn about various types of residential and commercial heating and air-conditioning, commercial refrigeration electrical service, and installation and preventive maintenance techniques. The function and operational characteristics of various types of electric controls will be covered including thermostats, defrost controls, relays, contactors, capacitors, power distribution, motors, system malfunction diagnosis, corrective procedures, and protective devices. This course also introduces part-winding starts, Wye and Delta wound transformers, programmable controllers, Electronically Commutated Motors (ECM), and Variable Frequency Drive motors (VFD). The National Electrical Code is reinforced, as well as the use of meters, schematics, wiring diagrams, electrical troubleshooting, electrical service procedures, and electrical test equipment. Note: Students will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 130 Heating I Residential Appliances (2-4) 4 Hours
This course introduces students to the basic principles, practices, operations, service and installation of residential heating equipment through the use of lectures, demonstrations, and lab experiences. The function and operational characteristics of residential heating equipment, its wiring, and safety procedures are studied. Electric controls such as thermostats, defrost controls, relays, and contactors are studied, as well as capacitors, power distribution, motors, protective devices, system malfunction diagnosis, corrective procedures, and the refrigerants used in residential heating. This course also introduces a basic understanding of load calculations, the installation and service of residential heating appliances, ventilation requirements, and piping techniques. This course reinforces the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills. Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 135 Plumbing and Pipefitting I (2-2) 3 Hours
This course introduces students to blueprint reading examples, as well as motorized equipment and above ground pipe installation. (1.2)
Prerequisite: HET 110
Course fee

HET 136 Plumbing and Pipefitting II (2-2) 3 Hours
This course is a continuation of HET 135. The course also introduces students to pipe hangers and supports, identifying and installing valves, field routing and vessel trim, spring can supports, planning work activities and performing non-destructive examination testing. (1.2)
Prerequisite: HET 135
Course fee
HET 150  Air Conditioning I Split-Systems  (2-4)  4 Hours
This course introduces students to the basic principles, practices, operations, service and installation of split-system residential and commercial cooling equipment, as well as industrial refrigeration equipment. The function and operational characteristics of various types of air conditioning and refrigeration equipment, the wiring of split-system equipment, and safety procedures are also studied. Students will be exposed to topics such as electric controls such as thermostats, defrost controls, relays, and contactors, as well as capacitors, power distribution, motors, protective devices, system malfunction diagnosis, corrective procedures, and the refrigerants used in the split-system industry. This course reinforces the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills. 
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 155  HVAC/R Blueprint Reading  (1-0)  1 Hour
This course introduces students to how blueprints are structured and the conventions that are used in making them and reading them for the HVAC/R field. These principles are then applied to detail drawings and assembly drawings of mechanical equipment found in the HVAC/R field. Special features of blueprints in applications ranging from sheet metal work through electrical and air conditioning work are addressed. This course concludes with information on how to sketch in the style of a blueprint to convey information simply and completely for the HVAC/R field. (1.2)

HET 170  Refridgeration I Small Appliances  (2-4)  4 Hours
This course introduces students to the service needs of the small refrigeration appliance industry. Through lectures, demonstrations, and lab experiences, students will learn how to service domestic refrigerators, freezers, and icemakers and to install and service water coolers, vending machines, and under-the-counter refrigeration units. The function and operational characteristics of various types of electric controls including thermostats, defrost controls, relays, and protective devices will be studied, as well as system malfunction diagnosis, corrective procedures, and the refrigerants used in the small refrigeration appliance industry. The course also reinforces the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills.
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 172  Refrigeration II Commercial Appliances  (2-4)  4 Hours
This course introduces students to the basic principles, practices, operations, service, and installation of commercial refrigeration appliances. Students will learn how the product is cooled, desired temperature maintained, and proper humidity conditions controlled. The function and operational characteristics of various types of electric controls including thermostats, defrost controls, relays, and protective devices are studied, as well as system malfunction diagnosis, corrective procedures, and the refrigerants used in the commercial refrigeration appliance industry. This course also covers a basic understanding of commercial refrigeration appliances, multiple systems, load calculations of commercial refrigeration appliances, system accessories, and piping techniques. This course reinforces the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills. 
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 173  HVACR Load Calculation  (2-4)  4 Hours
This course introduces students to the standards for producing HVACR equipment sizing load calculations. The course details proper procedure required to complete a residential or commercial load calculation performed in accordance with the Air Conditioning Contractors of America (ACCA) as required by national building codes and by most state and local jurisdictions. Residential HVAC appliances, commercial HVAC appliances, and commercial refrigeration appliances and their associated sub-systems are included.
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 190  EPA Certification Preparation  (1-2)  2 Hours
This course introduces students to basic refrigeration, theory, and practice of the EPA mandated Section 608 Refrigeration Certification exam. The function and operational characteristics of the mechanical refrigeration system including condensers, evaporators, compressors, refrigerant metering devices, and sustainable energy sources refrigerants are covered, as well as material pertinent for students to pass the EPA exam. This course also introduces ozone depletion, the Clean Air Act, the Montreal Protocol, CFC and HCFC refrigerant replacements, recovery cylinders, shipping and transportation of refrigerants, system operational pressures, substitute refrigerant replacement, recharging techniques, refrigerant recovery and reclaiming, and basic system troubleshooting.
This course reinforces the use and operation of service manifolds, leak detection, test equipment, flaring, soldering and brazing skills. 
Note: The student will be required to purchase basic hand tools that will be used in this and other refrigeration and air conditioning courses. (1.2)
Prerequisite: HET 110 or Consent of Instructor
Course fee

HET 192  HVACR Engineering Tech Practicum  (0-15)  1 Hour
This course is a supervised work experience in the HET program. It incorporates on-the-job training in the greater Lake County area and provides students with an opportunity to demonstrate acquired skills and knowledge, as well as continue their development as professionals. Included will be group seminar sessions with other students and regular meetings with a CLC instructor and HVACR supervisor. (1.2)
Prerequisite: HET 110 and HET 111
Course fee

HET 193  Recertification Preparation  (.5-0)  0.5 Hour
This course is designed for students whose certification has expired or for students who need to re-sit for the EPA Technician Certification Exam or the Industry Competency Exam. This course prepares students with a review of pertinent material prior to the administration of the exams. (1.2)
Prerequisite: HET 110 and HET 111 or consent of instructor
Course fee
COURSE DESCRIPTIONS

HET 194  NATE Certification Preparation  
(2-0)  2 Hours  
This course prepares students to sit for the North American Technician Excellence (NATE) HVACR Exams. All pertinent material prior to the administration of the exams is reviewed.  
Prerequisite: Consent of instructor  
(1.2)  
Course fee

HET 195  Chicago Stationary Engineer Exam Preparation  
(1-0)  1 Hour  
This course prepares students to sit for the Chicago Stationary Engineer Exam. Low pressure steam boilers and other pertinent material will be reviewed to help students prepare for the exam. (1.2)  
Corequisite: HET 110 and HET 119 or consent of instructor  
Course fee

HET 219  HVAC Electricity III  
(2-4)  4 Hours  
This course covers advanced AC and DC circuitry, the laws of electricity, wiring of HVACR equipment, and safety procedures with an emphasis placed on sustainable energy sources. Through lectures, demonstrations, and lab experiences, students will learn about various types of residential and commercial heating and air-conditioning, commercial refrigeration and electrical service, installation, preventive maintenance techniques, and direct digital controls. The operational characteristics of various types of electric controls including thermostats, defrost controls, relays, and contactors will be covered, as well as capacitors, power distribution, motors, system malfunction diagnosis, corrective procedures, and protective devices. Students will be introduced to part-winding start, Wye and Delta wound transformers, programmable controllers, Electronically Commutated motors (ECM), Variable Frequency Drive motors (VFD), National Electrical Code, the use of meters, schematics, wiring diagrams, electrical troubleshooting, electrical service procedures, and electrical test equipment.  
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)  
Prerequisite: HET 119 (C or better) AND MTH 114 or higher (C or better) or appropriate score on Math Placement test or Math ACT score of 17 or higher AND College Reading and Writing Readiness  
Course fee

HET 230  Air Movement and Ventilation  
(2-4)  4 Hours  
This course covers intermediate principles, practices, operations, and service of commercial HVAC equipment through the use of lectures, demonstrations, and lab experiences. The function and operational characteristics of various types of residential and commercial HVAC equipment, wiring, and safety procedures are studied, as well as proper methods and techniques involved in the design, sizing and balancing of complete ventilation systems. Electric controls including thermostats, sail switches, relays, contactors, flow switches, power distribution, motors, protective devices, system malfunction diagnosis, corrective procedures, and various fan systems used in the residential and commercial HVAC industry are covered. Air mixing properties, equipment servicing, a basic understanding of load calculations, ducting, fan laws, Indoor Air Quality (IAQ), and piping techniques for residential and commercial HVAC equipment are introduced. This course reinforces ventilation requirements, the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills.  
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)  
Prerequisite: HET 119 (C or better) AND MTH 114 or higher (C or better) or appropriate score on Math Placement test or Math ACT score of 17 or higher AND College Reading and Writing Readiness  
Course fee

HET 231  Heating II Hydronic Heating Systems  
(2-4)  4 Hours  
This course introduces students to the basic principles, practices, operations, service and installation of residential and light commercial boilers through the use of lectures, demonstrations, and lab experiences. The function and operational characteristics of various types of residential and light commercial boilers, their wiring, and safety procedures are studied. Electric controls including thermostats, relays, and contactors are studied, as well as capacitors, power distribution, motors, protective devices, system malfunction diagnosis, corrective procedures, and residential and light commercial boilers. A basic understanding of load calculations and the installation and service of residential and light commercial boilers will be covered, as well as the operation, layout, selection, troubleshooting, venting requirements, and piping techniques. This course reinforces the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills.  
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)  
Prerequisite: MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor  
Course fee

HET 250  Air Conditioning II Commercial HVAC Appliances  
(2-4)  4 Hours  
This course covers intermediate principles, practices, operations, service and installation of commercial HVAC equipment through lectures, demonstrations, and lab experiences conducted on commercial HVAC equipment. The function and operational characteristics of various types of commercial HVAC equipment, its wiring, and safety procedures are studied. Electric controls including thermostats, defrost controls, relays, and contactors are studied, as well as capacitors, power distribution, motors, protective devices, system malfunction diagnosis, corrective procedures, and the refrigerants used in the commercial HVAC industry. This course also introduces hydronic heating, air mixing properties, installation and service, a basic understanding of load calculations, ducting, fan laws, and piping techniques for commercial HVAC equipment. This course also reinforces ventilation requirements, the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, soldering and brazing skills.  
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)  
Prerequisite: HET 150 AND MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor  
Course fee

HET 251  Sheet Metal Fabrication  
(0-2)  1 Hour  
This course introduces students to methods of sheet metal fabrication. Content includes laying-out and fabricating sheet metal ducts and fittings used in heating and air conditioning installations. This course emphasizes reading blueprints common to the sheet metal trade,
HET 272  Refrigeration III Commercial Appliance Installation
(2-4)  4 Hours
This course covers various types of commercial refrigeration service techniques and installation procedures, such as piping techniques, codes, preventive maintenance, multiple systems, and system accessories. The function and operational characteristics of various types of electric controls including thermostats, defrost controls, relays, and protective devices are studied, as well as system malfunction diagnosis, corrective procedures, and the refrigerants used in the commercial refrigeration appliance industry. This course reinforces load calculations, the use and operation of electrical and mechanical test equipment, wiring diagrams and schematics, service manifolds, test equipment, flaring, and soldering and brazing skills.
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 172 AND MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor Course fee

HET 273  Direct Digital Controls
(2-4)  4 Hours
This course covers basic commercial control principles and offers students experiences and practice in the selection, installation, operation, and servicing of pneumatic and electronic automation control systems and components used in commercial buildings. Special emphasis will be placed on direct digital control systems (DDC) including troubleshooting, maintenance, and retrofitting. Students successfully completing this course will be eligible to sit for the Air-Conditioning and Refrigeration Institute (ARI) Industry Competency Exam in Light Commercial Air Conditioning and Heating. (1.2)
Prerequisite: HET 119 (C or better) AND MTH 114 or higher (C or better) or appropriate score on Math Placement test or Math ACT score of 17 or higher AND College Reading and Writing Readiness

HET 290  Building Insulation
(2-4)  4 Hours
This course covers heat flow, building science, building envelope, construction practices, material costs, moisture concerns, proper insulation techniques, and commercial and residential HVAC systems including equipment selection, layout, piping techniques, troubleshooting, codes, preventive maintenance, multiple systems, and system accessories. Students will also learn about building and piping insulating, and residential and commercial insulation codes.
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 230 AND MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor Course fee

HET 291  Energy Auditing
(2-4)  4 Hours
This course covers building energy auditing and associated heating and air-conditioning equipment. The concepts of heat flow, energy audit software, building science, building envelope, construction practices, material costs, moisture concerns, proper insulation techniques, energy pricing, energy modeling, and commercial and residential HVAC systems including equipment selection, layout, piping techniques, troubleshooting, codes, preventive maintenance, multiple systems, and system accessories are covered. The function and operational characteristics of building construction, building materials, various types of commercial and residential heating and air-conditioning equipment, wiring, and safety procedures are studied. Electric controls, thermostats, power distribution, and protective devices are studied, as well as equipment selection, layout, duct design, troubleshooting, and commercial and residential energy usage codes. This course also reinforces load calculations, ventilation requirements, piping techniques, the use and operation of electrical/mechanical test equipment and service manifolds.
Note: Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
Prerequisite: HET 230 AND MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor Course fee
COURSE INFORMATION AND DESCRIPTIONS

HET 292 RESENT Exam Preparation (1-0) 1 Hour
This course provides a review of material required to prepare students to take the Residential Energy Services Network’s (RESNET®) Quality Assurance Designee Trainer Exam. 
Prerequisite: Consent of Instructor (1.2)
Course fee

HET 293 HVAC Codes (3-0) 3 Hours
This course covers the function of HVAC Mechanical Codes including Building Officials and Code Administrators (BOCA) Mechanical Codes, National Fire Protection Association (NFPA) codes, National Fuel Gas Codes, ASHRAE Standard Mechanical Refrigeration Codes, and National Electrical Codes. The course reinforces the requirements placed on contractors and installation personnel involved in the layout and installation of HVACR equipment. 
Note: The student will be required to purchase basic hand tools that will be used in this and other refrigeration and air conditioning courses. (1.2)
Prerequisite: MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor

HET 294 Green Building/ Energy Sustainability (3-0) 3 Hours
This course provides an introduction to “Green Building” within the LEED certification process. Other topics related to sustainability will be covered including conservation, insulation, weatherization, and renewable energy technologies such as wind, solar, and geothermal systems. (1.2)
Prerequisite: MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor
Course fee

HET 295 HET Capstone (2-2) 3 Hours
This course engages students in a capstone experience consisting of a comprehensive heating, ventilation, air conditioning, or refrigeration (HVACR) lab assignment and research project on relevant HVACR topics. The projects offer students the opportunity to synthesize and put into practice the knowledge and skills acquired in all other courses in the HET Program. (1.2)
Prerequisite: MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum APT score of 122 or College Reading and Writing Readiness; OR Consent of Instructor
May be taken four times for credit toward degree

HET 299 Special Topics in HVACR (Var.) 0.5-4 Hours
This course addresses the in-depth study of special topics in HVACR that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may include current issues in HVAC, new technologies in HVACR, or new information concerning sustainability. Topics will be identified for each section of the course.
Prerequisite: Consent of Instructor (1.2)
Course fee
May be taken four times, but any topic only once

HISTORY (HST)

HST 121 History of Western Civilization to 1500 (3-0) 3 Hours
This course is a historical survey of the West from the ancient civilizations of Egypt, Greece and Rome through the Middle Ages and the Renaissance. Emphasis is placed on the political, economic, social, cultural, and intellectual forces that shaped the development of Western Civilization. (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
Fulfills the CLC I/M Education Requirement.
IAI: S2 902

HST 122 History of Western Civilization 1500 to Present (3-0) 3 Hours
This course is an historical survey of the West from the Reformation and rise of absolutist monarchies through the French Revolution, Age of Industrialization, the 20th century ideological conflicts and wars, and the modern global age. Emphasis is placed on the political, economic, social, cultural, and intellectual forces that shaped the development and direction of Western Civilization. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: S2 903

HST 123 Modern Europe I (3-0) 3 Hours
This course surveys the making of the modern mind and the Age of Revolutions. Emphases are placed on the Age of Reason, French Revolution and growth of modern democracy, liberalism, socialism, and nationalism. (1.1)
Prerequisite: College Reading and Writing Readiness

HST 124 Modern Europe II (3-0) 3 Hours
This course surveys Europe with its world impact in the 20th century. Emphases are placed on intellectual modernism, totalitarianism, world wars, ideologies in conflict and global national interaction. (1.1)
Prerequisite: College Reading and Writing Readiness

HST 125 History of the Non-Western World Since 1500 (3-0) 3 Hours
This course is a survey of the history of Contemporary Non-Western Civilization and examines the historical roots and modern history of the following areas: The Far East, Southeast Asia, the Sub-continent and the Middle East. The course will include historical origins of the nations covered but will focus on their history from the late 19th century to the present. This course fulfills the CLC International/Multicultural Education requirement. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: S2 905N
HST 127  History of Chinese Culture and Society  
(3-0)  3 Hours  
This course is intended to provide students with an introduction to Chinese culture by studying social and cultural awareness of contemporary Chinese reality within a global, historical context. History, geography, political and economic structure and function in the world are examined through social organization and cultural institutions. This course fulfills the CLC International/Multicultural Education requirement. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: S2920N

HST 128  Modern History of the Middle East  
(3-0)  3 Hours  
This course will trace the history of the Middle East from the period of the Ottoman Empire to the Present. Students will study the influence of the Ottomans on the Middle East and how the decline of this once great empire paved the way for European penetration. In the process, they will critically examine how and why Europeans created new dynasties and nations in the post World War I & II periods and how these creations have contributed to the instability that now exists in the Middle East. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: S2920N

HST 129  Women in History  
(3-0)  3 Hours  
This course is an historical and humanistic survey of famous and obscure women from ancient times to the modern world. Its emphases are the status and treatment of women through the ages and factors that have defined and altered this status. (1.1)  
Prerequisite: College Reading and Writing Readiness

HST 141  World History to 1500  
(3-0)  3 Hours  
This course surveys the economic, social, cultural and political history of the major settled regions of the world, including the Americas, Asia, Australasia, Africa, Europe and the Middle East from prehistory to 1500, paying particular attention to the ways in which societies organize themselves and interact with each other. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.

HST 142  World History From 1500  
(3-0)  3 Hours  
This course will examine the development of the modern world, focusing on cross-cultural exchange between the various regions, since 1500. Themes studied will include the influence of religion, culture and conflict on the Americas, Asia, Africa, Oceania and the Middle East as well as the increasing conflicts between peoples and regions of the world. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.

HST 211  United States History to 1876  
(3-0)  3 Hours  
This course is a survey of American history from the pre-Columbian era to the end of Reconstruction. Among the topics to be explored are: pre-Columbian Americans, European exploration and colonization of the Americas, African slavery and the Atlantic trade, British Colonial America, the American move to Independence and the establishment of the United States, the Early Republic and the Age of Jackson, Westward Expansion and sectionalism, and lastly the Civil War and Reconstruction. (1.1)  
Prerequisite: College Reading and Writing Readiness  
IAI: S2 900

HST 221  United States History 1876 to Present  
(3-0)  3 Hours  
This course is a survey of American history from the end of the Civil War to the present. Emphasis is on politics, society and economic change in the U.S. from 1876 to the present. Among the topics to be covered are: industrialization, immigration, overseas expansion, world wars, economic growth and technological change, the Cold War, urbanization and suburbanization, civil rights and women's rights movements, politics and the evolution of liberalism and conservatism, and the age of globalization. (1.1)  
Prerequisite: College Reading and Writing Readiness  
IAI: S2 901

HST 222  United States History 1876 to Present  
(3-0)  3 Hours  
This course is a survey of the social, economic, political, intellectual, and cultural history of the United States since 1876. Among the topics examined are: industrialization, immigration, overseas expansion, world wars, economic growth and technological change, the Cold War, urbanization and suburbanization, civil rights and women's rights movements, politics and the evolution of liberalism and conservatism, and the age of globalization. (1.1)  
Prerequisite: College Reading and Writing Readiness

HST 225  American Labor History  
(3-0)  3 Hours  
This course is a survey of American labor history from the colonial era to the present. Following a chronological approach, the course will cover the development of the system of labor in America, the factors affecting changes in the system, the emergence and growth of labor organizations, the role of labor organizations in the economic and political order, and the challenges confronting labor and labor organizations in a changing economic order. (1.1)  
Prerequisite: College Reading and Writing Readiness

HST 226  United States History from 1945  
(3-0)  3 Hours  
This course provides a topical and thematic approach to post World War II United States History. Among the topics and themes to be covered include: Cold War foreign policy and fears at home; suburbanization and mass consumer culture; the changing politics and meaning of liberalism and conservatism; social movements of the Left and Right; changes in immigration, ethnicity, race, and gender; accelerating technological innovation; and the impact of globalization. The main emphases of the course are the intersection of political economy, culture, and society at home and the evolution of America’s role abroad. (1.1)  
Prerequisite: College Reading and Writing Readiness

HST 240  Afro-American History I  
(3-0)  3 Hours  
This course surveys the African origins of African Americans, the African Diaspora, the role played in colonial America, slavery, the U.S. Civil War and Reconstruction. Emphasis is on the African Americans’ contributions to America’s development. (1.1)  
Prerequisite: College Reading and Writing Readiness

HST 241  Afro-American History II  
(3-0)  3 Hours  
This course surveys the role of African Americans in the United States from the end of Reconstruction to the present. Emphasis is on the contributions to America’s development and the problems encountered. (1.1)  
Prerequisite: College Reading and Writing Readiness
COURSE DESCRIPTIONS

HST 242  History of Chicago  
(3-0)  3 Hours  
This course is a historical survey of the Chicago region from the colonial era through the present. The course will cover such topics as frontier expansion, ecological change, commerce, city planning, industrialization, labor conflict, the immigrant adjustment, neighborhoods, the political machine, the battle for municipal reform, rise of the ghetto, suburbanization, gentrification, the legacy of the Daley machines, and Chicago’s contributions to culture and the arts. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: S2920N

HST 245  History of Latin America to 1825  
(3-0)  3 Hours  
This course provides an introduction to the formation of Latin American society during the colonial period, from the European conquest to the independence of the Iberian colonies. It examines the processes of conquest and colonization, the organization of the Spanish and Portuguese empires in America, and Indian and African resistance and accommodation, in comparative perspective. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: S2920N

HST 246  History of Latin America from 1825  
(3-0)  3 Hours  
This course provides an introduction to Latin American history after independence, from the consolidation of the national states to the 1980s: By focusing on the cases of Argentina, Brazil, Cuba, and Mexico, within the broader regional context, it examines significant social, political, and economic developments of modern Latin America. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: S2920N

HST 249  Special Topics in History (Var.)  
(1-3 Hours)  This course addresses the in-depth study of special topics in history, which do not have specific courses in the catalogue. Course content will vary depending on the topic being studied, but could include the History of Chicago or The History of the Modern Middle East. (1.2)  
Prerequisite: College Reading and Writing Readiness  
May be taken four times, but any topic only once

HORTICULTURE (HRT)

HRT 121  Introduction to Horticulture  
(3-0)  3 Hours  
This course introduces students to basic plant taxonomy, terminology, anatomy, physiology and the functions/responses of plants. Professions working with the culture and use of plants and applications of plant science will be included. (1.1)  
Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 AND an appropriate score on the Math Placement Test or Basic Algebra Readiness  
IAI: AG 905

HRT 124  Introduction to Soils  
(2-4)  4 Hours  
This course introduces students to the science and function of native and artificial soils as they relate to plants and the environment. Topics on formation, physical characteristics, nutrient content and availability, water movement, taxonomy and biota interactions are covered. (1.1)  
Corequisite: HRT 121 (C or better)  
Course fee

HRT 125  Tree and Shrub Identification  
(2-2)  3 Hours  
This course covers the identification of deciduous and evergreen trees and shrubs by their common and botanical names. Emphasis is placed on trees and shrubs commonly used in the landscape and their key characteristics. Approximately 240 trees will be covered in this course. (1.1)  
Course fee

HRT 126  Entomology  
(2-2)  3 Hours  
This course introduces students to the importance of insects to humans. Topics include insect biology, principles of pest management, natural and applied insect control, and insect pests of vegetables, fruit, and ornamental plants. Laboratory includes observation, identification, and diagnosis of insect plant pests. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Corequisite: HRT 121 (C or better)  
Course fee

HRT 127  Perennials, Annuals and Weeds  
(2-2)  3 Hours  
This course covers the identification, care, and maintenance of herbaceous plants including perennials, annuals, ornamental grasses, vines, groundcovers and weeds. Approximately 600+ plants will be covered in this course. Students will review materials through photo and herbarium samples. (1.1)  
Course fee

HRT 129  Plant Pathology  
(2-2)  3 Hours  
An introductory course in plant pathology covering the biology and management of agents causing disease and growing disorders. Students study these agents and the problems that they cause, along with possible management tools. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Corequisite: HRT 121 (C or better)  
Course fee

HRT 140  Landscape Graphics  
(2-2)  3 Hours  
This course introduces students to the methods used to visually communicate existing and desired information to create a landscape design. The course also covers the process of gathering information about site constraints and client needs to develop these drawings. (1.1)  
Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 AND an appropriate score on the Math Placement Test or Basic Algebra Readiness  
Course fee
HRT 162  Sustainable Landscape Management  
(2-2)  3 Hours  
This course is focused on foundational landscape maintenance practices with the additional dimension of sustainability. Content includes planting, soil care/Preparation, pruning, general turf care, and pest identification and control. It explores how all these practices are adapting around sustainable standards, and also covers new approaches such as greenroof systems, living walls, gray water catchment systems, rain gardens, bioswales, water quality treatment with plants, phytoremediation (plants) and mycoremediation (fungi) techniques for treating contaminated soils to create more sustainable landscapes and green infrastructure. Students will gain an understanding of how these approaches work, what is involved to design and build them, how to assess construction materials and costs, and operation of basic maintenance equipment. (1.1).  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 and Basic Algebra Readiness OR the appropriate score on the Math Placement Test  
Course fee

HRT 225  Green Business and Entrepreneurship  
(3-0)  3 Hours  
This course addresses the fundamental business skills needed to run or manage a horticulture-related business or small farm enterprise. Issues including establishing wholesale accounts for purchasing, hiring and managing seasonal employees, creating client contracts and creating value-added products are covered. Various farm-to-market models such as CSAs vs. wholesale distribution will be reviewed. This class also covers front office issues like creating billing statements, responding to “requests for proposals” and marketing seasonal products. (1.1)  
Prerequisite: College Reading and Writing Readiness and Basic Algebra Readiness

HRT 228  Nursery Production  
(2-3)  3 Hours  
This course addresses the principles and practices of nursery production and management, and how these have changed over recent years to reflect environmental sustainability in the green industry. Course will include production techniques for traditional nursery crops as well as native species, and will include fieldwork at nearby growing facilities. This course will be taught through a blended structure, with the lecture and discussion handled online, and the lab handled through clinical placement at a local nursery. Students are responsible for their own transportation to/from the clinical site. (1.1)  
Prerequisite: College Reading and Writing Readiness AND HRT 121 (C or better)  
Course fee

HRT 240  Landscape Design  
(2-3)  3 Hours  
This course introduces students to design concepts and practical approaches for residential landscape design. Students take a variety of design projects from concept through final presentation. (1.1)  
Prerequisite: College Reading and Writing Readiness AND HRT 140 (C or better)  
Recommended: HRT 127 (C or better)  
Course fee

HRT 245  Computer Landscape Design  
(2-2)  3 Hours  
This course introduces students to the use of AutoCAD for site planning, and to landscape design module aids for the creation of landscape design plans. Emphasis is placed on practical application of software and hardware to develop working drawings for the landscape industry. (1.1)  
Prerequisite: College Reading and Writing Readiness AND HRT 140 (C or better)  
Course fee

HRT 260  Landscape Construction  
(2-2)  3 Hours  
This course explores the practical, hands-on installation of landscape features. Project organization, job set up, and construction methods will be covered. Students will be assigned projects that will include design specifications and cost estimates. How to handle equipment and participation in actual construction tasks are included. (1.1)  
Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100 AND appropriate score on the Math Placement Test or Basic Algebra Readiness  
Course fee

HRT 265  Urban Forestry Management  
(2-2)  3 Hours  
This course covers the care and maintenance of trees in urban/suburban settings. Tree identification, care and pruning are covered, as well as special topics of concern to urban foresters like pollution and compaction tolerances, tree preservation ordinances, and invasive pests. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Corequisite: HRT 121 (C or better)  
Recommended: HRT 125  
Course fee

HRT 280  Horticulture Practicum  
(Var.)  1-3 Hours  
This course is a special project arranged by the HRT faculty member and student or work experience, and addresses a specific area of interest to the student. Lecture/lab ratio is variable depending upon the extent of project and time committed. (1.1)  
Prerequisite: Completion of at least 12 credit hours in Horticulture (C or better) and consent of instructor
HRT 286 Natural Areas Management (2-2) 3 Hours
This course provides an overview of natural areas restoration and management issues for the Midwest region. Major plant communities for this region such as wetland, prairie, savanna and woodland will be addressed in terms of their ecology, key identifying features, management issues and restoration techniques. Field trips will expose students to all phases of restoration work, from initial construction to high-quality natural area. Field trips will also provide an opportunity for hands-on practice of various management techniques like prescribed burning and vegetation monitoring. (1.1)
Prerequisite: BIO 120 AND BIO 126 or HRT 127
(all C or better)

HRT 299 Selected Topics in Horticulture (Var.) 0.5-3 Hours
This course is designed to meet the needs of students for specialized instruction in horticulture topics. A maximum of six (6) credit hours of HRT 299 may be used as elective credit toward an A.A.S. degree or certificate in Horticulture; a topic may be taken only once. (1.2)
Course fee
May be taken four times, but any topic only once

HOSPITALITY AND CULINARY MANAGEMENT (HCM)

Business and Social Sciences Division, Room T302, (847) 543-2047

HCM 110 Introduction to the Hospitality Industry (3-0) 3 Hours
This course prepares students for a career in the hospitality industry. The course provides an overview of the various segments in the industry including restaurant management, culinary arts, lodging, managed services, beverages, recreation and theme parks, gaming, and event management. Students are introduced to the various operational areas within the hospitality industry. (1.2)
Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 AND Basic Algebra Readiness or concurrent enrollment in MTH 114

HCM 111 Culinary Principles I (2-6) 5 Hours
This course introduces students to the principles of commercial food preparation with emphasis on the development of a basic foundation of culinary skills. Topics covered include the history of culinary arts, development of modern food service, classic and modern kitchen brigades, kitchen sanitation and safety, recipes and menus, professional kitchen tools and equipment, knife safety, flavors and flavorings, dairy products, mise en place, cooking principles, stock and sauce preparation, and soup identification and preparation. (1.2)
Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 AND Basic Algebra Readiness or concurrent enrollment in MTH 114
Corequisite: HCM 113
Course fee

HCM 112 Culinary Principles II (2-6) 5 Hours
This course is a continuation of Culinary Principles I with emphasis on the development of a strong foundation in culinary skills. Topics covered include identification of vegetables used in food service operations and proper cooking methods, the range of vegetarian diets, identification and cookery of various starches, identification and preparation of salads and salad dressings, and the identification of the fruits used in food service operations, and sandwich preparation. (1.2)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness AND HCM 111 (C or better)
Course fee

HCM 113 ServSafe: Food Service Sanitation (1-0) 1 Hour
This course introduces students to the principles and procedures of sanitation in food preparation and service. Topics include causes and prevention of food borne illnesses, health regulations and inspection procedures. The State of Illinois Sanitation Licensing Examination is given as part of this course. This course meets the requirements for the sanitation course for American Culinary Federation (ACF) initial certification and/or re-certification.
Note: Bring servsafe book to first class available at clc bookstore. (1.2)

HCM 114 Introduction to Beverage Appreciation (1-0) 1 Hour
This course refines the student’s knowledge of beverages served in a variety of hospitality operations. Emphasis is placed on beverage sensory perception and the art of food and beverage pairings. Students will learn about the wine regions of the world and how climate, terroir and region affect the qualities of wine. Students develop and analyze strategies to effectively manage, market and set standards for beverage operations. Both alcoholic and non-alcoholic beverages are examined, and optional tastings of wine and beer are included. Responsible beverage service is stressed.
Minimum age of 21. (1.2)
Prerequisite: HCM 110 or HCM 111 (either C or better) AND Department Consent
Course fee

HCM 151 American Regional Cuisine (1-4) 3 Hours
This course explores the use of local ingredients in the preparation of traditional and contemporary American specialties. The major culinary regions of the US are identified, including the ingredients and cooking techniques used in each region. Students apply established culinary principles in the preparation of a variety of regional menus. Students will develop mental mise en place, professionalism, speed, total product utilization, and organizational and teamwork skills. (1.2)
Prerequisite: HCM 111 and HCM 113 (both C or better)
Course fee

HCM 152 European Cuisine (1-4) 3 Hours
This course explores the use of local ingredients in the preparation of traditional and contemporary European specialties. The major culinary regions of Europe are identified, including the ingredients and cooking techniques used in each region. Students will also learn and prepare various dishes from specific European countries. Students apply established culinary principles in the preparation of a variety of regional and country-specific menus. Students will develop mental mise en place, professionalism, speed, total product utilization, and organizational and teamwork skills. (1.2)
Prerequisite: HCM 111 and HCM 113 (both C or better)
Course fee
HCM 153 Latin American Cuisine (1-4) 3 Hours
This course explores the use of local ingredients in the preparation of traditional and contemporary Latin American specialties. The major culinary regions of Latin America are identified, including the ingredients and cooking techniques used in each region. Students will also learn and prepare various dishes from specific Latin American countries. Students apply established culinary principles in the preparation of a variety of regional and country-specific menus. Students will develop mental mise en place, professionalism, speed, total product utilization, and organizational and teamwork skills. (1.2) Prerequisite: HCM 111 and HCM 113 (both C or better) Course fee

HCM 154 Italian Regional Cuisine (1-4) 3 Hours
This course explores the use of local ingredients in the preparation of traditional and contemporary Italian specialties. The major culinary regions of Italy are identified, including the ingredients and cooking techniques used in each region. Students apply established culinary principles in the preparation of a variety of regional menus. Students will develop mental mise en place, professionalism, speed, total product utilization, and organizational and teamwork skills. (1.2) Prerequisite: HCM 111 and HCM 113 (both C or better) Course fee

HCM 155 French Regional Cuisine (1-4) 3 Hours
This course explores the use of local ingredients in the preparation of traditional and contemporary French specialties. The major culinary regions of France are identified, including the ingredients and cooking techniques used in each region. Students apply established culinary principles in the preparation of a variety of regional menus. Students will develop mental mise en place, professionalism, speed, total product utilization, and organizational and teamwork skills. (1.2) Prerequisite: HCM 111 and HCM 113 (both C or better) Course fee

HCM 159 Culinary Arts Study Abroad (Var.) 1-3 Hours
This course will provide Hospitality and Culinary Management students with the opportunity to study and experience food, culture and the hospitality industry within a global context. Course topics, locations and credit hours will be identified by individual section. This course is repeatable up to three times, any topic only once, for a maximum of 9 hours toward degree completion. (1.2) Prerequisite: To be determined relative to topic May be taken three times, but any topic only once

HCM 170 Patisserie I (2-6) 5 Hours
This course covers the basic principles and ingredients used in bakeshop production. Topics covered include identification of equipment and tools used in the bakeshop, identification of ingredients used in the bakeshop, controlling the development of gluten, understanding the baking process and various mixing methods. This course introduces students to skills needed in a bakeshop and focuses on preparation of baked goods which include quick breads, pate a choux, tarts, pies and cookies. (1.2) Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 AND Basic Algebra Readiness or concurrent enrollment in MTH 114 Course fee

HCM 171 Culinary Principles III (2-6) 5 Hours
This course emphasizes the principles of commercial food preparation along with continued focus on building a strong foundation in culinary skills. Topics covered include principles of meat cookery, including beef, veal, lamb and pork; and principles of poultry, game, fish and shellfish. Students will learn the composition and structure of meat, poultry, fish and shellfish, and will learn quality indicators when purchasing these products. Students will learn the proper cooking methods for various cuts of meat, poultry, fish and shellfish. This course incorporates a capstone project in which students provide a full meal for the public. (1.2) Prerequisite: HCM 112 (C or better) Course fee

HCM 172 Patisserie II (2-6) 5 Hours
This course is a continuation of Patisserie I with emphasis on the skills and competencies needed for a strong foundation in baking and pastry. Topics include identification of ingredients, recipe costing, custards, petit four sec and glace, mousses, cake preparation and assembly of tortes, cheesecakes, plate presentation, and simple chocolate work. (1.2) Prerequisite: HCM 170 (C or better) Course fee

HCM 173 Patisserie III (2-6) 5 Hours
This course is a continuation of Patisserie II and introduces students to European and advanced pastries, a variety of tortes with new assembly and decorating techniques. Bavarians, individual cakes and desserts, frozen desserts, advanced pastries, advanced petits fours, and plate presentations with multiple components are also included. (1.2) Prerequisite: HCM 172 (C or better) Course fee

HCM 174 Advanced Pastry (2-6) 5 Hours
In this advanced course, students build on many of the skills and techniques learned in Patisserie I, II and III which includes assembling cakes, tortes, and individual pastries with multiple components and garnishes. Gateaux, molded frozen desserts, chocolate work, advanced European pastries and desserts, and upscale plate presentations will be produced. (1.2) Prerequisite: HCM 173 (C or better) Course fee

HCM 175 Nutrition (3-0) 3 Hours
This course introduces students to the principles of nutrition and the application of these principles to the food service industry. Topics include fundamentals of food chemistry and nutrition for different age groups and the special needs of individuals. This course meets the requirements for the nutrition course for American Culinary Federation (ACF) initial certification and/or re-certification. (1.2) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
COURSE DESCRIPTIONS

COURSE INFORMATION AND DESCRIPTIONS

HCM 176 Yeast Breads (1-4) 3 Hours
This course introduces the student to bread making skills and techniques. Specialty tools and equipment used in bread making will be discussed. Topics covered include ingredient identification and functions of ingredients, how to control gluten development and learning the use of pre-ferments in bread making. Students will produce European and Artisan breads, specialty breads and fabricate products from Danish and croissant dough. (1.2)
Prerequisite: HCM 170 (C or better)
Course fee

HCM 177 Advanced Yeast Breads (1-4) 3 Hours
This course introduces the student to advanced bread making skills and techniques. Specialty tools and equipment used in bread making will be discussed. Topics covered include ingredient identification and functions of ingredients, types of breads from different cultures, the various shapes of breads, and the variety of grains, classic breads, sourdoughs and rye breads. Students will produce European, Artisan and specialty breads from different cultures using a variety of grains and bread shapes. (1.2)
Prerequisite: HCM 176 (C or better)
Course fee

HCM 178 Special Diets and Healthful Baking (2-4) 4 Hours
In this course students will focus on identifying and describing nutritional concerns associated with baked goods and desserts. Upon completion of this course, students will identify and describe allergy and food intolerance concerns and learn ways to modify or substitute alternative ingredients for fat, dairy, sugar, gluten and soy in baking formulas for people with specialized diets. (1.2)
Prerequisite: HCM 170 (C or better)
Course fee

HCM 179 Cake Decorating (2-4) 4 Hours
In this course students will work with a variety of fillings, frostings, icings and decorations to fill, ice and assemble special occasion cakes, cupcakes, and wedding cakes. Students will practice using pastry bags with an assortment of pastry tips to pipe classic and contemporary designs. Students will be introduced to rolled fondant and learn techniques with it. (1.2)
Prerequisite: HCM 172 (C or better)
Course fee

HCM 180 Chocolate and Confections (1-4) 3 Hours
This course introduces students to the world of the chocolatier and confectionery work. Students will learn the basics of chocolate and other ingredients, the history of chocolate, tools of the trade, chocolate composition, simple and advanced methods and techniques. Candy making and confectionery work will be discussed and produced including nougat, jellies, brittles and toffee. Sugar work, pastry and confectionery skills will also be emphasized. (1.2)
Prerequisite: HCM 170 (C or better)

HCM 181 Contemporary Restaurant Desserts (1-4) 3 Hours
In this course, students will plan, organize, and prepare dessert menu items typically served in an upscale dining establishment with an emphasis on modern menu trends, flavor combinations and plate presentation. Students will develop an awareness of and utilize seasonal, locally grown and produced ingredients to create the components of desserts for Prairie, a CLC student run restaurant. (1.2)
Prerequisite: HCM 170 (C or better)

HCM 185 Garde Manger (2-4) 4 Hours
This course introduces students to Garde Manger (the cold kitchen) and the practical applications of cold food preparation and presentation. Topics include cold sauces, plated appetizers, hors d’oeuvres, principles of plate presentation, buffet design, food art and sculpted centerpieces, garnishing, global garde manger, charcuterie, sausage making, smoking and curing. (1.2)
Prerequisite: HCM 171 (C or better)
Course fee

HCM 212 Menu Marketing and Management (3-0) 3 Hours
This course examines the impact the menu has on the success of a foodservice operation. Topics covered include menu design and layout, costing-out recipes, determining menu prices, marketing and merchandising the menu, cost control, and the importance of menu analysis. (1.2)
Prerequisite: HCM 111 or HCM 170 (either C or better)

HCM 213 Purchasing & Inventory Control (3-0) 3 Hours
This course addresses the principles and procedures of quantity purchasing and inventory control. Topics include basic steps in an organized purchasing system; developing standards for purchasing, cost controls and inventory systems; receiving and storage procedures; budgeting; record keeping for food, beverage, equipment and supplies; vendor relationships; legal factors; and storage requirements. (1.2)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

HCM 214 Hospitality Supervision (3-0) 3 Hours
This course introduces students to the skills and competencies needed to supervise staff in the hospitality industry. Emphasis is on recruiting, hiring, training, evaluating, motivating and team work performance. This course meets the requirements for the supervision course for American Culinary Federation (ACF) initial certification and/or re-certification. (1.2)
Prerequisite: College Reading and Writing Readiness

HCM 271 Hospitality Leadership (3-0) 3 Hours
This course introduces students to the principles and techniques required to competitively manage a successful hospitality operation in a rapidly changing environment. The roles, responsibilities and competencies required to perform successfully are presented. Competencies covered include planning, leading, organizing, and controlling to efficiently deliver quality products and services. Skills in creative problem solving and team building are addressed. (1.2)
Prerequisite: 15 semester hours of HCM courses, one of which must be HCM 212, 213, or 273 (all C or better)

HCM 272 Culinary & Hospitality Internship (1-10) 3 Hours
This course provides students with the opportunity to gain work experience in a professional hospitality setting. Students rotate through different departments or stations to obtain a well-rounded experience. Students meet for one hour per week with the instructor in the classroom and must complete a minimum of 150 hours at the internship site, under the supervision of a chef or manager. (1.2)
Prerequisite: Fifteen credit hours of HCM courses and HCM Department consent
HCM 273  Controlling Hospitality Costs
(3-0)  3 Hours
This course outlines the elements, procedures and process of controlling hospitality costs. Topics include menu, inventory, purchasing, receiving, food costs, waste, storage, budget, staff scheduling, payroll and benefits. The course also covers the components of analyzing market data and using historical numbers in budgeting. (1.2)
Prerequisite: HCM 212 and HCM 213 (both C or better)

HCM 275  Contemporary Restaurant Principles
(1-8)  5 Hours
This course provides students with the opportunity to further develop their skills in all facets of restaurant operations. Students will plan, organize, prepare and serve menu items typically featured in an upscale dining establishment specializing in Contemporary American Cuisine. Students will experience both front-of-the-house and back-of-the-house operations. Modern menu trends, flavor combinations, and plate presentation are emphasized, using locally-grown and produced ingredients when possible. Students will also learn basic service techniques, set-up and organization of the dining room, and service language. (1.2)
Prerequisite: HCM 171 and HCM 212 (both C or better)

HCM 299  Selected Topics in Hospitality
(Var.)  1-5 Hours
This course is designed to provide specialized instruction in a current or emerging culinary arts or hospitality management area. Course content will vary depending on the topic being studied. The course may be taken up to three times, but any topic only once, for a maximum of three credits toward a degree or certificate. (1.2)
Course fee
May be taken three times, but any topic only once

HUMAN SERVICES PROGRAM
(HUS)

HUS 114  Human Services Supervision
(3-0)  3 Hours
Designed to develop an understanding of the major functions of management in the human services area. Various methods of planning, organizing and directing are examined. (1.2)
Prerequisite: College Reading and Writing Readiness

HUS 116  Principles of Foster Care
(1-0)  1 Hour
For people who have received basic orientation for foster care from the agency for which they are fostering children. It seeks to acquaint new and experienced foster parents with basic concepts in fostering through formal presentations and learning from other class members. (1.2)
Prerequisite: College Reading and Writing Readiness

HUS 117  Behavior Assessment
(4-0)  4 Hours
Presents the idea of planned intervention to human systems utilizing verified principles of behavior change. Emphasis placed on the ways in which behavior is determined by factors in natural social situations. Research and the practical application of behavior change techniques are stressed. (1.2)
Prerequisite: PSY 121 (C or better)

HUS 121  Health and Nutrition
(3-0)  3 Hours
The course focuses on personal health needs of the individual, including nutrition, health, and safety issues with emphasis on meeting health/safety needs for children, adolescents, and adults in group settings. A healthy lifestyle, preventive health, and community health are examined. (1.1)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

HUS 123  Introduction to Group Dynamics
(3-0)  3 Hours
This course introduces basic concepts and theories of group dynamics, including group development and functioning, communication patterns, leadership, and conflict management. Laboratory experiences provide opportunities for self-awareness through observations of group behavior, working within groups, and group leadership. (1.1)
Prerequisite: College Reading and Writing Readiness

HUS 128  Introduction to Counseling Skills
(2-2)  3 Hours
This course provides the student with an introduction to the foundational theories and skills necessary in the counseling field and explores the dynamics of establishing positive relationships with people in need of human services. The counseling process and the issues of intervention, therapeutic interviewing, confidentiality, and empathic communication will be presented. This course includes a mandatory field experience of 40 hours with an HUS Department Chair pre-approved social service agency. (1.1)
Prerequisite: College Reading and Writing Readiness

HUS 132  Trauma, Violence, and Prevention
(3-0)  3 Hours
This course provides an introduction to the knowledge, skills, and values necessary for working in the area of trauma, victim services, advocacy and treatment, and violence prevention in contemporary society. Theoretical concepts will be introduced on the following topics: causes of trauma, types of trauma and violence, prevention, crisis intervention, stress management for client and provider, cultural competency, grief and loss, post-traumatic stress disorder, and victimization. Students will explore the problems and the social welfare agencies responding to the experiences of diverse populations in these areas. (1.2)
Prerequisite: HUS 128 or HUS 140 (both C or better)
COURSE INFORMATION AND DESCRIPTIONS

HUS 134  Gender-Based Violence  
(4-0)  4 Hours  
This course will provide the student with an understanding and knowledge of the specialized areas of Domestic Violence and Sexual Assault and the content required of anyone who wishes to understand, work, or volunteer within these fields. Specific topics addressed will be rape trauma syndrome, post-traumatic stress disorder, cycle of violence, the impact to victims and their families, same-sex violence, confidentiality, mandated reporting to the Department of Children and Family Services, and interventions to support the healing process. This course consists of the equivalent of the two mandatory 40-hour trainings combined into one 60-hour training. Mandatory trainings are required prior to working directly with victims of either sexual assault or domestic violence. Upon completion of this course, students will earn certifications for volunteering or working in the Sexual Assault and Domestic Violence fields. This course is intended for students in any field and community members from all walks of life who want to learn to help others. (1.2)  
Prerequisite: College Reading and Writing Readiness or consent of department chair  
Recommended: HUS 128 (C or better)  

HUS 140  Drugs and Society  
(3-0)  3 Hours  
This course provides the student with an historical background of drugs of abuse and their impact on individuals and society. Topics addressed include an in-depth study of specific licit and illicit drugs and the pharmacological and behavioral effects within the major classifications of substances. Additional topics include laws and regulations, individual and societal problems, prevention strategies, and trends and statistics. (1.1)  
Prerequisite: College Reading and Writing Readiness  

HUS 151  Addiction Counseling and Treatment I  
(3-0)  3 Hours  
This course will provide an overview of addiction, including the addiction process, addictive disorders, treatment and recovery, relapse, self-help groups, and milieu management. Students will study theories of addiction, and gain an understanding of addiction as a brain disease and how drugs affect the physical, emotional, and social aspects of the person. Societal and cultural views of addiction will be discussed. In addition, this course will focus on assessment and treatment of families where one or more members have an addictive disorder. Topics in this area include codependency, survival strategies of family members, and family interaction patterns and communication processes. Intervention techniques will also be covered. (1.2)  
Prerequisite: HUS 123, HUS 128, and HUS 140 (all C or better) or Department Consent  

HUS 152  Process Addictions/Impulse Disorders  
(2-0)  2 Hours  
This course will examine the addictive process as it is manifested in diverse social behaviors. Students will study similarities and differences of process/behavioral addictions, impulse control disorders, and compulsive behaviors. Focus will be on etiology, assessment, treatment, legal issues, and family issues. These various behaviors and disorders will include, but not be limited to the following: gambling, eating disorders, work, sex, compulsive buying, shoplifting, pyromania, and intermittent explosive disorder. The relationship of these disorders will be compared and contrasted with alcohol and other drug addictions. (1.2)  
Prerequisite: HUS 140 (C or better)  

HUS 153  Diverse/Multicultural Populations  
(2-0)  2 Hours  
This course provides the students with an analysis of the different populations of clients in substance-use treatment settings, including age, ethnicity, racial, cultural, gender, sexual minorities, people with disabilities, co-occurring disorders. Clients in criminal justice settings will also be addressed. For each population studied, differential addiction patterns will be explained, response to traditional treatment methods will be identified, and research data regarding treatment modes to accommodate the needs of diverse populations will be analyzed and applied. (1.2)  
Prerequisite: HUS 140 (C or better)  
Fulfills the CLC I/M Education Requirement.  

HUS 154  Ethics in Human Services  
(1-0)  1 Hour  
This course provides the student with an introduction to multiple ethical considerations in the counselor-client relationship. Topics considered will include personal values of professional staff, confidentiality, sexual and social contact with clients, self-determination, conflicts of interest, dual relationships, and more. Students will also consider application of agency policies, professional ethics, and the law. (1.2)  
Prerequisite: HUS 140 (C or better)  

HUS 155  Pharmacology for Human Services  
(2-0)  2 Hours  
This course provides the student with an exploration of the neurobiological processes, including neurotransmission, an overview of the various elements of the nervous system, and the effects, mechanisms, and actions of classes of psychotropic drugs. Students will study the terms used in the medical and psychotherapy profession as described in the Diagnostic and Statistical Manual (DSM) and the International Classification of Disease (ICD). Abbreviations, spelling, and pronunciation are emphasized. (1.2)  
Prerequisite: HUS 140 (C or better)  

HUS 157  Communicable Diseases and Substance Abuse  
(2-0)  2 Hours  
An interdisciplinary analysis of the biological, social and psychological aspects of communicable diseases and their relationship with substance use, abuse, and addiction. Specific topics include HIV/AIDS, STDs, hepatitis, and disease progression. Emphasis will be placed on myths versus realities. Risk assessment, risk reduction, psychological interventions, medical management and legal issues are included. (1.2)  
Prerequisite: HUS 140 (C or better)  

HUS 170  Human Services Practicum I  
(Var.)  1-4 Hours  
This course is an onsite, unpaid supervised practicum experience working directly with clients, family members, and the community in a Human Services agency related to the student’s program of study. To apply this course toward a certificate or degree, the student must complete a total of 300 hours of practicum and coursework. This is a variable credit course (1-4 credits), with 75 practicum hours required per credit. This course is repeatable for a maximum of four (4) credits or 300 practicum hours. (1.2)  
Prerequisite: HUS 274 (C or better), consent of Human Services Department Chair, and a minimum GPA of 2.40  
May be taken four times for credit toward degree.
HUS 171 Human Services Practicum II (Var.) 1-4 Hours
This course is a continuation of HUS 170. When appropriate, Practicum II will be performed in a different setting than Practicum I. The student will be expected to initiate a leadership role in therapeutic interventions with clients at a higher skill level than in Practicum I. To apply this course toward a certificate or degree, the student must complete a total of 300 hours of practicum and coursework. This is a variable credit course (1-4 credits), with 75 practicum hours required per credit. This course is repeatable for a maximum of four (4) credits or 300 practicum hours. (1.2)
Prerequisite: HUS 170 (C or better), consent of Human Services Department Chair, and a minimum GPA of 2.50
May be taken four times for credit toward degree

HUS 217 Creative Activities II (2-2) 3 Hours
Creative activities used in the development of school-age children and adolescents in residential group care. (1.2)
Prerequisite: HUS 223

HUS 218 Human Services Internship (1-15) 4 Hours
This course is an on-site, unpaid supervised internship experience working directly with clients, family members, groups, and the community in community social service agencies. This course is a total of 250 hours, which includes 30 hours of supervision and a supervision seminar class. (1.2)
Prerequisite: HUS 274 (C or better), approval of Department Chair, and a minimum GPA of 2.40

HUS 231 Adult Development and Aging (3-0) 3 Hours
This course integrates theory and research related to changes across periods of adulthood in areas such as: biological, cognitive, personality, mental health, social-emotional, etc. Students will gain an understanding of the aging process through the use of a lifespan model of adult development in a multicultural context. (1.2)
Prerequisite: College Reading and Writing Readiness

HUS 232 Trauma Interventions (3-0) 3 Hours
This course is a continuation of HUS 132 and provides an overview of the impact of violence and trauma across the life span. Therapeutic techniques, assessment, and interventions appropriate for working with victims of trauma at various developmental life stages and the specific issues, including gender, which relate to children, adolescents, young adults, adults, and older adults. Topics covered include resources available for referrals, working with resistant and reluctant clients, working with families, and group work with various types of trauma. (1.2)
Prerequisite: HUS 132 (C or better)
Recommended: HUS 236 (C or better)

HUS 234 Child Maltreatment (3-0) 3 Hours
This course explores the etiologies and effects of child maltreatment as well as assessment and treatment strategies. Child maltreatment is approached from a strengths-based, family-centered perspective within a multidisciplinary context noting issues of culture and diversity and the influence of digital and social media. Topic areas include child physical abuse, neglect, sexual abuse, psychological maltreatment, family violence, extrafamilial abuse, and consequences across the lifespan. Emphasis will be given to identification of child maltreatment, reporting procedures, interventions, treatment, prevention, and professional, legal, and agency interaction. (1.2)
Prerequisite: College Reading and Writing Readiness
Recommended: HUS 128 or HUS 132 or SWK 121

HUS 236 Crisis Intervention (3-0) 3 Hours
This course will provide the student with an understanding of the history, theory, and models of crisis intervention. The student will gain knowledge regarding specific crises in the areas of loss, abuse, violence, crimes, developmental, health-related and others. The student will also acquire effective intervention skills and techniques to respond to individuals in specific crisis situations. (1.2)
Prerequisite: HUS 128 (formerly HUS 118) (C or better)
Recommended: HUS 132 (C or better)

HUS 251 Addiction Counseling and Treatment II (4-0) 4 Hours
This course will provide an overview of the treatment process from evaluation and intake through discharge, with an emphasis placed on interviewing skills, record keeping and documentation. Specific topics include screening, assessment, diagnosis, intake, treatment planning, case management, co-occurring disorders, discharge planning, and referral. The course encompasses a study of screening and assessment procedures used to gather information during the client intake process that form the basis for a multivariate diagnosis of addictive disorders as described in the current edition of the DSM. Screening and assessment instruments will be utilized with the Bio/Psycho/Social evaluation to formulate and support a Diagnostic Summary. The current ASAM Patient Placement Criteria will be utilized to match the client with the appropriate level of care and appropriate differential treatment plan. (1.2)
Prerequisite: HUS 151 (C or better)

HUS 253 Advanced Addictions Counseling Skills (2-2) 3 Hours
This course is a study of the major theoretical approaches used in counseling alcoholism, substance abuse, and addictive disorders. Theories and principles of both group work and individual counseling in a variety of human service settings are explored. Students are expected to participate as both clients and counselors in role plays to apply this knowledge. Client problems that often coincide with addictive disorders will be addressed. (1.2)
Prerequisite: HUS 151 (C or better)

HUS 274 Human Services Practicum Orientation (1-0) 1 Hour
This course prepares students for the practicum experience in the various Human Services Programs. Students will gain an understanding of the practicum process, required paperwork, ethical considerations, and the supervision requirements. In addition, students will prepare resumes, practice interviewing skills, develop professional demeanor, and begin the interview process with potential practicum sites. Note: Application for HUS 274 must be submitted to the HUS Department Chair. Prerequisites for HUS 274 may be taken concurrently or waived upon course review and determination by HUS Department Chair. (1.2)
Prerequisite: HUS 154, HUS 155, HUS 251, and HUS 253 (all C or better)
COURSE DESCRIPTIONS

HUS 275  Addiction Counseling Practicum I (Var.)  1-4 Hours
This course is an on-site, unpaid supervised practicum experience working directly with clients, family members, and groups in community treatment centers for substance use disorders and addictions. Experiences may include in-patient, out-patient and intensive outpatient models.
To apply this course toward a certificate or degree, the student must complete a total of 300 hours of practicum and coursework. This is a variable credit course (1-4 credits), with 75 practicum hours required per credit. This course is repeatable for a maximum of four (4) credits or 300 practicum hours. (1.2)
Prerequisite: HUS 274 (C or better), and approval of Department Chair, and minimum GPA of 2.5
May be taken four times for credit toward degree

HUS 276  Addiction Counseling Practicum II (Var.)  1-4 Hours
This course is a continuation of Addiction Counseling Practicum I, HUS 275. When appropriate, Practicum II will be performed in a different setting than Practicum I. The student will be expected to initiate a leadership role in therapeutic intervention with clients at a higher skill level than in Practicum I. To apply this course toward a certificate or degree, the student must complete a total of 300 hours of practicum and coursework. This is a variable credit course (1-4 credits), with 75 practicum hours required per credit. This course is repeatable for a maximum of four (4) credits or 300 practicum hours. (1.2)
Prerequisite: HUS 275 (C or better), approval of Department Chair, and a minimum GPA of 2.5
May be taken four times for credit toward degree

HUS 299  Special Topics in Human Services (Var.)  1-3 Hours
Special topics will be developed for the different Human Services Options. Topics developed will focus on a specific current issue in the areas of adult services or alcohol and substance abuse.
Note: A maximum of six (6) credit hours of HUS 299 may be used as elective credit toward an A.A.S. degree in Human Services. (1.2)
Prerequisite: College Reading and Writing Readiness
May be taken four times, but any topic only once

HUMANITIES (HUM)

HUM 121  Humanities: Ancient Times to the Middle Ages (3-0)  3 Hours
This interdisciplinary course introduces students to art, architecture, literature, philosophy, religion, myth, music, and dance of western (Europe; North, Latin, and South America) and non-western (Asia, Africa, India) civilizations from ancient period to the end of the 14th century.
Note: HUM 121 is not a prerequisite for HUM 122. Thus, students can take HUM 122 without taking HUM 121. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: HF 902

HUM 122  Humanities: Renaissance to the Present (3-0)  3 Hours
This interdisciplinary course introduces students to art, architecture, literature, philosophy, religion, myth, music, and dance of western (Europe; North, Latin, and South America) and non-western (Asia, Africa, India) civilizations from the 15th century to the present.
Note: HUM 121 is not a prerequisite for HUM 122. Thus, students can take HUM 122 without taking HUM 121. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: HF 903

HUM 123  Introduction to Film (3-0)  3 Hours
This is an introductory course on the historical, technical and aesthetic study of film. Students will learn how the film maker communicates to us through cinematography, mise-en-scene, editing, sound and narrative construction and will gain a historical perspective on the history of film art. (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
IAI: F2 908

HUM 126  Introduction to the Performing Arts (3-0)  3 Hours
This course provides an introduction to current performing arts trends, inclusive of cultures, traditions and populations that are typically underrepresented in the study of performing arts. Theatre, music, opera, and dance will all be examined from the point of view of the educated audience member. Students will learn to better understand and evaluate the performing arts. Terminology, practitioners, organization, and a brief history of each discipline will be examined. This will be accomplished through lectures, videos, and by attending actual performances. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: F9 900

HUM 127  Critical Thinking (3-0)  3 Hours
This course is an introduction to critical thinking skills (i.e., informal logic), including the following: problem solving, diagramming and evaluating arguments, constructing sound reasoning skills and habits, detecting fallacies, and reasoning from a variety of disciplines such as science, business, law, and the arts. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: H4 906

HUM 128  Introduction to Middle Eastern Civilizations (3-0)  3 Hours
This course provides a multi-media exploration of (1) the diverse philosophical and religious concepts and values in the Middle East, (2) the diverse expressions of these concepts and values in the art, architecture, craftsmanship, film, and literature produced by the cultures of North Africa, Egypt, Israel, Turkey, the Fertile Crescent, Arabian Peninsula, Iran, and Pakistan, and (3) the relation of these concepts and values to current philosophical issues in the Middle East regarding politics, economics, and gender. Comparisons will be made with Western philosophy, art, architecture, craftsmanship, film and literature. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: H2 903N

356   2019-2020 College of Lake County Catalog
HUM 129  Introduction to East Asian Civilization
(3-0)  3 Hours
This course is an introduction to East Asian culture, past and present. Particularly, this course will focus on China, Japan, and Korea. Students will learn about representative works and significant developments in the arts, philosophy, religion, and literature in China, Japan, and Korea. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: HF 904N

HUM 140  Introduction to International Film
(3-0)  3 Hours
This is a survey course on the history and aesthetic appreciation of film as an international medium of entertainment, communication and persuasion. Through viewing and analysis of classic and contemporary films from Europe, Central and South America, Asia, the Middle East and Australia, the student will gain a global understanding of film. Films shown will be mostly narrative features by internationally recognized directors, but may also include avant-garde, documentary, animated and North American foreign-language films. (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
Fulfills the CLC I/M Education Requirement.
IAI: HF 909

HUM 141  World Humanities of 20/21 Century
(3-0)  3 Hours
This is an interdisciplinary and multicultural course which introduces students to the visual art, architecture, literature, philosophy/religion/myth, music, dance, and history of various non-Western cultures through selected works and a comparative examination of their values, motifs and aesthetics with those of Western cultural expression during the 20th and 21st centuries. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: HF 904N

HUM 221  American Decades
(3-0)  3 Hours
This course introduces students to the interdisciplinary study of American culture by examining the intercultural/multicultural ideas, processes, values, motifs, and traditions that have shaped our pluralistic society. American history, philosophy, literature, music, visual and performing arts will be studied. Emphasis will be placed on reflecting the diverse cultural constituency, and racial and ethnic minorities. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: HF 906D

HUM 222  Film and Society
(3-0)  3 Hours
This course will examine the evolution of American cinema and its relationship to society. The focus of the course is on the history of film and the social, economic and political pressures which have shaped its development. Periods of film history will include such eras as: Early “Silent” Cinema, “Classical” Hollywood of the 1930s/1940s, Post-War American Film, the “New American Cinema” of the 1960s/1970s, Postmodernism, and recent developments in Digital Filmmaking. Special attention will be paid toward important facets of the film industry such as the Auteur-Director, the Star system, as well as examples of important Genres (e.g. Musicals, Westerns, Horror, Detective, Science-Fiction, “Woman’s Pictures”, Social Problem films, etc). (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
Fulfills the CLC I/M Education Requirement.
IAI: HF 908

HUM 226  Women and the Arts
(3-0)  3 Hours
This interdisciplinary humanities course explores the depiction and contributions of women in the visual and performing arts throughout history. Current multicultural and global developments, the contrast of female and male creativity, social attitudes regarding women, and patronage of the arts will be investigated. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: HF 907D

HUM 299  Special Topics in Humanities
(Var.)  1-3 Hours
This course will address the in-depth study of special topics in Humanities which do not have specific courses in the catalog. Course content and requirements will vary depending on the topic being studied. (1.1)
Prerequisite: College Reading and Writing Readiness
May be taken three times, but any topic only once

INDUSTRIAL ELECTRICIAN (ISE)

Engineering, Math and Physical Sciences Division,
Room T302, (847) 543-2044

ISE 110  Introduction to Industrial Electricity
(1-2)  2 Hours
Introductory course in industrial electricity. Emphasis placed on fundamental principles and practices. (1.2)
Prerequisite: MTH 114
Course fee

ISE 111  Industrial Electrical Circuits I
(2-2)  3 Hours
Introduces students to electrical fundamentals as related to direct current systems and applications. (1.2)
Prerequisite: MTH 114
Course fee

ISE 112  Industrial Electrical Circuits II
(2-2)  3 Hours
Introduces students to electrical fundamentals as related to alternating current systems and applications. (1.2)
Prerequisite: ISE 111
Course fee

ISE 114  National Electrical Code
(2-0)  2 Hours
Provides the student with the opportunity for study and interpretation of the National Electrical Code. Note: Previous electrical experience/education is strongly recommended. (1.2)

ISE 117  Industrial Electronic Devices
(2-2)  3 Hours
Introduces students to a wide variety of analog and digital circuits used in various electronic systems and devices used in the home and industry. (1.2)
Prerequisite: MTH 115 and ELC 114
Course fee
ISE 118  Power Distribution  
(2-2)  3 Hours  
Electrical and electronic applications on industrial equipment including simple and automated welding control circuits, switching circuits, light and heat controls, speed and voltage regulators, large current polyphase rectifiers, temperature recorders and control, high speed light and register controls, automatic control of D.C. motors, closed loop servomechanisms, and electronic service instruments. (1.2)  
Prerequisite: MTH 115 and ELC 114  
Course fee

INTEGRATED EDUCATION TRAINING (IET)

Adult Education and ESL Division, Building 4  
(847) 543-2021

Adult Education classes are intended for people who live in Lake County. They are not appropriate for students with B1, B2, F1, F2, J1 or J2 visas, nor are they appropriate for short-term visitors to the U.S.

In general, students must be at least 18 years old in order to enroll in adult education classes. However, 16-year-olds and 17-year-olds may register with an official Secondary School Reference Form signed by their local High School authorized representative. U.S. High School graduates and 16-year-olds must meet additional eligibility requirements. New students must attend an orientation session before attending classes.

The Adult Education and ESL Division provides several specific types of educational opportunities and is funded in part by grants from the federal government.

IET 70  ICAPS Study Skills  
(Var.)  0.5-6 Hours  
This course will emphasize the study and college skills needed to succeed in College & Technical education programs that lead to career certificates. Prerequisites include the same requirements for the program they are enrolling in (i.e., if College Reading and Writing Readiness or Basic Algebra Readiness is required to enter the program, it is required for the support class as well.) Courses will vary as required by topic. Prerequisite: Department Consent (1.8)  
Course fee  
May be taken four times for credit

INTERNATIONAL STUDIES (SSI)

Business and Social Sciences Division, Room T302, (847) 543-2047

SSI 121  Introduction to Global Studies  
(3-0)  3 Hours  
This course explores globalization from the social, cultural, economic, and political dimensions. Through reading, research, writing about global experience and discussions of major social-scientific theories students examine and analyze the complexity of variety of our societies and the common features of their changing environments. The course addresses the historical context in which globalization emerged, including the rise of global institutions and the legacy of colonialism, the global economy and its impact on labor and financial markets, the media, the social and cultural movements, global politics, religion in the global context and the rise of global terrorism. The course also studies the global social issues and problems such as gender and the aggregation of global poverty. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.

SSI 124  International Studies in Social Science  
(Var.)  1-3 Hours  
Students will travel with faculty to international/regional locations which may vary from year to year to study selected topics or current issues in the social or behavioral sciences (anthropology, sociology, psychology, geography, history, political science, and economics). The instructor will assist students in developing required activities or projects undertaken during the travel experience. These will include field trips, lectures, discussions or other appropriate activities. Credit is variable and arranged with the instructor. Students are responsible for the travel expenses, tuition, and fees. (1.1)  
Prerequisite: College Reading and Writing Readiness  
May be taken three times, but any topic only once

ITALIAN (ITL)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

ITL 121  Beginning Italian I  
(4-0)  4 Hours  
An introduction to the Italian language. The course develops basic skills in pronunciation, vocabulary, grammar, reading, listening comprehension, and oral and written communication within the context of Italian culture. (1.1)

ITL 122  Beginning Italian II  
(4-0)  4 Hours  
This course continues to develop the basic skills introduced in ITL 121: pronunciation, vocabulary, grammar, reading, listening comprehension, and oral and written communication within the context of Italian culture. (1.1)  
Prerequisite: ITL 121

ITL 221  Intermediate Italian I  
(4-0)  4 Hours  
Continued development of basic skills introduced in ITL 121 and ITL 122. The course is a general review and expansion of beginning grammar, conversation, vocabulary development, readings and writing exercises which focus on life in Italy. (1.1)  
Prerequisite: ITL 122

ITL 222  Intermediate Italian II  
(4-0)  4 Hours  
This course reviews and expands the use of Italian grammar by introducing more advanced structures into verbal and written communication. Films, material from newspapers and magazines, and from other media will enable students to use authentic materials that are culturally relevant to explore further the Italian speaking world and its culture. (1.1)  
Prerequisite: ITL 221 (C or better) or Consent of Instructor  
Fulfills the CLC I/M Education Requirement.  
IAI: H1 900
**JAPANESE (JPN)**

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

**JPN 121**  
Beginning Japanese I  
(4-0)  
4 Hours  
This course develops basic skills in pronunciation, vocabulary, grammar, reading, listening, comprehension, and oral and written communication within the context of Japanese culture. (1.1)  
**Prerequisite:** JPN 122

**JPN 122**  
Beginning Japanese II  
(4-0)  
4 Hours  
This course continues to develop the basic skills introduced in JPN 121: pronunciation, vocabulary, grammar, reading and writing of Kana and Kanji, listening comprehension, and oral and written communication within the context of Japanese culture. (1.1)  
**Prerequisite:** JPN 121

**JPN 221**  
Intermediate Japanese I  
(4-0)  
4 Hours  
Designed to continue the development of basic skills, this course is a general review and expansion of beginning grammar, along with conversational, vocabulary development, reading and writing of Kana and Kanji within the context of Japanese culture. (1.1)  
**Prerequisite:** JPN 122

**JPN 222**  
Intermediate Japanese II  
(4-0)  
4 Hours  
This course continues to expand the knowledge of Japanese grammar, with emphasis in verbal and written communication. Students will use various sentence patterns and speech styles with Kana and Kanji (additional 100 Kanji). Films, short videos, readings and materials from newspapers, magazines, and media are utilized so students explore the Japanese speaking world and cultures based on authentic materials.  
**Note:** Field trip attendance is required. (1.1)  
**Prerequisite:** JPN 221  
**Fulfills the CLC I/M Education Requirement.**  
**IAI:** H1 900

**JPN 223**  
Japanese Civilization I  
(3-0)  
3 Hours  
This course is designed to give the advanced Japanese language and culture students more opportunity in reading and writing complex material with new Kanji. It is also designed to expand the students’ knowledge of Japanese culture through articles and films. Communication skills will be gained through group discussions. (1.1)  
**Prerequisite:** JPN 222 or equivalent (C or better)

**JPN 224**  
Japanese Civilization II  
(3-0)  
3 Hours  
This course is a continuation of Japanese Civilization I. Advanced Japanese language and culture students will continue to gain cultural enrichment through lively discussions, readings, and writing about Japan. This course will incorporate a broad variety of materials from literary works, films, articles, and media in order to provide students the opportunity to understand and apply the Japanese language. (1.1)  
**Prerequisite:** JPN 223 or equivalent (C or better)

**LASER/PHOTONICS/OPTICS (LPO)**

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

**LPO 110**  
Introduction to Lasers, Photonics and Optics  
(2-2)  
3 Hours  
This course will introduce students to the field of photonics, including a variety of optics, electronics and photonics laboratory equipment. Additionally, lab safety skills as defined by the American National Standards Institute (ANSI) Z136.5 standard will be practiced. Students will be responsible for writing lab reports, performing related calculations, graphing data collected, logging that data in a lab notebook and completing reports in office software. Students will investigate the responsibilities of photonics systems technicians and potential careers in photonics/laser technology and other industries through various career and outreach events. (1.2)  
**Prerequisite:** ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103, ELI 104, ELI 110 (all C or better) or College Reading and Writing Readiness AND Basic Algebra Readiness  
**Course fee**

**LPO 111**  
Fundamentals of Light and Lasers  
(3-2)  
4 Hours  
This course covers the nature and property of light, light sources, laser safety, geometrical and physical optics, and principles of lasers. Selected topics in math will be reviewed in conjunction with topics in photonics. Typical math topics embedded in this course include scientific notation, introductory algebra, geometry, trigonometry, exponents and logarithms. (1.2)  
**Prerequisite:** ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103, ELI 104, ELI 110 (all C or better) or College Reading and Writing Readiness AND Basic Algebra Readiness  
**Course fee**

**LPO 112**  
Elements of Photonics  
(2-2)  
3 Hours  
This course covers the basic principles of lasers and other photonic devices used in fiber optics, imaging, display and storage applications. (1.2)  
**Prerequisite:** LPO 111 or consent of instructor  
**Course fee**
COURSE DESCRIPTIONS

LPO 113  Photonics-Enabled Technologies  
(2-2)  3 Hours  
The subject matter covered in this course includes topics such as laser welding; laser drilling, cutting and marking; test and measurement applications; forensic science and homeland security; and basic spectroscopy principles. Course topics have a strong manufacturing orientation. (1.2)  
Prerequisite: LPO 111 or consent of instructor  
Course fee  

LPO 134  Introduction to Biophotonics  
(3-2)  4 Hours  
This course covers the basic principles of biology crucial to the understanding of biological, biomedical, and ecological applications of photonics. Biophotonics has emerged from interdisciplinary research and applications of the biological, chemical, and physical sciences, and engineering. This course provides a broad overview of the countless applications of photonics in these fields. (1.2)  
Prerequisite: LPO 111 and LPO 112 (both C or better); and BIO 123 or BIO 161 (both C or better)  
Course fee  

LPO 145  Photonic CAD Applications  
(2-2)  3 Hours  
This course will introduce students to the use of computer aided design (CAD) in the field of photonics. Students will utilize a CAD program in the design of mechanical structures and optical assemblies as well as for lens design and ray-tracing of a light ray through the lens system. (1.2)  
Prerequisite: LPO 111 and CAD 170 (previously CAD 173) (both C or better)  
Course fee  

LPO 211  Quality Assurance for Precision Optics  
(1.5-3)  3 Hours  
The course offers a more advanced look at many of the topics covered in Fundamentals of Light and Lasers (LPO 111). Topics include imaging with multiple lenses, F-stops and apertures, Optical Systems, Matrix Optics, Fundamentals of fiber optics, Interference, Diffraction, Polarization, and Holography. (1.2)  
Prerequisite: LPO 111 (C or better)  
Course fee  

LPO 212  Elements of Photonics II  
(2-2)  3 Hours  
This course builds upon Elements of Photonics (LPO 112) and covers additional laser systems including excimer lasers, fiber lasers, diode lasers, dye lasers, and others. In lab students will experience advanced applications with hands-on laser optical systems and analysis. (1.2)  
Prerequisite: LPO 112 (C or better)  
Course fee  

LPO 250  Laser and Electro-Optic Devices  
(1.5-3)  3 Hours  
This course offers a more advanced look at many of the devices used in a photonics lab. Physical characteristics of photodetectors, such as response time and detectivity, will be measured and compared to published device specifications and further verified using computerized diagnostic equipment. Measuring the thermal effects of a laser by applying different types of photodetectors to optical systems will be explored. Students will further investigate other wave based energy using light to transmit digitized data. (1.2)  
Prerequisite: LPO 112 (C or better)  
Course fee  

LPO 290  Laser, Photonics and Optics Capstone Proposal  
(.5-1)  1 Hour  
This course will require students, or teams of students, to decide on a capstone project to be completed in LPO Project or Research Capstone (LPO 291). Proposed projects must be cleared with the instructor to verify that they meet program requirements and that they can be supported by the college. An outline of the project, a description of any lab setup, and a formal proposal will be documented. Students deciding to work in teams will include member responsibilities and timelines in their outlines. (1.2)  
Prerequisite: LPO 113 (C or better)  
Course fee  

LPO 291  Laser, Photonics and Optics Project or Research Capstone  
(.5-5.5)  3 Hours  
This course will require students, or teams of students, to work on a capstone project. Students must complete the project under the guidance of the instructor to ensure the project, as proposed in LPO 290 and LPO 291 course requirements, are maintained. Students will create a log of the project with a timeline, a working model of any lab setup (or nonworking with an acceptable reason), and a CAD or similar drawing of optical apparatus. In addition a formal report for the course will be produced along with a poster for submittal to a conference. (1.2)  
Prerequisite: LPO 290 (C or better)  
Course fee  

LATIN AMERICAN STUDIES (LAT)  

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040  

LAT 121  Introduction to Latin American Studies  
(3-0)  3 Hours  
This course will provide an overview of the Latin American and Caribbean people and their countries, from their origins to the present. Some of the areas examined are the political, cultural, historical, and ethnicity issues that affect these civilizations. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: HF 906D  

LEGAL STUDIES (PLS)  

Business and Social Sciences Division, Room T302, (847) 543-2047  

PLS 110  Introduction to Legal Studies  
(3-0)  3 Hours  
This course provides an introduction to the legal system and the paralegal profession. It includes the roles and professional responsibilities of the paralegal and other professionals in the legal system and outlines the fields and specializations within the practice of law. It provides an overview of the functions of the legal system and an introduction to legal research, writing, ethics, and the law library. (1.2)  
Prerequisite: College Reading and Writing Readiness  

PLS 112  Legal Research and Writing I  
(3-0)  3 Hours  
This course provides an integrated introduction to legal research and writing. Students will learn to use a law library, perform legal research, analyze legal problems, and communicate research findings in the proper written format. Students will learn to locate and use both primary and secondary legal research sources, including federal and state cases, digests, statutes, regulations, treatises, encyclopedias, law reviews, citators, and practice works. Students will be introduced to computer-based legal research tools. (1.2)  
Prerequisite: PLS 110 (C or better) OR ENG 121 or equivalent (C or better) and concurrent enrollment in PLS 110 OR department consent
PLS 114  Litigation  
(3-0)  3 Hours
This course provides students with the knowledge and skills needed to effectively and ethically assist an attorney in litigation practice and procedure. Students will learn the principles of civil litigation in federal and state courts and will be introduced to the rules of procedure and discovery. The course addresses pre-trial practice, pretrial motions, trial preparations, basics of a civil trial, post-trial motions and appeals. The role of the paralegal during trials will also be addressed. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 116  Contract Law  
(3-0)  3 Hours
This course provides students with the knowledge and skills to define and evaluate contract law for application to specific situations. It includes an analysis of the law pertaining to contract formation, resolution of contract disputes and the impact of the Uniform Commercial Code on traditional contract theory. The course examines the types of contracts and discusses offer, acceptance and consideration. Guidelines for drafting a contract will be presented, and students will draft contracts. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 118  Real Property Law  
(3-0)  3 Hours
This course provides an introduction to Real Estate law and practice. Topics include property rights, types of land ownership, purchases and sales of real property, land use regulations, and issues in the landlord-tenant relationship. The course examines the role of the paralegal in relation to the supervising attorney and prepares the student to draft deeds, contracts, and leases. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 210  Tort Law  
(3-0)  3 Hours
This course provides an introduction to the broad area of civil wrongs and their appropriate remedies as well as tort law principles in the traditional areas of intentional torts, negligence, absolute liability, product liability, nuisance and commonly employed defenses. Students will acquire the knowledge and skills to define and evaluate tort law for application to specific situations. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 211  Drafting Legal Documents  
(3-0)  3 Hours
This course provides an in-depth, hands on training in practical legal writing with a special focus on document preparation, transactional documents, use of form books and everyday law office writing, including the preparation, research, and drafting of pleadings, forms, and motions. This course will draw from many areas of law. (1.2)  
Prerequisite: PLS 110 (C or better) and PLS 112 (C or better)

PLS 212  Business Law II/Corporate and Securities Law  
(3-0)  3 Hours
This course provides an overview of various forms of business structures; including sole proprietorships, partnerships and corporations as well as other forms of business. Additional topics covered include the Uniform Commercial Code (UCC), leases, secured transactions and the laws administered by the Securities and Exchange Commission. The student will learn how to draft documents that are important to these fields of law.  
BUS 222 and PLS 212 are cross-listed. (1.1)  
Prerequisite: PLS 110 (C or better) or BUS 221

PLS 213  Employment and Labor Law  
(3-0)  3 Hours
This course provides students with the knowledge and skills needed to effectively and ethically assist an attorney in Employment and Labor Law practice and procedure. Students will receive an overview of the legal relationship between employers and employees, including the employment at will doctrine, employment contracts, federal and state anti-discrimination laws, the labor-management relations in the union setting, along with the laws applicable to pay, benefits and the federal and state employment laws for veterans and returning service members. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 214  Administrative Agency Law  
(3-0)  3 Hours
This course presents basic concepts of administrative law and procedure in federal and state agencies, with emphasis on the paralegal role in the administrative process. Students will learn both formal and informal advocacy techniques, including representing clients before administrative bodies. Substantive topics will include administrative delegation of power, rule making, agency discretionary powers, remedies, and judicial review. Procedural topics include agency operation, adjudication, preparation for hearings, and administrative and judicial review. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 215  Immigration Law  
(3-0)  3 Hours
This course provides students with the necessary knowledge and skills to function as effective and ethical immigration paralegals. Students will learn about the immigration system- who can come to the United States, who can stay, and who must leave- including a brief history of immigration law. This course also trains paralegals to work with clients to seek specific visas, including how to gather and present information and complete documentation required for the various visas. This course introduces and explores all significant aspects of the immigration and naturalization process. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 216  Intellectual Property Law  
(3-0)  3 Hours
This course provides an overview of intellectual property law in the United States. The student will learn what is necessary to obtain a patent, a copyright, and a trademark, and what constitutes a trade secret. The student will learn to prepare applications for patent, copyright, and trademark protections with federal and state governments. The role of the paralegal in preparing for litigation involving intellectual property law will be covered. (1.2)  
Prerequisite: PLS 110 (C or better)

PLS 218  Bankruptcy Law  
(3-0)  3 Hours
This course provides an overview of Bankruptcy law and procedures. It covers commencement of a case, preparation of schedules, operating and liquidating procedures, adversary matters and litigation in bankruptcy court, debtors' and creditors' rights and obligations, and technical terminology. Proceedings under Chapters 7, 11, and 13 of the United States Bankruptcy Code are covered. The student will learn to draft the schedules needed for Chapter 7, 11, and 13 filings. (1.2)  
Prerequisite: PLS 110 (C or better)
COURSE DESCRIPTIONS

PLS 230 Family Law
(3-0) 3 Hours
This course provides an introduction to fundamental common law and statutory concepts of family law with emphasis on the paralegal role in this area. Topics include formal and informal marriages, premarital agreements, separation, divorce, annulment, marital property, the parent-child relationship, child custody and support, adoption, guardianship, legal issues in alternative families, domestic relations court procedures, public records research, and the paralegal role in alternative dispute resolution/mediation processes. (1.2)
Prerequisite: PLS 110 (C or better)

PLS 231 Health Care Law
(3-0) 3 Hours
This course will introduce paralegal students to the legal aspects of health care in the United States. It will provide a general overview of the health care system in the United States. The legal underpinnings of health care will be examined, including a review of Federal and State statutes and regulations, court decisions, and a survey of other regulating authorities including the OIG for Health and Human Services and the US Food and Drug Administration. Issues to be examined include regulation of hospitals, physicians and other health providers and suppliers; information management and access to medical records; patient rights and responsibilities; health care ethics and professional liabilities; contractual, civil and criminal liability issues in health care; consumer medical issues and patient advocacy. This course will include a practical focus on the duties and tasks of a paralegal working in this field. (1.2)
Prerequisite: PLS 110 and PLS 114 (both C or better)
Recommended: PLS 210 and PLS 214

PLS 232 Probate Law
(3-0) 3 Hours
This course provides an overview of post-mortem estate administration and the role of the probate paralegal. The course examines the entire process of administering a decedent’s estate, from opening the estate and appointment of a fiduciary to filing of final account and distribution of assets. The differences between the use of a will (testate succession) to ensure the orderly transfer of a decedent’s property and the failure to have a will (intestate succession) are highlighted. The student will learn how to gather information and prepare documents for testate and intestate estates. (1.2)
Prerequisite: PLS 110 (C or better)

PLS 233 Criminal Litigation
(3-0) 3 Hours
This course provides students with the knowledge and skills needed to effectively and ethically assist an attorney in criminal law practice and procedure. Students will learn the principles of criminal litigation, the criminal court system, and will be introduced to the rules of criminal procedure, discovery, and corrections. The course addresses pre-trial investigation and practice, pretrial motions, trial preparations, basics of a criminal trial, post-trial motions, sentencing, and appeals. The role of the paralegal during pretrial preparation for hearings and trials will also be addressed. (1.2)
Prerequisite: PLS 110 (C or better)

PLS 234 Elder Law
(3-0) 3 Hours
This course provides students the opportunity to explore a wide range of elder law issues from a paralegal perspective. Students will learn the paralegal role, moral, and ethical considerations involved in assisting attorneys in areas of estate planning, trusts, housing, guardianship, health care and disability law, administrative rules and regulations regarding Medicare and Social Security, elder abuse, and age discrimination. Topics of discussion will also include guardianships, insurances, senior living facilities, and funeral planning. This course will also review elder law related forms such as Power of Attorney for Health Care and Power of Attorney for Property. Hands-on projects will be used to facilitate learning the paralegal role in this area of law. (1.2)
Prerequisite: PLS 110 (C or better)

PLS 235 Law Office Technology
(3-0) 3 Hours
This course is designed to sample computer software applications used within the law office and requires students to produce routine law office documents such as pleadings and correspondence. Students will gain practical experience with legal timekeeping and billing software, case management and docket control software, and litigation support software that includes E-filing and electronic discovery. (1.2)
Prerequisite: PLS 110 (C or better) AND AOS 112 or CIT 119 or CIT 120
Course fee

PLS 236 Alternative Dispute Resolution
(3-0) 3 Hours
This course provides an overview of Alternative Dispute Resolution (ADR) mechanisms used in the American legal system such as negotiation, mediation, and arbitration. Students explore the various statutes, regulations and ethical standards applicable to alternative dispute resolution and learn the basic paralegal skills needed to assist attorneys who work with parties in conflict. Students will learn to apply ADR in the context of the judicial system to specific disputes in various industries and areas of practice with a focus on the specific role of the paralegal in ADR. Students will be expected to participate in various role play activities. (1.2)
Prerequisite: PLS 110 and PLS 114 (both C or better)

PLS 250 Internship/Legal Studies
(1-10) 3 Hours
This course provides students with an opportunity to gain practical work experience under the supervision of an attorney or experienced paralegal in day-to-day, on-site law office work. The student must complete 120 hours of work at the internship site, which may be a private or public law office, corporate or government legal department, or other appropriate law-related setting. In addition to on-site work, the student will attend a one-hour/week internship seminar. (1.2)
Prerequisites: PLS 110 and PLS 112 and PLS 114 (all C or better) and Consent of Instructor
Corequisite: PLS 251

PLS 251 Legal Studies Capstone
(3-0) 3 Hours
This capstone course provides students with the opportunity to integrate the theoretical knowledge and practical skills they have acquired through the program and apply them in a real-world setting. Students will complete activities and projects in preparation for seeking professional employment such as a job market presentation, informational interview of a paralegal, mock interviews, cover letters, resumes and using social media for professional networking. Students will complete a minimum of 24 hours of service learning activities in an instructor-approved setting relating to the practice of law or complete a project consistent with the goals of the course. (1.2)
Prerequisite: PLS 112 (C or better) and PLS 114 (C or better) and completion of a minimum of two additional PLS courses.
PLS 270  Legal Studies Assessment Seminar  (3-0)  3 Hours
This course is an exit requirement for all students completing the Legal Studies (PLS) Associate in Applied Science (A.A.S.) degree and certificate program. Students will be assessed as to the knowledge and entry level skills they have attained in the legal studies program. Basic skills, thinking skills and personal qualities will be evaluated as they relate to a legal professional career by way of portfolio and quizzes. This course will further prepare students to successfully complete national competency exams for special certifications and designations while providing an opportunity for consistent assessment of program goals. A comprehensive final exam is required. (1.2)  
Prerequisite: PLS 112 (C or better) and PLS 114 (C or better) and completion of a minimum of two additional PLS courses.  
Course fee

PLS 299  Topics in Paralegal Studies  (Var.)  1-3 Hours
This course is designed to allow students to study a topic or topics that are not a part of the existing curriculum. Topics identified will be current or emerging topics within the paralegal profession or topics that provide additional depth within a legal specialty area. (1.2)  
Prerequisite: To be determined relative to topic.  
May be taken twice for credit toward degree

LIBERAL ARTS AND SCIENCE  (LAS)

Educational Affairs Office, Room A213, (847) 543-2411

LAS 221  Sophomore Seminar  (3-0)  3 Hours
An in-depth cross-disciplinary examination of selected topics arising from existing CLC transfer courses. Content varies. (1.1)

LIBRARY SCIENCE (LSC)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

LSC 121  Research Skills for the Real World  (1-0)  1 Hour
This course equips students to critically and ethically use information while in college and beyond. Students completing this course will recognize when their own knowledge and resources are not sufficient to meet their information needs. They will learn how to find, evaluate, and effectively utilize information in a variety of formats pertinent to their educational, professional, and life goals. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

MACHINE TOOL TRADES (MTT)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

MTT 110  Machine Trades Blueprint Reading  (3-0)  3 Hours
Designed to study the principles which are essential for visualization and training in the interpretation of blueprints and sketches of machine parts. Attention is given to representations of common machine processes, special forms of dimensioning, sections, auxiliary views, symbols, geometric tolerancing, machine sketching, surface finished and other drafting and design principles. (1.2)

MTT 111  Machine Shop I  (2-3)  3 Hours
Designed as an introduction to machining and machine shop practices. Study topics include hand tools, speeds and feeds, measurement, Taps and Dies, cutoff machines and general safety. Student will learn to setup and operate traditional metal cutting machines such as Drilling, Turning, Milling and Grinding machines. Practical labs are included. (1.2)  
Course fee

MTT 112  Machining Principles  (2-2)  3 Hours
Theory and practices involved in the safety and operation of traditional metal cutting machine tools and their appropriate tooling. Student will be expected to do a practical setup and operation on a manual Mill, Lathe, and Drill press. Some CNC milling and Wire EDM applications are also included. (1.2)  
Course fee

MTT 113  Grinding Technology  (2-2)  3 Hours
Designed to provide the student with grinding theory and practice. Surface, cutter, sine plate, form and cutter grinding are included. (1.2)  
Course fee

MTT 115  Introduction to Die Making  (3-0)  3 Hours
Presents the student with the basic fundamentals of die construction, function and die components.  
Note: Machine shop skills and basic shop mathematics are strongly recommended. (1.2)  
Prerequisite: MTT 110  
Course fee

MTT 116  Introduction to Moldmaking  (3-0)  3 Hours
Designed to provide the student with basic fundamentals of mold construction and components.  
Note: Machine shop skills and basic shop mathematics are strongly recommended. (1.2)  
Prerequisite: MTT 110  
Course fee

MTT 210  Machine Shop II  (1-4)  3 Hours
Designed as a continuation of material and information presented in Machine Shop I. Additional topics of study include advanced operations on the lathe and vertical milling machine, grinding, EDM, heat treating and materials usage.  
Note: Shop math skills or MTH 115 is strongly recommended. (1.2)  
Prerequisite: MTT 111  
Course fee

MTT 211  Jig and Fixture Design  (2-2)  3 Hours
Designed to familiarize the student with the design fundamentals of drill jigs and milling, lathe, assembly, and grinding fixtures. (1.2)  
Prerequisites: MTT 110 and MTT 210  
Course fee
COURSE INFORMATION
AND DESCRIPTIONS

MTT 212  Precision Machining/ NIMS Credentialing (1-4) 3 Hours
Designed to provide a National Credentialing studies class, this course will give each student an opportunity to develop hands-on competency and related theory based on NIMS (National Institute of Metalworking Skills) nationally validated standards. The credentials are awarded on satisfactory completion of both the performance testing (producing precision parts on the machines) and the online related theory exams. Lectures and homework will focus on practical procedures and written test preparation. The fees for NIMS registration and 5 National Credentialing Exams are reflected in the Lab fee. (1.2)
Prerequisite: MTT 210 or consent of instructor
Course fee

MTT 215  Die Making II (2-2) 3 Hours
A continuation of Die Making I. Students build a punch press die, sharpen the tools and manufacture a part in class.
Note: Students with Machine Shop experience may contact the department chair if interested in alternative methods of meeting the prerequisite. (1.2)
Prerequisites: MTT 115
Course fee

MTT 216  Moldmaking II (2-2) 3 Hours
Designed for students to learn advanced mold components, moldmaking, advanced mold techniques and understanding of plastics. The nature of this course will range from basic knowledge of plastics to actually building a small mold and molding it.
Note: Students with Machine Shop experience may contact the department chair if interested in alternative methods of meeting the prerequisite. (1.2)
Prerequisite: MTT 116
Course fee

MASSAGE THERAPY (MAS)

Biological and Health Sciences Division, Room 2B13, (847) 543-2042

MAS 110  Massage Structure and Functions I (2-0) 2 Hours
This course examines the anatomy and physiology of cells and tissues that underlie the normal functioning of the human body. Content includes an introduction to the principal bones and muscles, as well as their structure and functions at both a cellular and tissue level. Anatomic or physiological principles as related to practical application in therapeutic massage will be covered. Course also covers basic principles of pathology and the major pathological conditions likely to be encountered in massage therapy. (1.2)
Prerequisite: BIO 111, MAS 119, and PED 228 (all C or better)
Corequisite: MAS 112
Course fee

MAS 112  Kinesiology and Palpation I (1-2) 2 Hours
Course examines the skeletal and muscular systems that underlie the normal functioning of the body. Content includes a study of the structure of each major joint of the body and how the surrounding musculature affects the support and function of those joints. Principles of kinesiology are geared toward practical applications in the field of massage therapy, including major pathological conditions likely to be encountered. (1.2)
Prerequisite: BIO 111, MAS 119, and PED 228 (all C or better)
Corequisite: MAS 110
Course fee

MAS 114  Massage: Communication & Business I (3-0) 3 Hours
This course introduces students to interpersonal communication theories, and concepts of professional boundaries and ethical touch. This course also introduces students to business and legal practices of the massage therapy industry. Topics include tax information, licensing, liability insurance, and professionalism. (1.2)
Prerequisite: BIO 111, MAS 119, and PED 228 (all C or better)
Corequisite: MAS 112
Course fee

MAS 116  Clinical Skills and Special Populations (2-2) 3 Hours
This course introduces the students to the basic aspects of the procedural process of assessing, treatment planning and documenting in a massage clinic. Case-based applications and case discussions are utilized during the course to enhance the student’s critical thinking skills. This course examines basic massage techniques and procedures when working with special populations including, but not limited to, geriatric, pregnant, cancer, and HIV clients. Students will learn basic chair massage skills and will practice and demonstrate massage techniques. (1.2)
Prerequisite: BIO 111, MAS 119, and PED 228 (all C or better)
Corequisite: MAS 114
Course fee

MAS 119  Introduction to Massage Therapy (1.5-1) 1 Hour
This course is required to be accepted into the Massage Therapy Program. It offers students an introduction to therapeutic massage principles, theory, and techniques. Topics of discussion will include history, ethics, business, basic anatomical terminology and body mechanics. Students will learn basic Swedish massage techniques. Completion with a grade of “C” or better is required prior to admission to the Massage Therapy Program.
Note: Must be 18 years of age to enroll. (1.2)
Course fee

MAS 131  Massage Therapy I: Swedish (1-2) 2 Hours
This course involves hands-on learning of basic Swedish massage techniques and strokes, including effleurage, friction, petrissage, tapotement, vibration, and joint movements. Content includes body mechanics, draping techniques, client intake, contraindications, and listening skills. (1.2)
Prerequisite: BIO 111, MAS 119, and PED 228 (all C or better)
Corequisite: MAS 116
Course fee

MAS 132  Massage Therapy II: Integrative (1-2) 2 Hours
This course introduces students to the fundamentals of three massage modalities; Craniosacral Therapy, Foot Reflexology, and Polarity Therapy. The concept of the “Fascial Web” is also introduced. (1.2)
Prerequisite: BIO 111, MAS 119, and PED 228 (all C or better)
Corequisite: MAS 131
Course fee
MAS 210 Massage Structure and Functions II
(2-0) 2 Hours
This course examines the anatomy and physiology of tissues and organs that underlie the normal functioning of the body. Content focuses on the anatomical and physiological principles as related to therapeutic massage. This course also examines the impact of massage therapy on the normal functioning of body systems as well as principles of pathology and the major pathological conditions likely to be encountered in massage therapy. (1.2)
Prerequisite: MAS 110, MAS 112, MAS 114, MAS 116, MAS 131, and MAS 132 (all C or better)
Corequisite: MAS 214
Course fee

MAS 212 Kinesiology and Palpation II
(1-2) 2 Hours
This course continues an examination of the skeletal and muscular systems that underlie the normal functioning of the body. Content includes an introduction to the complexities of movement, and the directional terminology associated with that movement. Students build upon their knowledge of the skeletal system and the core muscles for movement and stability. (1.2)
Prerequisite: MAS 110, MAS 112, MAS 114, MAS 116, MAS 131, and MAS 132 (all C or better)
Corequisite: MAS 210
Course fee

MAS 214 Massage: Communication and Business II
(3-0) 3 Hours
This course covers more advanced communication techniques for managing the client-massage therapist relationship. Topics include effective listening, verbal and non-verbal communication, and professional boundaries. Comprehensive examination of professional ethics, and legal and regulatory considerations for a massage therapy business will also be covered. (1.2)
Prerequisite: MAS 110, MAS 112, MAS 114, MAS 116, MAS 131, and MAS 132 (all C or better)
Corequisite: MAS 212
Course fee

MAS 233 Massage Therapy III: Rehabilitative (1-2) 2 Hours
This course combines two therapeutic modalities - Neuromuscular Therapy and Sports Massage Therapy. Content includes both functional assessment and corrective concepts. (1.2)
Prerequisite: MAS 110, MAS 112, MAS 114, MAS 116, MAS 131, and MAS 132 (all C or better)
Corequisite: MAS 214
Course fee

MAS 234 Massage Therapy IV: Advanced Techniques (1-2) 2 Hours
This course involves hands-on learning of the fascial system and fascial web. Content includes therapeutic massage techniques and strokes, with an understanding of the connective tissue which supports the body. This course also serves as an introduction to Eastern healing theories emphasizing the practical application and function of Shiatsu and exploration of the twelve channels. This course blends didactic lecture with hands-on practice. (1.2)
Prerequisite: MAS 110, MAS 112, MAS 114, MAS 116, MAS 131, and MAS 132 (all C or better)
Corequisite: MAS 233
Course fee

MAS 235 Therapeutic Massage Clinic (0-4) 1 Hour
In this course students perform full-body therapeutic massage sessions and 20 minute chair massage sessions on members of the community and the College. Students apply principles, techniques, and procedures to assess and treat clients in a professional massage setting. Students will serve as both the therapist and office assistant. Students will demonstrate client/therapist communication skills, apply both basic and advanced massage techniques, use proper safety and sanitation practices, practice proper draping skills and body mechanics, and record each session with proper documentation. (1.2)
Prerequisite: MAS 110, MAS 112, MAS 114, MAS 116, MAS 131, and MAS 132 (all C or better)
Corequisite: MAS 234
Course fee

MAS 299 Special Topics: Therapeutic Massage (Var.) 1-4 Hours
This course covers a variety of current topics in Therapeutic Massage that are not typically covered in other massage therapy courses. Course content format will vary depending on the topic covered. (1.2)
Prerequisite: MAS 132 (C or better) or Massage Therapy Licensure
Course fee
May be taken four times for credit toward degree

MATH COMPUTER SCIENCE (MCS)

MCS 121 Computer Science Concepts (3-0) 3 Hours
An introduction to the field for majors and non-majors. The course previews the fundamental concepts and applications of computer science through a survey of topics including: algorithms and problem solving, computer organization, networking, databases, artificial intelligence, and graphics. Students will be exposed to a variety of common computer programming languages, application software, and tools through lab exercises and projects. (1.1)
Prerequisite: MTH 102 (C or better) and College Reading and Writing Readiness
Course fee

MCS 140 Computer Programming for Engineers and Scientists (3-0) 3 Hours
This course is designed to fulfill the requirements established by the Association for Computing Machinery (ACM) for the CS1 course. It also is designed to meet the computer science requirements of engineering students with applications in math. This is a course in machine organization, algorithm development and programming style using the Java programming language. Applications include sorting and searching techniques, root solving procedures, and numerical integration. EXTENSIVE computer time commitment required. Previous programming experience is recommended. Students should not take both MCS 140 and MCS 141. (1.1)
Prerequisite: MTH 145 (C or better) or MTH 224 (C or better) or concurrent enrollment in MTH 145 or MTH 224
Course fee
IAI: CS 911
COURSE INFORMATION AND DESCRIPTIONS

MCS 141  Computer Science I
(4-0)  4 Hours
The first in a sequence of courses for majors in Computer Science, this course introduces a disciplined approach to problem-solving, algorithm development and data abstraction. The course covers: branching, repetition and sequence control structures; object-oriented program design, testing and documentation using good programming style; and arrays, records, and files.
Note: Pre-engineering students should enroll in MCS 140. Students should not take both MCS 140 and MCS 141. (1.1)
Prerequisites: MTH 108 or MTH 107 (both C or better) or an appropriate score on the Math Placement Test
Course fee
IAI: CS 911

MCS 142  Computer Science II
(3-0)  3 Hours
This course is designed to fulfill the requirements established by the Association for Computing Machinery (ACM) for the CS2 course. Using the Java computer language this course presents such topics as string processing, internal searching and sorting, recursion and data structures such as stacks, queues, linked lists, trees and graphs.
Note: Extensive time commitment required in computer lab. Proficiency in a programming language is also recommended. (1.1)
Prerequisite: MCS 140 (C or better) or MCS 141 (C or better) or CIT 137 (C or better) or CIT 141 (C or better)
Course fee
IAI: CS 912

MTH 240  Computer Organization and Architecture
(3-0)  3 Hours
This course is designed to fulfill the requirements established by the Association for Computing Machinery (ACM) for its Computer Organization and Architecture course. Topics include computer structure, machine language, assembly language principles, addressing techniques, macros, program segmentation and linkage. Extensive time commitment required in computer lab. (1.1)
Prerequisite: MCS 142 (C or better)

MATHMATICS (MTH)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

MTH 101  Elementary Concepts of Mathematics
(Var.)  1-4 Hours
Basic principles of arithmetic: fractions, decimals, ratios, proportions, percent, very basic algebra, descriptive graphs and basic statistics from a calculator based perspective.
Note: This course does not apply to any associate degree or career certificate. For students required to complete MTH 115 or MTH 117, basic algebra readiness is better demonstrated by completing MTH 114. A specific graphing calculator is required for this course. Contact the EMPS division office for a referral or additional information. (1.4)
Prerequisite: Score of 6 or higher on the Math Placement Test. A student who scores below 6 on the Math Placement Test should meet with a counselor to discuss options.

MTH 102  Basic Algebra
(4-0)  4 Hours
This developmental course is the first course in the algebra sequence. Basic algebra topics include, but are not limited to: expressions, linear equations and functions with graphing, exponents, basic polynomial operations, and factoring. Modeling and problem solving will be introduced throughout the course.
Note: This course does not apply to any associate degree or career certificate program. A specific graphing calculator is required for the course. Contact the EMPS division office for details. (1.4)
Prerequisite: MTH 101 (C or better) or Basic Algebra Readiness which includes an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 104  Geometry
(4-0)  4 Hours
This course covers the fundamental concepts of geometry for students who lack credit in one year of high school geometry with a grade of C or better or for students who need a review of the subject matter. The course includes the concepts of undefined terms, axioms and postulates, and theorems. Topics also include: construction, locus, and properties of lines, angles, polygons (with emphasis on triangles and quadrilaterals), and circles. The writing of proofs (deductive and indirect) and problem solving are integrated throughout the course.
Note: This course does not apply to any associate degree or certificate. (1.4)
Prerequisite: MTH 102 (C or better) or appropriate score on CLC Math Placement Test, Math ACT, or Math SAT.

MTH 105  Preparatory Mathematics for General Education
(5-0)  5 Hours
This course focuses on developing mathematical maturity through problem solving, critical thinking, data analysis, and the writing and communication of mathematics. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. Instruction will emphasize the connections between verbal, numerical, symbolic and graphical representation of the concepts being taught. Emphasis will be placed on modeling and problem solving, with techniques and manipulations covered in context. The three strands of the course are Algebra, functions, and modeling as they apply to linear, polynomial, rational, and exponential expressions, equations, and functions.
Note: This developmental course serves as a prerequisite for MTH 140, MTH 141, MTH 142 or MTH 108. This course does not apply to any associate degree or career certificate program. A specific graphing calculator is required for the course. Contact the EMPS division office for details. (1.4)
Prerequisite: MTH 101 (C or better) or Basic Algebra Readiness which includes an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 108  Intermediate Algebra
(5-0)  5 Hours
This developmental course is the second course in the algebra sequence that further develops the concepts of basic algebra. Intermediate algebra topics include, but are not limited to: polynomial inequalities, systems of equations and inequalities; quadratic, rational, radical, exponential and logarithmic equations and functions. Modeling and problem solving will be introduced throughout the course.
Note: This course does not apply to any associate degree or career certificate program. A specific graphing calculator is required for the course. Contact the EMPS division office for details. (1.4)
Prerequisite: MTH 102 or MTH 105 (C or better) or appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.
MTH 114  Applied Mathematics I  (3-0)  3 Hours
This course covers the basic principles of mathematics, with application to problems encountered in various industries. Review of fractions, decimals, ratios, proportions, and percent are covered. Introductory algebra, practical geometry, measuring systems, precision, accuracy, and scientific notation are also covered.
Note: For students required to complete MTH 115 or MTH 117, basic algebra readiness is better demonstrated by taking MTH 114. A specific calculator is required for this course. Contact EMPS division office for details. (1.2)
Prerequisite: Score of 6 or higher on the Math Placement Test. A student who scores below 6 on the Math Placement Test should meet with a counselor to discuss options.

MTH 115  Applied Mathematics II  (3-0)  3 Hours
This course introduces practical geometry, measurement of plane and solid figures, precision, accuracy, elementary right triangle trigonometry, law of cosines, and law of sines.
Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.2)
Prerequisite: MTH 114 (C or better) or MTH 102 (C or better) or MTH 105 (C or better) or an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 117  Technical Mathematics I  (3-0)  3 Hours
This course covers college mathematics for students majoring in technology. It includes algebra, geometry and trigonometry.
Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.2)
Prerequisite: MTH 114 or MTH 102 or MTH 105 (C or better) or appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 118  Technical Mathematics II  (4-0)  4 Hours
This course is a continuation of MTH 117. Major topics are algebra, geometry, vectors, complex numbers, logarithms, matrices, inequalities and trigonometry.
Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.2)
Prerequisite: MTH 117 (C or better) or an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 121  Mathematics for Elementary Teaching I  (3-0)  3 Hours
This is the first college-level math course in a two course sequence which is intended for students planning to major in elementary education. This course is not intended to offer teaching methods to future educators. Topics include problem solving, sets, logic, functions, numeration systems, real number system, number theory, probability and statistics. To fulfill the general education core curriculum math requirement the second course in the sequence, MTH 221 (Mathematics for Elementary Teaching II), must also be completed.
Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.1)
Prerequisite: Geometry Proficiency AND MTH 108 (C or better), or appropriate score on CLC Math Placement Test, or Math ACT, or Math SAT.

MTH 122  College Algebra  (5-0)  5 Hours
This course is primarily intended to prepare students for Finite Mathematics and Calculus for Business and Social Sciences. College algebra topics include, but are not limited to: math induction, conic sections, sequences and series, systems of nonlinear equations and inequalities, matrix algebra, functions and equations (polynomial, rational, exponential, and logarithmic). This course will also serve as a prerequisite to Trigonometry.
Note: A specific graphing calculator is required for this course. Contact EMPS Division Office for details. Credit will not be given in MTH 122 to those with prior credit in MTH 144 Precalculus. This course will not meet the General Education Math Requirement for AA or AFA degrees but may serve as an elective. This course covers two years of HS Algebra (C or better) OR- approriate score on CLC Math Placement Test, Math ACT, or Math SAT.

MTH 123  Trigonometry  (3-0)  3 Hours
This course is primarily for students who intend to take MTH 145 Calculus and Analytic Geometry I. Trigonometry topics include, but are not limited to: trigonometric functions and their graphs, trigonometric identities and equations, and applications of trigonometry. Modeling and problem solving will be implemented throughout the course.
Note: A specific graphing calculator is required for this course. Contact EMPS division office for details. (1.1)
Prerequisite: Geometry Proficiency and MTH 122 C or better or an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 127  Finite Mathematics I  (3-0)  3 Hours
Designed primarily for business, commerce or social science students of whom it may be required. Topics include set theory, elementary combinatorics, probability, matrix algebra, introduction to linear programming, and Markov chains.
Note: Specific graphing calculator is required for this course. Contact the EMPS division office for details. (1.1)
Prerequisite: MTH 122 (C or better) or MTH 144 (C or better) or an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT. IAI: M1 906

MTH 140  Contemporary Mathematics  (3-0)  3 Hours
This course is designed to meet the general education mathematics requirement. The goal of this survey course is to develop competency in analytical reasoning, problem solving, and multi-step decision making as well as exposing students to some current trends in mathematical thought. The emphasis is on mathematical reasoning and the solving of real-life problems involving mathematics. The course covers three or four of the following topics: graph theory, counting techniques and probability, topics in geometry, logic/set theory, linear programming, and game theory. This course is not intended as a prerequisite for any other mathematics course.
Note: A specific graphing calculator is required for this course. Contact EMPS division office for details. This course meets the math requirement in the Associate of Arts and Associate of Fine Arts degrees only. May be used as elective credit only in all other degrees.
(1.1)
Prerequisite: MTH 105 (C or better) –OR– MTH 108 (C or better) –OR– two years of HS Algebra (C or better) –AND– Basic Algebra Readiness –OR– an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT. IAI: M1 904
MTH 141 Quantitative Literacy (3-0) 3 Hours
This course is designed to meet the general education mathematics requirement. A conceptual understanding is developed in several areas including: representing and analyzing data through such statistical measures as central tendency, dispersion, normal distribution, and correlation and regression; using logical statements and arguments in a real-world context; estimating, approximating and judging the reasonableness of answers; graphing and using polynomial functions and systems of equations in the interpretation and solution of problems; and selecting and using appropriate approaches and tools in formulating and solving real-world problems. (1.1)
Note: A specific graphing calculator is required for this course. Contact EMPS division office for details. This course meets the math requirement in the Associate of Arts and Associate of Fine Arts degrees only. May be used as elective credit only in all other degrees. Prerequisite: MTH 105 (C or better) –OR– MTH 108 (C or better) –OR– [two years of HS Algebra (C or better) –AND– Basic Algebra Readiness] –OR– an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.
IAI: M1 901

MTH 142 General Education Statistics (3-0) 3 Hours
This course focuses on statistical reasoning and the solving of problems using real-world data rather than on computational skills. Emphasis is on interpretation and evaluation of statistical results that arise from simulation and technology-based computations using technology more advanced than a basic scientific calculator, such as graphing calculators with a statistical package, spreadsheets, or statistical computing software. Topics will include data collection processes (observational studies, experimental design, sampling techniques, bias), descriptive methods using quantitative and qualitative data, bivariate data, correlation, and least-squares regression, basic probability theory, probability distributions (normal distributions and normal curve, binomial distribution), confidence intervals and hypothesis tests using p-values. Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. Credit will not be given in MTH 142 to those with prior credit in MTH 222. (1.1)
Prerequisite: MTH 105 (C or better) –OR– MTH 108 (C or better) –OR– [two years of HS Algebra (C or better) –AND– Basic Algebra Readiness] –OR– an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.
IAI: M1 902

MTH 144 Precalculus (5-0) 5 Hours
This course is primarily for students who intend to take MTH 145 Calculus and Analytic Geometry I. Precalculus topics include, but are not limited to: polynomial, rational, exponential, logarithmic, and trigonometric functions, graphs, and equations, trigonometric identities, applications of trigonometry, systems of nonlinear equations and inequalities, conic sections, and sequences and series.
Note: Use of a specific graphing calculator will be integrated throughout the course. Contact EMPS Divisions Office for details. Students who earn a grade of C in MTH 108 must complete the sequence of MTH 122 College Algebra and MTH 123 Trigonometry as a prerequisite for MTH 145 Calculus and Analytic Geometry I. Students with credit for both MTH 122 and MTH 123 will not be given credit for MTH 144. Students may not receive credit towards degree for both (MTH 122 and MTH 144) or (MTH 123 and MTH 144). (1.1)
Prerequisite: Geometry Proficiency and MTH 108 (B or better) or an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.

MTH 145 Calculus and Analytic Geometry I (5-0) 5 Hours
This course covers the calculus of algebraic and transcendental functions. Analytic geometry topics are limited to the line and circle. Calculus topics include limits, differentiation and integration of both algebraic and transcendental functions, including trigonometric functions, with applications. Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.1)
Prerequisite: MTH 123 (C or better) or MTH 144 (C or better) or appropriate score on CLC Math Placement Test, Math ACT, or Math SAT.
IAI: M1 900-1, MTH 901

MTH 146 Calculus and Analytic Geometry II (4-0) 4 Hours
This course is a continuation of MTH 145. Techniques of integration, applications of integration, differential equations, parametric equations, polar coordinates and infinite sequences and series will be covered.
Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.1)
Prerequisite: MTH 145 (C or better)
IAI: M1 900-2, MTH 902

MTH 221 Mathematics for Elementary Teaching II (3-0) 3 Hours
This is the second college-level math course in a two course sequence which is intended for students planning to major in elementary education. This course is not intended to offer teaching methods to future educators. Topics include probability, statistics, modeling, plane and solid geometry, measurement, similarity and congruence, geometric constructions, area, volume, classroom manipulatives, and/or computer software. (1.1)
Prerequisite: MTH 121 (C or better)
IAI: M1 903

MTH 222 Business Statistics (4-0) 4 Hours
This course covers solving real-life business applications in statistics. The course includes, but is not limited to, using principles of probability, descriptive statistics, and an introduction to one and multi-sample inferential statistics such as the F-test and Analysis of Variance. Note: A specific graphing calculator is required for this course. Contact the EMPS Division office for details. (1.1)
Prerequisite: MTH 108 (C or better) –OR– an appropriate score on CLC Math Placement Test, Math ACT, or Math SAT.
IAI: M1 902, BUS 901

MTH 224 Calculus for Business and Social Science (4-0) 4 Hours
Includes analytical geometry and calculus topics such as functions and their graphs, rectangular coordinate systems, limits, differentiation and integration of algebraic, logarithmic and exponential functions. Applications are included along with selected topics from multivariable calculus.
Note: A specific graphing calculator is required for this course. Contact EMPS division office for details. (1.1)
Prerequisite: MTH 122 (C or better) or MTH 127 (C or better) or MTH 144 (C or better) or an appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT.
IAI: M1 900-B

MTH 225 Introduction to Linear Algebra (3-0) 3 Hours
This is a first course in vectors, matrices, vector spaces and linear transformations and includes a substantial proof component. Applications of topics to problems arising in engineering and business are included. The course may
be taken concurrently with, but should not replace, a course in multivariable calculus. A student should expect to take a more complete linear algebra course at a baccalaureate transfer institution. Computer software will be integrated as appropriate.

Note: A specific graphing calculator is required for this course. Contact the EMPS division office for more details. (1.1)

Prerequisite: MTH 146 (C or better)

IAI: MTH 911

MTH 227 Ordinary Differential Equations
(3-0) 3 Hours
This is an introductory course that involves the solving of various ordinary linear and nonlinear differential equations of first and higher order and the solving of systems of differential equations. Methods include separation of variables, various substitution techniques, use of integrating factors, undetermined coefficients, and variation of parameters. Laplace transforms, infinite series, and selected numerical methods. Applications include simple harmonic motion, population growth and decay, cooling, L-R-C circuits, and mixing problems. Uniqueness and existence theorems are covered. It is intended for students of science, mathematics, and engineering that features modeling and graphical visualization as central themes.

Note: Computer software and graphing calculators are integrated into the course where appropriate. (1.1)

Prerequisite: MTH 146 (C or better)

IAI: MTH 912

MTH 244 Discrete Mathematics
(3-0) 3 Hours
Introduction to the mathematical analysis of finite collections and to the mathematical foundations of sequential machines, computer system design, data structures and algorithms. Topics include, but are not restricted to sets, counting, recursion, graph theory, trees, networks, Boolean algebras, automata, and formal grammars and languages. This course is a beginning course in the mathematics of computer science.

Note: Specific graphing calculator is required for this course. Contact the EMPS division office for details. (1.1)

Prerequisite: MTH 122 (C or better) or appropriate score on CLC Math Placement Test, Math ACT, or Math SAT.

IAI: M1 905, CS 915

MTH 246 Calculus and Analytic Geometry III
(5-0) 5 Hours
This course is a continuation of MTH 146. Topics include vectors in two and three dimensions, vector operations, lines and planes in space, vector functions, functions of more than one variable, partial derivatives, directional derivatives, gradients, and multiple integrals. Solid analytic geometry topics include quadric surfaces, cylindrical and spherical coordinates and curves in 3-space. Vector calculus topics include vector fields, line integrals, surface integrals, curl and divergence, Green's Theorem, Stokes' Theorem, and the Divergence Theorem. NOTE: A specific graphing calculator is required for this course. (1.1)

Prerequisite: MTH 146 (C or better)

IAI: M1 900-3, MTH 903

MTH 299 Special Topics in Mathematics
(Var.) 1-3 Hours
This course addresses the in-depth study of special topics in mathematics that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may include but are not limited to: mathematical statistics, real analysis, complex analysis, general topology, abstract algebra, combinatorics, set theory, mathematical logic etc. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours towards degree completion. (1.2)

May be taken four times, but any topic only once

MECHANICAL ENGINEERING TECHNOLOGY (MET)

Engineering, Math and Physical Sciences Division,
Room T302, (847) 543-2044

MET 111 Manufacturing Processes
(3-0) 3 Hours
This course introduces students to the processes, production procedures and materials used in manufacturing. Casting, machining, forging, rolling, treatment and production of engineering materials is also studied. (1.2)

Prerequisite: College Reading and Writing Readiness

Course fee

MET 112 Basic Metallurgy I
(3-0) 3 Hours
This course introduces students to metals with emphasis on their physical and mechanical properties relating to applications including metal forming, heat treatment and surface treatment of carbon and alloy steels. (1.2)

Prerequisite: College Reading and Writing Readiness

MET 113 Basic Metallurgy II
(3-0) 3 Hours
This course is a continuation of MET 112 Basic Metallurgy I with emphasis on cast irons, nonferrous metals and their alloys. Foundry casting, machining, forming, welding and power metallurgy processes are also covered. (1.2)

Prerequisite: MET 112

MET 115 Industrial Pneumatics
and Hydraulics
(3-0) 3 Hours
This course introduces students to the study of fluid power technology using liquid or compressed air as the transfer media. Complete hydraulic and pneumatic systems are studied including power sources, reservoirs, pumps, compressors, lines, valves and actuators. (1.2)

Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.

MET 116 Machine Components and Repair
(2-2) 3 Hours
This course identifies basic machine components and demonstrates common machine component repair and replacement operations. Machine parts such as belts, gears, seals, bearings, and fasteners will be discussed and repaired. (1.2)

Prerequisite: ELI Accuplacer score of 221 or higher, APT score of 80 or higher, ELI 103 (C or better), ELI 104 (C or better), ELI 110 (C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.

Course fee
MET 131  Introduction to Robotics  
(2-2)  3 Hours  
This course is an introduction to the technology of robotics. Topics include definitions, classifications, components, hardware design, kinematics analysis, sensors and perception, navigation, control systems, and interface hardware. (1.2)  
Prerequisite: College Reading and Writing Readiness AND MTH 117 or MTH 122 or higher-level math course (all C or better) or an appropriate score on the Math Placement Test or Math ACT of 25 or higher.  
Course fee  

MET 212  Mechanisms  
(4-0)  4 Hours  
This course introduces students to the study of motion, velocity, and acceleration as they pertain to the design of gears, linkages, and other mechanical assemblies which transmit or convert motion. (1.2)  
Prerequisite: College Reading and Writing Readiness and Basic Algebra Readiness  

Recommended: PHY 111 OR MTH 117 or higher  

MET 214  Mechanical Design and Drafting  
(2-2)  3 Hours  
This course introduces students to the design and graphic representation of basic machine parts such as gears, cams, castings, stampings, the redesign of simple mechanisms, piping drawing, and welding representations. (1.2)  
Prerequisite: EGR 121 or CAD 117  
Course fee  

MET 215  Machine Design  
(5-0)  5 Hours  
This is a capstone course that covers the application of empirical and analytical techniques used in the design of mechanical components. Combined states of stress using Mohr’s Circle, design criteria (including maximum shear stress, Mises-Hencky strain energy, and fatigue) and the design and analysis of mechanical elements (including clutches, brakes, belts, chains, bearings, fasteners, gearing, springs and cams) are developed. (1.2)  
Prerequisite: EGR 215 or EGR 216 (both C or better)  
Recommended: Prior completion of PHY 111 or higher level Physics AND MTH 117 or higher level Math  

MET 216  Applied Finite Element Analysis  
(2-2)  3 Hours  
This course is designed to explain how to apply finite element analysis to real-world problems. Students will be introduced to finite element analysis software and will learn the proper techniques of how it is used to test engineering designs for failure modes in the virtual environment. (1.2)  
Prerequisite: EGR 121 and EGR 216 or EGR 222 (all C or better)  

MET 231  Mechatronics  
(2-2)  3 Hours  
This course will provide students with technical knowledge related to industrial automation systems. Mechanical, electrical and electronic components, in terms of theory of operation and application, will be studied in detail. The use of microprocessors as primary control component will be the major topic of the second half of the course. (1.2)  
Prerequisite: MET 131 (C or better) or Consent of Instructor  
Course fee  

MET 299  Special Topics: Mechanical Engineering Technology  
(Var.)  1-4 Hours  
This course provides students with additional information about specialized areas in mechanical engineering. Topics will be identified for each section of the course. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours towards degree completion. (1.2)  
Prerequisite: To be determined relative to topic  
May be taken four times, but any topic only once  

MEDICAL ASSISTING (MOA)  

Biological and Health Sciences Division,  
Room B213, (847) 543-2042  

MOA 111  Clinical Medical Assisting I  
(3-3)  4 Hours  
This course introduces the students to the role of the Medical Assistant in the clinical area of the medical clinic, hospital or laboratory. Topics include medical ethics and law, asepsis, infection control, patient history and record management, vital signs, and administering medications. (1.2)  
Prerequisite: Basic Algebra Readiness, BIO 111 or BIO 244 and BIO 245 (all C or better)  
Corequisites: HIT 111, HIT 119 and MOA 112 (C or better if already completed)  
Course fee  

MOA 112  Basic Medical Office and Billing Procedures  
(3-2)  4 Hours  
This course provides students with a foundation of knowledge and skills in the front office of a medical or dental office. It introduces students to health records, insurance processing procedures, and basic CPT and ICD-CM Coding. Some topics include: scheduling appointments, telephone techniques, bookkeeping and banking, completing health insurance forms, and assigning insurance codes. Students should be basic keyboard proficient. (1.2)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
Course fee  

MOA 115  Insurance Coding for Medical Assistants  
(2-2)  3 Hours  
This course introduces the theory, structure, and organization of the Current Procedural Terminology (CPT) and International Classification of Diseases (Current edition) Clinical Modification (ICD-CM) coding systems. Emphasis will be on the application of coding principles to accurately assign CPT and ICD-CM codes in billing and reimbursement will be included. This course is not designed for those who want to become medical coders in hospitals. (1.2)  
Prerequisites: HIT 111, BIO 111 or BIO 244 and BIO 245 (all C or better)  
Corequisite: MOA 112 (C or better if already completed)  
Course fee  

MOA 211  Clinical Medical Assisting II  
(3-3)  4 Hours  
This course provides the medical assisting student with skills beyond the basic introductory course. This will be an overview of advanced skills. Emphasis includes: assisting with medical specialties, electrocardiography, assisting with diagnostic imaging. Additional focus will be on surgical instrumentation and assisting with surgical procedures. (1.2)  
Prerequisite: BIO 111 or BIO 244 and BIO 245 AND HIT 111 , HIT 119 , MOA 111 and MOA 112 (all C or better)  
Corequisite: MOA 115 or HIT 117 and HIT 131 (formerly HIT 118) AND PBT 110 and PBT 115 (all C or better)  
Course fee
MOA 212 Medical Assisting Externship (0-12 hours) 3 Hours
This requires the medical assistant student to integrate and apply knowledge and skills from all previous medical assistant courses in actual patient care settings. Students will perform medical assistant administrative, clinical, and laboratory duties under the supervision of a mentor to effectively transition to the role of a medical assistant. The Medical Assistant Externship takes place during the final semester of the program. (1.2)
Prerequisite: MOA 115 or HIT 117 and HIT 131 (formerly HIT 118) AND MOA 211, PBT 110, and PBT 115 (all C or better).
Course fee

MOA 299 Special Topics: MOA (Var.) 1-3 Hours
This course is designed to introduce students to specialized instruction in current medical assisting topics. This course will be utilized as a circumstantial elective for the AAS degree only. Course content will vary depending on the topic being studied.
Note: Topics may include medical assisting issues, specialty practice research, certification review, etc. This course may be taken twice, any topic only once, for a maximum of four credit hours towards degree completion. (1.2)
Prerequisite: To be determined relative to topic

MEDICAL IMAGING (MIM)

Biological and Health Sciences Division, Room B213, (847) 543-2042

MIM 110 Introduction to Medical Imaging (3-0) 3 Hours
Provides the student with a basic understanding of the role of medical imaging in the health care delivery system. The student will develop basic skills in radiography and patient care. (1.2)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
Course fee

MIM 111 Radiographic Anatomy and Positioning I (4-2) 5 Hours
Includes a study of the radiographic anatomy, examination procedure, medical terminology and pathology for the chest, abdomen, ribs, pelvis, and upper and lower extremities. Students will learn how to read various types of technique charts and program the x-ray units for correct exposures for these examinations. (1.2)
Prerequisite: Admission to the Medical Imaging Program
Course fee

MIM 112 Principles of Radiographic Exposure (2-2) 3 Hours
Covers the factors that control the production of a radiographic image and provides a basic understanding of radiation protection. (1.2)
Prerequisite: Admission to the Medical Imaging Program
Corequisite: MIM 110 and MIM 111 (C or better in both)
Course fee

MIM 113 Radiographic Anatomy and Positioning II (4-2) 5 Hours
Includes a study of the radiographic anatomy, examination procedure, medical terminology, and pathology for the head and vertebral column. Students will learn how to read various types of technique charts and program the x-ray units for correct exposures for these examinations. (1.2)
Prerequisite: MIM 110, MIM 111, MIM 112 and MIM 170 (C or better in all)
Course fee

MIM 114 Clinical Practice I (0-16) 3 Hours
Supervised competency based clinical practice. Emphasis on routine chest, abdomen, upper and lower extremities. (1.2)
Prerequisite: MIM 110 and MIM 111 and MIM 112 and MIM 170 (C or better in all)
Corequisite: MIM 113
Course fee

MIM 115 Clinical Practice II (0-16) 3 Hours
Supervised competency based clinical practice. Emphasis on routine examinations of the appendicular and axial skeleton. (1.2)
Prerequisite: MIM 113 and MIM 114 (C or better)
Course fee

MIM 116 Advanced Radiographic Procedures (1-0) 1 Hour
Studies the special radiographic procedures routinely performed in the majority of radiology departments. Includes identification of the contrast agents, anatomical structures investigated, and examination procedures. (1.2)
Prerequisite: MIM 113 and MIM 114 (C or better)
Corequisite: MIM 115
Course fee

MIM 170 Introduction to the Clinical Education Center (0-8) 1 Hour
This course is an introduction to the Medical Imaging department and clinical practice. The student will become familiar with the physical plant and protocols of the clinical education center where he/she will receive clinical experience. The course will include supervised performance of routine radiographic examinations of the chest, abdomen, and appendicular skeleton. (1.2)
Prerequisite: Admission to the Medical Imaging Program
Corequisites: MIM 111 and MIM 112
Course fee

MIM 175 Clinical Education Practicum (0-16) 3 Hours
Supervised competency based clinical practice for those individuals returning to the Medical Imaging program. (1.2)
Course fee

MIM 210 Technical Aspects of Patient Care (2-0) 2 Hours
Surveys physical patient assessment, specialty medical equipment, medical emergencies, and trauma radiography. Pharmacologic properties of contrast media and venipuncture principles are also emphasized. (1.2)
Prerequisite: MIM 115 and MIM 116 (both C or better).
Course fee

MIM 211 Imaging Equipment (5-2) 6 Hours
Covers mechanical and electrical physics applied to x-ray equipment and factors affecting x-ray emission. Survey of digital vascular radiography and interventional procedures. Labs and discussions in principles of radiographic exposure and image evaluation are included. (1.2)
Prerequisite: MIM 115 and MIM 116 (both C or better).
Course fee
MIM 212  Clinical Practice III  
(0-18)  3 Hours  
Supervised clinical practice. Emphasis on routine special procedures, surgical, trauma, and mobile radiography. Observations and practice in vascular and interventional procedures are included. (1.2)  
Prerequisite: MIM 115 and MIM 116 (both C or better)  
Course fee

MIM 213  Medical Imaging Pathology  
(2-0)  2 Hours  
Includes etiology and processes of trauma and disease. The emphasis is placed on radiographic pathology of body systems. Pathology seen with computed tomography, ultrasound, and magnetic resonance imaging is discussed. (1.2)  
Prerequisite: MIM 116 (C or better)  
Course fee

MIM 214  Advanced Topics in Radiography  
(5-2)  6 Hours  
Surveys radiation therapy and nuclear medicine. Radiation biology, radiation regulations, radiation measurements, pediatric and geriatric radiography, and sensitometry and quality control are included. Labs and lectures include principles of radiographic exposure, quality control, and film critique. (1.2)  
Prerequisite: MIM 210, MIM 211, and MIM 212 (C or better in all)  
Course fee

MIM 215  Clinical Practice IV  
(0-18)  3 Hours  
Supervised competency based clinical practice. Emphasis continued on routine and vascular special procedures, surgical, trauma, and mobile radiography. Includes orientation rotations to advanced imaging modalities. (1.2)  
Prerequisite: MIM 210, MIM 211, and MIM 212 (C or better in all)  
Course fee

MIM 216  Computed Imaging  
(2-0)  2 Hours  
Introduces the student to computer design as it applies to radiology, including a survey into computed tomography and digital radiography functions and processing parameters. Discusses concepts from pararadiologic modalities, including computed tomography, magnetic resonance imaging, cardiovascular/interventional radiography, diagnostic ultrasound, and nuclear medicine. Physics and imaging parameters of computed tomography and planar image techniques are emphasized. Case studies will be presented. (1.2)  
Prerequisite: MIM 210, MIM 211, and MIM 212 (C or better in all)  

MIM 217  Applied Radiation Biology  
(1-0)  1 Hour  
Surveys the somatic and genetic effects of ionizing radiation. (1.2)  
Prerequisite: MIM 116 (C or better)

MIM 218  Survey of Radiology Administration  
(1-0)  1 Hour  
Surveys the structure and function of the radiology department and its relation to the hospital and the health care consumer. (1.2)  
Prerequisite: MIM 113 (C or better)

MIM 219  Radiography Seminar  
(2-0)  2 Hours  
Review and discussion of radiographic principles, techniques, and methods. Emphasis is placed on the interdependence of theory and principles. (1.2)  
Prerequisite: MIM 211 and MIM 212 (both C or better)

MIM 251  MRI Physics & Instrumentation  
(3-0)  3 Hours  
This course introduces the principles of magnetic resonance imaging. The course will focus on imaging sequences/parameters and their effects quality exams. Imaging hardware and production, quality assurance, and safety considerations are also presented. (1.2)  
Prerequisite: Admission to the MRI Program

MIM 252  CT Physics, Instrumentation, and Procedures I  
(3-0)  3 Hours  
This course introduces the student to physical principles and image acquisition parameters of computed tomography, surveys instrumentation and digital processing parameters, and discusses scanning techniques as applied to single and multislice spiral CT. Contrast media, medical emergencies, and physical patient assessment as applied to CT are also discussed. Imaging protocols for the head, neck, chest, and abdomen are emphasized. (1.2)  
Prerequisite: Acceptance into the Computed Tomography Program or Approval by department chair

MIM 253  MRI Procedures  
(2-0)  2 Hours  
This course introduces MRI scanning procedures and application. Scanning parameters and patient care will be emphasized for examination of the head and neck, spine, thorax, abdomen/pelvis, musculoskeletal and advanced imaging procedures. Radiographic critiques and quality assurance will also be emphasized. (1.2)  
Prerequisite: Admission to the MRI Program

MIM 254  CT Physics, Instrumentation, and Procedures II  
(3-0)  3 Hours  
This course introduces the student to the principles of single slice, multislice and volume scanning computed tomography. It will also cover CT fluoroscopy, angiography, and quality control. Other topics include patient care and assessment, medical emergencies, radiation protection, aseptic techniques and imaging procedures of the musculoskeletal and reproductive systems. Trauma imaging will also be discussed for the central nervous, respiratory, cardiovascular, digestive, urinary, musculoskeletal and reproductive systems. (1.2)  
Prerequisite: MIM 252 (C or better) and Acceptance into the CT program OR Approval by department chair

MIM 255  MRI Sectional Anatomy & Pathology  
(4-0)  4 Hours  
This course introduces the students to cross sectional MRI anatomy and pathology. Emphasis is placed on the central nervous system, musculoskeletal system, neck, chest, abdomen and pelvis. The vascular system is also presented. (1.2)  
Prerequisite: Admission to the CT or MRI Program

MIM 256  CT Sectional Anatomy and Pathology I  
(3-0)  3 Hours  
This course introduces the students to cross sectional CT anatomy and pathology. Emphasis is placed on the cross-sectional anatomy and pathology of the pelvis, vertebral column/spinal cord, reproductive, urinary, musculoskeletal, and cardiovascular/systemic vascular systems. Trauma imaging and pediatric specificities of these systems are also presented. (1.2)  
Prerequisite: Acceptance into the CT program or Approval by department chair

MIM 258  CT Sectional Anatomy and Pathology II  
(3-0)  3 Hours  
This course is a continuation of CT Sectional Anatomy and Pathology I (MIM 256). Emphasis is placed on the cross-sectional anatomy and pathology of the pelvis, vertebral column/spinal cord, reproductive, urinary, musculoskeletal, and cardiovascular/systemic vascular systems. Trauma imaging and pediatric specificities are also presented. Comprehensive reviews of all systemic anatomy and pathology are completed. (1.2)  
Prerequisite: MIM 256 (C or better) and Acceptance into the CT program OR Approval by department chair
MIM 271 Clinical Practice V (0-16)  3 Hours
Supervised competency based clinical practice. Emphasis continued on routine and non-routine radiographic procedures. Students will complete all competencies required by the American Registry of Radiologic Technologists. (1.2)
Prerequisites: MIM 214, MIM 215, and MIM 216 (C or better in each)
Course fee

MIM 272 MRI Practicum (0-15)  3-6 Hours
This course introduces the student to supervised competency based clinical practice. Emphasis is placed on patient care, safety considerations, positioning and scanning parameters, MR imaging procedures, and non-imaging procedures. (1.2)
Prerequisite: Acceptance into the MRI Program
Course fee
May be taken twice for credit toward degree

MIM 273 CT Practicum I (0-10)  2 Hours
This course introduces the student to supervised competency based clinical practice. Emphasis is placed on patient care, safety considerations, positioning and scanning parameters, CT imaging procedures, and non-imaging procedures. (1.2)
Prerequisite: Acceptance into the CT Program OR Approval by department chair
Course fee

MIM 274 CT Practicum II (0-10)  2 Hours
This course provides students continued supervised competency based clinical practice. Emphasis is placed on patient care, safety considerations, positioning and scanning parameters, CT imaging procedures, and non-imaging procedures. (1.2)
Prerequisite: MIM 273 (C or better) and Acceptance into the CT Program OR Approval by department chair
Course fee

MUSIC (MUS)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

MUS 120 Vocal Ensembles (0-2)  1 Hour
Understanding and enjoyment of choral music. Student may choose the Gospel Choir, CLC Singers, or Choir of Lake County.
Note: The CLC Singers requires an audition. (1.1)
Course fee
May be taken four times for credit toward degree

MUS 121 Voice Class I (1-1)  1 Hour
Introduction to singing techniques beginning with group singing and gradually introducing solo singing. No vocal background is needed.
For non-music majors. (1.1)
Course fee

MUS 122 Voice Class II (1-1)  1 Hour
Introduction to singing techniques with emphasis on repertoire. A continuation of MUS 121. (1.1)
Prerequisite: MUS 121
Course fee

MUS 123 Wind Ensemble (0-2)  1 Hour
Understanding and enjoyment of instrumental music through selected examples of standard instrumental ensemble literature of all periods. (1.1)
Course fee
May be taken four times for credit toward degree

MUS 124 Music Appreciation (3-0)  3 Hours
This course introduces standard concert music through intensive guided listening. Representative works by major composers from each period are chosen to illustrate the principal styles, forms and techniques of vocal and instrumental music. (1.1)
IAI: F1 900

MUS 125 Aural Skills I (0-2)  1 Hour
(Formerly MUS 142) This course introduces students to the development of skills in melodic, harmonic and rhythmic dictation and sight singing. (1.1)
Corequisite: MUS 128

MUS 126 Aural Skills II (0-2)  1 Hour
(Formerly MUS 149) This course is a continuation of MUS 125 - Aural Skills I and further develops skills in melodic, harmonic and rhythmic dictation and sight singing. (1.1)
Prerequisite: MUS 125 (C or better)
Corequisite: MUS 129 (C or better)

MUS 127 Fundamentals of Music Theory (3-0)  3 Hours
This course provides the background to interpret and understand the language of music through the study of notation, rhythm, scales, intervals, triads, cadences, basic forms and musical terms. Students are prepared for the study of harmony and for practical musical activity. Suitable for pre-teachers and non-music majors. (1.1)

MUS 128 Theory of Music I (3-0)  3 Hours
This course begins an intensive study of musical language including analysis, recognition and writing of chords and harmonic progressions leading to formal music composition. Students without keyboard background should combine this course with MUS 145 Piano Class I (1 credit hour). (1.1)
Prerequisite: MUS 127 (C or better) or a passing score on the Music Theory Placement exam
Corequisite: MUS 125

MUS 129 Theory of Music II (3-0)  3 Hours
This course continues an intensive study of musical language including analysis, recognition and writing of chords and harmonic progressions leading to formal music composition. Particular attention is paid to harmonic language and its effect upon musical form. (1.1)
Prerequisite: MUS 128 (C or better)
Corequisite: MUS 126

MUS 140 20th Century Music (3-0)  3 Hours
A non-technical listening course emphasizing recognition and understanding of various styles of 20th century music including jazz and popular music. Emphasis placed on music through recordings, scores, and performance of representative works of each period.
Comparison of styles and consideration of music in relation to other fine arts and to the general historical background. (1.1)
COURSE DESCRIPTIONS

MUS 141  Applied Music-Voice I  (Var.)  1-2 Hours
This course is designed for the vocalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in art or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 143  Applied Music Piano I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 144  Applied Music-Jazz Piano I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 145  Piano Class I  (1-1)  1 Hour
An introduction to basic playing, keyboard chords, and music reading. Interpretation of various music styles is considered. For beginners or those who have not studied for a considerable time.
Note: Students should combine this course with Fundamentals of Music (MUS 127). (1.1)
Course fee

MUS 146  Piano Class II  (1-1)  1 Hour
A continuation of MUS 145. Provides additional opportunity for study and practice of more advanced compositions for piano. (1.1)
Prerequisite: MUS 145

MUS 147  Guitar Class I  (1-1)  1 Hour
Introduction to the fundamentals of the guitar for development of playing skills, reading, improvisation and technique. Explores the use of music theory as it relates to the guitar in terms of keys, chord construction and progression. Emphasis on variety of songs and historical styles for repertoire development.
Note: MUS 127 Fundamentals of Music is strongly recommended as a companion course for students who need work in reading pitches and rhythms. (1.1)
Course fee

MUS 148  Guitar Class II  (1-1)  1 Hour
A continuation of MUS 147. It develops and advances skills learned and introduces new concepts and techniques. (1.1)
Prerequisite: MUS 147
Course fee

MUS 160  Applied Music - Violin I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 161  Applied Music-Viola I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 162  Applied Music Cello I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 163  Applied Music-String Bass I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 164  Applied Music-Flute I  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree
MUS 165  Applied Music-Oboe I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 166  Applied Music-Clarinet I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 167  Applied Music English Horn I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 168  Applied Music-Bassoon I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 169  Applied Music-Bass Clarinet I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 170  Applied Music-Saxophone I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 181  Applied Music-Trumpet I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 182  Applied Music-French Horn I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 183  Applied Music Trombone I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree
MUS 184  Applied Music Baritone Horn I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 185  Applied Music Tuba I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 186  Applied Music-Percussion I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 187  Applied Music-Guitar I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 188  Applied Music-Electric Bass I
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 223  Jazz Ensemble
(0-2)  1 Hour
Understanding and enjoyment of instrumental music through selected examples of standard instrumental ensemble literature of all periods. (1.1)
Course fee
May be taken four times for credit toward degree

MUS 224  Music Literature
(3-0)  3 Hours
The historical development of western music, including various musical styles and periods and the contribution of key composers in shaping the western musical tradition. (1.1)
Prerequisite: MUS 128
IAI: F1 902

MUS 225  Aural Skills III
(0-2)  1 Hour
This course is a continuation of MUS 126 - Aural Skills II and further develops skills in melodic, harmonic and rhythmic dictation and sight singing. (1.1)
Prerequisite: MUS 126 taken subsequent to Fall 2017 (C or better)
Corequisite: MUS 228

MUS 226  Aural Skills IV
(0-2)  1 Hour
This course is a continuation of MUS 225 - Aural Skills III and further develops skills in melodic, harmonic and rhythmic dictation and sight singing. (1.1)
Prerequisite: MUS 225 (C or better)
Corequisite: MUS 229

MUS 228  Theory of Music III
(3-0)  3 Hours
This course continues an intensive study of musical language including analysis, recognition and writing of chords and harmonic progressions leading to formal music composition. Particular attention is paid to harmonic language and its effect upon musical form. (1.1)
Prerequisite: MUS 129 (C or better)
Corequisite: MUS 225

MUS 229  Theory of Music IV
(3-0)  3 Hours
This course completes the study of the structure of classical and avant-garde music in the 20th century and explores the structure of atonal and tonal music from a linear perspective. (1.1)
Prerequisite: MUS 228 (C or better)
Corequisite: MUS 226

MUS 241  Applied Music-Voice II
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 243  Applied Music-Piano II
(Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree
MUS 244  Applied Music-Jazz Piano II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 245  Piano Class III  (1-1)  1 Hour
Continuation of MUS 146. More advanced keyboard techniques, use of pedals, improvisation and functional piano. Music reading of all periods. (1.1)
Prerequisite: MUS 146
Course fee

MUS 246  Piano Class IV  (1-1)  1 Hour
Continuation of MUS 245. The highest level of advancement in piano class. Increased skills in all piano techniques. (1.1)
Prerequisite: MUS 245
Course fee

MUS 260  Applied Music Violin II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 261  Applied Music Viola II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 264  Applied Music-Flute II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 266  Applied Music-Clarinet II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 280  Applied Music-Saxophone II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 281  Applied Music-Trumpet II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 282  Applied Music-French Horn II  (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree
MUS 283  Applied Music-Trombone II (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 286  Applied Music-Percussion II (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 287  Applied Music-Guitar II (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

MUS 288  Applied Music-Electric Bass II (Var.)  1-2 Hours
This course is designed for the instrumentalist who is a beginner or advanced and intends to become seriously involved with music. This is a course of independent study on a private lesson basis.
Note: No more than 4 credit hours earned in MUS 141, MUS 143-144, MUS 160-169, MUS 180-188, MUS 241, MUS 243-244 and MUS 260-288 will count toward an associate degree in arts or science. (1.1)
Course fee
May be taken 4 times for max 4 hrs toward degree

NUR 110  Nurse Assisting (6-3)  7 Hours
This course prepares students for employment as nurse assistants. Depending on the setting, nurse assistants provide direct patient care; transfer and transport patients, equipment supplies and specimens, and make observations regarding patients. Duties might include giving baths and back rubs; making beds; serving meals; helping patients in and out of bed; taking temperature, pulse, respiration, weight and blood pressure measurements; answering patients’ call lights; taking appropriate action in emergencies; and performing other duties as directed by the nurse. While the majority of nurse assistants work in long term care facilities, many are employed in hospitals, home care, and other care settings. Upon successful completion of this course, the student will be eligible to take the state mandated written competency examination for Nurse Assistant Certification. Note: Background check and health requirement must be completed prior to enrolling in the course. (1.2) Prerequisite: NUR 133, BIO 246 and BIO 245 (all C or better if taken previously)
Course fee

NUR 134  Medical Surgical Nursing (4-15)  9 Hours
This course builds upon NUR 133 and focuses on assessment of primarily adult populations with acute and chronic health disorders. The course expands on skills of critical thinking, clinical decision making, and interventions for patients with acute and chronic illnesses. The course provides the opportunity to work collaboratively with the healthcare team in patient care planning building on evidence-based practices. Instructional methodologies include patient-centered clinical experiences and structured classroom student-teacher interactions. (1.2) Prerequisite: NUR 133, BIO 246 and BIO 245 (all C or better)
Corequisite: PSY 220
Course fee
NUR 233  Family-Centered Nursing Care  (4-6)  6 Hours
This course focuses on nursing care of the family unit and its individual members in selective phases of the human life cycle. Specific concepts of health and illness of these individuals form the basis of planning and implementing culturally diverse age appropriate nursing care. The nurse develops this care through the use of the nursing process, critical thinking, and clinical decision making and evidence-based practices in family-centered nursing care. Instructional methodologies include patient-centered clinical experiences and structured classroom student-teacher interactions. (1.2)
Prerequisite: NUR 134 and PSY 220 (C or better)
Course fee

NUR 234  Complex Medical, Surgical, and Leadership Nursing  (4-15)  9 Hours
This course builds upon previous nursing courses and focuses on assessment of individuals with multiple and complex health disorders, leadership development and transition into practice. The course includes clinical decision making and care coordination for all patients. The course focuses upon application of the nursing process to a group of patients using delegation, collaboration, prioritizing and leadership skills. Students are engaged in evidence-based practice activities. A primary focus of this course will be transition to practice as a registered nurse. Instructional methodologies include patient-centered clinical experiences and structured classroom student-teacher interactions. (1.2)
Prerequisite: NUR 232 and NUR 233 (C or better)
Course fee

PERSONAL DEVELOPMENT (PDS)

Counseling, Advising and Transfer Center, Room A124, (847) 543-2060

PDS 120  Becoming A Successful College Student  (Var.)  1-2 Hours
This course is designed to teach students attitudes and skills valuable for college success. Topics may include: goal setting, time management, memory development, note taking, textbook reading strategies, test-taking strategies, library use, college resources, motivation, and stress management. Note: Involves extensive reading and homework assignments since intensive practice is required for mastery. (1.1)
Prerequisite: College Reading and Writing Readiness OR Concurrent Enrollment in ENG 108 or ENG 109 or ELI 108 or ELI 110 or ENG 100

PDS 121  Self-Empowerment  (1-0)  1 Hour
This course empowers students to become more aware of self by identifying personal strengths and values in order to resolve conflicts and set goals. Students will complete activities based on empirical models in a structured setting. With increased understanding of self-concept and development of interpersonal skills, students are empowered to achieve appropriate goals. This course is especially valuable for students who seek more self-confidence and motivation to live a more fulfilled life. This course may not be audited. (1.1)
Prerequisite: ELI Accuplacer score of 235 or higher OR APT score of 80 or higher OR ELI 103 OR ELI 104 OR ELI 108 OR ELI 109 OR ELI 110 OR ENG 108 OR ENG 109 OR College Reading and Writing Readiness

PDS 122  Career Exploration  (1-0)  1 Hour
This course is designed to teach students how to engage in a comprehensive career planning process. The course focuses primarily on the exploration phase of this process. Students will use various assessments, in class activities and assignments to understand their interests, values, personality type, skills and experiences as related to career identification. Students will use information about the world of work, identify and examine career clusters or job families, occupational trends, and education and training requirements. Note: Students are expected to synthesize what they have learned and develop a career plan at the end of the course. (1.1)
Prerequisite: College Reading and Writing Readiness OR Concurrent Enrollment in ENG 108 or ENG 109 or ELI 108 or ELI 110 or ENG 100
Course fee

PDS 123  Exploring Diversity and Human Relations  (3-0)  3 Hours
The course will focus on how culture and other diversity topics affect interactions with others. Through an interactive format, the course will assist students to gain an increased awareness of, and an appreciation for, the dimensions related to their own culture and to the cultures of others. Students will have the opportunity to examine and analyze the impact of prejudice, discrimination, and privilege within self and between groups. The skills necessary for promoting positive human relations in a diverse society will be explored and developed. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.

PDS 124  Transition to College  (1-0)  1 Hour
This course is designed to assist new students with their transition into college. Topics may include: college academic policies, college vocabulary, student and faculty expectations/roles, college organization/layout, college resources, use of educational technology, diversity, involvement in college activities/organizations, educational planning, and assessment of study skills. (1.1)
Prerequisite: Score on ELI Accuplacer-235 or higher OR APT-80 or higher OR ELI 103 OR ELI 108 OR ELI 109 OR ELI 110 OR ENG 108 OR ENG 109 OR College Reading and Writing Readiness
Corequisite: Enrollment in one other CLC course

PHILOSOPHY (PHI)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

PHI 121  Introduction to Philosophy  (3-0)  3 Hours
This course discusses the ideas of major philosophers concerning questions of human knowledge, logic, moral values, political and social philosophy, and religious beliefs. Attempts are made to get students to think out their own answers to these questions. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: H4 900

PHI 122  Logic  (3-0)  3 Hours
This course develops formal reasoning, including categorical and symbolic modes of analysis. It covers Venn diagrams, predicate logic, rules of inference and replacement. It introduces the inductive method and the problem of induction. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
IAI: H4 906
COURSE DESCRIPTIONS

PHI 123  Philosophy of Religion  (3-0)  3 Hours
This course is a study of selected religious concepts, theories, and arguments. Topics may include the existence of God, conceptions of divinity, characterizations of the divine/human relationship, religious pluralism, the nature of good and evil, faith and reason, religion and morality, miracles, the afterlife, and the nature of religious experience. While not a survey of world religions, emphasis is given to engaging and evaluating ideas from a diverse range of thinkers of various religious and non-religious traditions. (1.1)

Prerequisite: College Reading and Writing Readiness
IAI: H4 905

PHI 125  Introduction to Ethics  (3-0)  3 Hours
In this course, students critically evaluate general moral theories, fundamental moral concepts, and contemporary moral issues such as animal rights and the environment, reproductive technology and abortion, euthanasia and assisted suicide, poverty and famine relief, war and peace, racism, sexism, and other injustices. Students work to develop and defend their own views on these matters, and to understand and evaluate others’ views, by studying and applying moral theories such as virtue ethics, utilitarianism, deontology, and ethics of care. Throughout the course, students learn about moral concepts such as sound reasoning, autonomy, impartiality, utility, rights, responsibility, and justice. Specific attention is given to moral issues relevant to and philosophical contributions made by members of traditionally underrepresented groups. (1.1)

Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: H4 907

PHI 128  Introduction to Social and Political Philosophy  (3-0)  3 Hours
This course introduces students to social and political philosophies. Students will discuss and critically evaluate major social and political theories on justice, equality, liberty, law, order, rights, and duties. Contract theory, classic liberalism, Marxism, anarchism, cosmopolitanism, and virtue theory will also be covered. Students will learn to apply these theories practically to contemporary issues such as war and peace, human rights, racism, sexism, classism, gay rights, worker rights and global trade, immigration, education, free speech, prison, and political participation. (1.1)

Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: H4 907

PHI 129  Philosophy of Gender and Sexuality  (3-0)  3 Hours
This course provides an interdisciplinary introduction to the ways in which gender and sexuality have been reflected in philosophy, literature, history, music, and art. The course explores issues related to cisgender/nonbinary/transgender and queer identity in relation to race, sexuality, class, and nationality. Both classical and contemporary philosophers will be studied. (1.1)

Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.

PHI 221  Asian Philosophy  (3-0)  3 Hours
This course introduces students to the influential ideas and thinkers of India, China, and Japan. Students will cover a wide range of philosophical theories regarding the self, reality, knowledge, and aesthetics. (1.1)

Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.
IAI: H4 903N

PHI 299  Special Topics in Philosophy  (Var.)  1-3 Hours
This course will address the in-depth study of special topics in Philosophy which do not have specific courses in the catalogue. Course content and requirements will vary depending on the topic being studied. (1.1)

May be taken four times for credit toward degree

PHLEBOTOMY TECHNICIAN (PBT)

Biological and Health Sciences Division, Room B213, (847) 543-2042

PBT 110  Introduction to Medical Lab Technology  (1-2)  2 Hours
This course introduces students interested in phlebotomy to the roles of the medical laboratory personnel in the health care system. Topics include professionalism, communication, basic laboratory math, medical ethics, CLIA-waived testing, legal implications of laboratory testing, and educational preparation and certification of laboratory personnel. (1.2)

Prerequisite: High school diploma or GED, 18 years of age, IDPH background check, drug screening; proof of immunization required, College Reading and Writing Readiness, Basic Algebra Readiness, and attended a Phlebotomy Program Information Session (within 2 years)
Course fee

PBT 115  Phlebotomy Techniques  (1-2)  2 Hours
This course focuses on the development of skills in performing phlebotomy procedures. Topics include proper use of equipment, current safety standards, medical and legal policies and regulations, interpersonal and communication skills, and correct specimen collection, transport, and preparation for laboratory testing. (1.2)

Prerequisite: PBT 110 (C or better), and attendance of Phlebotomy Information Session (within 2 years).
Course fee

PBT 116  Clinical Phlebotomy  (0-7)  2 Hours
This course provides the student with supervised clinical practice of current phlebotomy techniques. Students will develop skill in performing phlebotomy procedures in various health care settings. Includes proper use of equipment, current safety standards, medical and legal policies and regulations, interpersonal skills, and correct transport, collection, and preparation for laboratory testing. (1.2)

Prerequisite: PBT 110, PBT 115 (both with C or better), and attendance of Phlebotomy Information Session (within 2 years).
Course fee
PHYSICAL EDUCATION (PED)

Biological and Health Sciences Division, Room B213, (847) 543-2042

PED 121 Individual Activities (0-2) 1 Hour
This course provides instruction and participation in one of numerous athletic, fitness, and wellness activities. Choices may include Total Fitness, Strength Training, Aikido, Hapkido, Tai Chi, and various group exercise classes. Consult the class schedule for sports offered during a particular semester.
Note: No more than four credit hours earned in PED 121 and/or PED 127 counts toward an associate degree. Enrollment attempts beyond this limit will result in an error message indicating non-enrollment. See Center for Personal Enrichment for non-credit classes. (1.1)
Prerequisite: ELI Accuplacer score of 235 or higher OR APT score of 80 or higher OR ELI 103 (C or better) OR ELI 104 (C or better) OR ELI 110 OR College Reading and Writing Readiness
Course fee
May be taken four times for credit toward degree

PED 123 Team Sports I (Var.) 0.5-1 Hour
Group instruction in a variety of team sports, including techniques of play, strategy, and rules. Provides group instruction and experience in a variety of team sports. Emphasis on participation. Sports offered include basketball, volleyball, softball, and baseball.
See class schedule for sports offered during a particular semester. (1.1)
Note: No more than 1 credit hour earned in PED 123 will count towards an associate degree. Enrollment attempts beyond this limit will result in an error message indicating non-enrollment. See Center for Personal Enrichment for non-credit classes.
May be taken twice for credit toward degree

PED 128 Introduction to Recreation (3-0) 3 Hours
This course is designed to introduce the student to the historical and philosophical aspects of recreation and the factors that influence use of leisure time. The nature, scope, and importance of recreational activities in a school and community setting are covered along with program development for the various age groups. (1.1)
Note: Students will spend lab time in local park districts during the second half of the semester.
Prerequisite: College Reading and Writing Readiness

PED 160 Yoga I (0-2) 1 Hour
This activity course introduces students to the art and science of yoga. Emphasis is placed on basic yoga postures (asanas) and accompanying breathing techniques commonly found in Hatha Yoga and other styles. Students will experience many benefits including enhanced muscle tone, flexibility, and relaxation for the body and mind. HWP 160 and PED 160 are cross-listed. (1.1)

PED 220 Physical Education in the Elementary School (2-2) 3 Hours
Designed specifically for classroom teachers, teacher aides, and elementary physical education majors. Curriculum, materials, and progression of activities in elementary school physical education is discussed, demonstrated, and practiced.
Note: Students will spend lab time in local elementary schools during the second half of the semester. (1.1)
Prerequisite: College Reading and Writing Readiness

PED 221 Introduction to Physical Education (3-0) 3 Hours
This course is an introduction to the professional field of physical education. An understanding of the role of physical education in the total education program. A study of the objectives of physical education with emphasis on physical fitness and social development. (1.1)
Prerequisite: College Reading and Writing Readiness

PED 228 First Aid/CPR (2-0) 2 Hours
This course is designed to prepare citizen responders with the knowledge and skills necessary to respond to emergency and first-aid situations. First aid, CPR, and AED for adults, children, and infants are included in this course. Students will be eligible to take national certification exams upon successful completion of each respective content area. (1.1)
Prerequisite: ELI Accuplacer score of 235 or higher OR APT score of 80 or higher OR ELI 103 (C or better) OR ELI 104 (C or better) OR ELI 110 OR College Reading and Writing Readiness
Course fee

PED 229 Experience in the Out-of-Doors (Var.) 1-3 Hours
Extends the classroom into the out-of-doors. Outdoor experiences are provided in a variety of natural areas through field trips. Instructional emphasis is placed on how to move through these areas with minimum environmental impact and how to live within them through various outdoor activities such as camping and hiking.
Note: No more than 3 credit hours may count toward an associate degree. (1.1)
Course fee
May be taken twice, but any topic only once

PED 242 Philosophy of Coaching (Var.) 0.5-3 Hours
This course is a study of the essential elements of coaching men and women and boys and girls. It emphasizes the development and analysis of various coaching styles and philosophies, development of individual and team objectives, methods of coaching organization, and various motivational techniques. As such, the course will serve to prepare the student for all aspects of coaching aside from the technical aspects of the particular sport. (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
May be taken four times, but any topic only once

PED 243 Theory and Practice of Fitness (1-2) 2 Hours
This course introduces students to basic scientific and applied concepts of fitness as well as provides regularly scheduled opportunities to develop their health and functional fitness capacities. (1.1)
Prerequisite: College Reading and Writing Readiness

PED 270 Biomechanics and Kinesiology (3-0) 3 Hours
This course will introduce students to the science of musculoskeletal human movement. Fundamental biomechanical principles and functional movement capabilities of each major joint will be examined. (1.1)
Prerequisite: College Reading and Writing Readiness
COURSE DESCRIPTIONS

AND - College Reading and Writing Readiness
Algebra or concurrent enrollment in MTH 117 - Placement Test or two years of High School better) or an appropriate score on the Math Prerequisites: assumed. (1.1) Basic knowledge of algebra and geometry and sound are developed through lectures, (4-2) PHY 121 Course fee Readiness AND Basic Algebra Readiness Prerequisite: approach will be emphasized. (1.1) situations. A verbal rather than a mathematical concepts in physics as applied to everyday course supplemented with demonstrations and laboratory designed primarily for non-science students. It stresses some fundamental concepts in physics as applied to everyday situations. A verbal rather than a mathematical approach will be emphasized. (1.1) Prerequisite: PED 270 and PED 271 (both C or better)

PHYSICS (PHY)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

PHY 120 Practical Aspects of Physics (3-2) 4 Hours This is a one semester lecture-discussion course supplemented with demonstrations and laboratory designed primarily for non-science students. It stresses some fundamental concepts in physics as applied to everyday situations. A verbal rather than a mathematical approach will be emphasized. (1.1) Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness Course fee IAI: P1 901L

PHY 121 General Physics I (4-2) 5 Hours This is the first course in a two semester sequence designed for students in arts and sciences. Basic concepts of mechanics, waves and sound are developed through lectures, demonstrations and laboratory experience. Basic knowledge of algebra and geometry assumed. (1.1) Prerequisites: MTH 108 or MTH 107 (both C or better) or an appropriate score on the Math Placement Test or two years of High School Algebra or concurrent enrollment in MTH 117-AND- College Reading and Writing Readiness Course fee IAI: P1 900L

PHY 122 General Physics II (4-2) 5 Hours This is the second course in a two semester sequence. Basic concepts of heat, thermodynamics, electricity, magnetism, optics and modern physics are developed. (1.1) Prerequisite: PHY 121 Course fee

PHY 123 Physics for Science and Engineering I (4-2) 5 Hours This is the first course in a three semester sequence designed for students in engineering, physics, mathematics and chemistry. Fundamental concepts of mechanics are developed through lecture, demonstration and laboratory experience. Note: MTH 146 is strongly recommended as a corequisite for this course and is a prerequisite for PHY 124 if you are planning to enroll in Physics for Science and Engineering II. (1.1) Prerequisite: MTH 145 Course fee IAI: P2 900L

PHY 124 Physics for Science and Engineering II (4-2) 5 Hours This is the second course in a three semester sequence. Fundamental concepts of heat, electricity, and magnetism are developed. (1.1) Prerequisite: PHY 123 and MTH 146 Course fee

PHY 221 Physics for Science and Engineering III (3-2) 4 Hours This is the third course in a three semester sequence. Fundamental concepts of waves, sound, optics, and modern physics will be developed. (1.1) Prerequisite: PHY 124 Course fee

POLITICAL SCIENCE (PSC)

Business and Social Sciences Division, Room T302, (847) 543-2047

PSC 121 American National Politics (3-0) 3 Hours This course is an introductory survey of American politics designed to help students better understand the U.S. political system. The focus of the course is on the system’s key political actors, behaviors, processes and institutions. Empirically based explanations are offered to help students understand why these political factors are important to the system’s operation, and what effect they have on both the electoral and policy making processes and their outcomes. (1.1) Prerequisite: College Reading and Writing Readiness IAI: SS 900

PSC 122 State and Local Politics (3-0) 3 Hours This course introduces students to state and local politics in the United States. It is designed to help students better understand the political institutions and processes of subnational governments. The course adopts a comparative political systems approach that focuses on the variation found among state and local governments. The purpose of the course is to understand why these differences exist, and what effect they have on both the electoral and policy making processes and their outcomes. (1.1) Prerequisite: College Reading and Writing Readiness IAI: SS 902

PSC 221 Comparative Political Systems (3-0) 3 Hours This course is a comparative study of national political systems found across the globe. Its primary focus is describing and explaining the conditions necessary and sufficient for a democracy. A three part classification scheme--Developed Democracies, Developing Democracies and Non-Democracies--is used to analyze the similarities and differences found both within and across the different political systems. A select group of countries from different regions in the world are studied to illustrate political, economic and social development as it relates to regime type. (1.1) Prerequisite: College Reading and Writing Readiness Fulfills the CLC I/M Education Requirement. IAI: SS 905
PSC 222  International Relations  
(3-0)  
3 Hours  
This course is a survey of world politics designed to better understand current political issues and events at the international or global level. The course uses a multiple perspective analysis approach emphasizing the different levels of analysis and paradigms relevant to international politics. While introducing students to the traditional security concerns of states, it also seeks to emphasize the growing importance of nonstate actors and nonsecurity issues in global politics. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: SS 904

PSC 223  Political Campaigns and Elections  
(3-0)  
3 Hours  
This course covers the historical development and modern strategies of political parties and interest groups in campaigns and elections. Attention is given to an analysis of current elections at the national, state, and local levels. (1.1)  
Prerequisite: College Reading and Writing Readiness

PRE-BRIDGE (PBRA)

Adult Education and ESL Division, Building 4  
(847) 543-2021

Adult Education classes are intended for people who live in Lake County. They are not appropriate for students with B1, B2, F1, F2, J1 or J2 visas, nor are they appropriate for short-term visitors to the U.S.  

In general, students must be at least 18 years old in order to enroll in adult education classes. However, 16-year-olds and 17-year-olds may register with an official Secondary School Reference Form signed by their local High School authorized representative. U.S. High School graduates and 16-year-olds must meet additional eligibility requirements. New students must attend an orientation session before attending classes.  

The Adult Education and ESL Division provides several specific types of educational opportunities and is funded in part by grants from the federal government.

PBRA 20  Introduction to Administrative Management Technology Pre-Bridge  
(Var.)  
0.5-6 Hours  
This introductory course will focus on building the basic reading, vocabulary, math and computer skills needed for students to prepare to enter the Introduction to Administrative Management and Technologies Bridge Program. The course will allow students to explore a variety of office workplace skills through investigation of contextualized readings and activities about topics related to CLC Administrative Management and Technologies certificates and degrees.  
Corequisites: Must also be enrolled in English as a Second Language (ESL), or ABE 38, or ABE 40 level classes. Must have a 4.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department consent. (1.7)  
Course fee  
May be taken four times for credit

PBRA 30  Introduction to Computer Information Technology Pre-Bridge  
(Var.)  
0.5-6 Hours  
This Pre-Bridge Computer Information Technology course is an introductory course that will lead to the Bridge Computer Information Technology course as part of the Information Technology career cluster pathway. This introductory Pre-Bridge course is a lower level course for students at the low intermediate level and will require a lower TABE score than the Bridge course. It will focus on building the basic reading, vocabulary, math and computer skills needed for students to prepare them for the Bridge Computer Information Technology course. The course will allow students to explore a variety of workplace skills and language, career exploration and planning, and other career information through investigation of contextualized readings and activities about skills and knowledge required by the occupations in the Information Technology career cluster. The variable credit will accommodate the various patterns of intensity and duration that will be offered and allow the program the flexibility needed to meet the needs of the student.  
Prerequisites: Must have a 4.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department consent.  
Corequisites: Must also be enrolled in one of the following: an English as a Second Language (ESL) class, an ABE 38 level class or an ABE 40 level class. (1.7)  
Course fee  
May be taken four times for credit

PBRA 40  Preparation for Manufacturing Careers Pre-Bridge  
(Var.)  
0.5-6 Hours  
This Pre-Bridge Manufacturing course is an introductory course that will lead to the Bridge Manufacturing course as part of the Manufacturing career cluster pathway. This introductory Pre-Bridge course is a lower level course for students at the low intermediate level and will require a lower TABE score than the Bridge course. It will focus on building the basic reading, vocabulary, math and computer skills needed for students to prepare them for the Bridge Manufacturing course. The course will allow students to explore a variety of workplace skills and language, career exploration and planning, and other career information through investigation of contextualized readings and activities about skills and knowledge required by the occupations in the Manufacturing career cluster. The variable credit will accommodate the various patterns of intensity and duration that will be offered and allow the program the flexibility needed to meet the needs of the student.  
Prerequisites: Must have a 4.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department consent.  
Corequisites: Must also be enrolled in one of the following: an English as a Second Language (ESL) class, an ABE 38 level class or an ABE 40 level class. (1.7)  
Course fee  
May be taken four times for credit

PBRA 50  Preparation for Healthcare Careers  
(Var.)  
0.5-6 Hours  
This pre-bridge to healthcare helps students strengthen reading, writing and math skills necessary to gain entrance into the Healthcare Bridge classes in the Adult Education division. Emphasis is on contextualized reading, math and writing in the healthcare sector. (1.7)  
Course fee  
May be taken four times for credit
COURSE DESCRIPTIONS

PSYCHIATRIC REHABILITATION (PRS)

Business and Social Sciences Division, Room T302, (847) 543-2047

PRS 111  Survey of Psychiatric Rehabilitation (3-0)  3 Hours
The course provides an overview of psychiatric disability and rehabilitation approaches to psychiatric treatment. Topics include: the State of Illinois mental health system and related services; case management, dual diagnosis of substance abuse/psychiatric disabilities; public policy issues and family/community support systems. (1.2)
Prerequisite: College Reading and Writing Readiness

PRS 112  Psychiatric Rehabilitation Skills (3-0)  3 Hours
This course focuses on skills needed for serving individuals with severe mental illness. Components included are: interviewing and listening skills; step process for teaching skills; behavior modification principles; aggression management; client assessment and treatment planning; and crisis intervention techniques. (1.2)
Prerequisite: PRS 111

PRS 113  Health Skills for Psychiatric Rehabilitation (3-0)  3 Hours
This course examines three dimensions of wellness: physical, emotional wellness, and environmental wellness. Other dimensions may be included. A multidimensional model is utilized based on the illness/wellness continuum. The focus is on skill development in self-responsibility to improve the quality of life and well being for those with severe mental illness. (1.2)
Prerequisite: PRS 111

PRS 114  Vocational and Community Living Skills (3-0)  3 Hours
This course focuses on development of skills needed for working with community, state, and federal agencies that serve people with severe mental illness. Mediation, negotiation, job coaching, and job analysis skills are included. Practical applications of the Americans with Disabilities Act are explored. Community living skills will include the process of networking and benefits programs available at the local, state, and federal level. (1.2)
Prerequisite: PRS 111

PSYCHOLOGY (PSY)

Business and Social Sciences Division, Room T302, (847) 543-2047

PSY 121  Introduction to Psychology (3-0)  3 Hours
This course presents the basic concepts and theoretical perspectives for understanding psychology. The course encompasses factors affecting human behavior and mental processes and includes, but is not limited to, the history of psychology, research methodology, the brain and behavior, learning, memory, cognition, language, intelligence, development, personality, abnormal psychology, therapy and social psychology. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S6 900

PSY 122  Industrial/Organizational Psychology (3-0)  3 Hours
This course provides an overview of Industrial/Organizational (I/O) Psychology, which is the application of psychological research and theory to explain human interactions with others at work. Individual, group, and organizational issues focused on the work environment are explored. Areas covered include personnel selection, performance management, motivation, job satisfaction, leadership, supervisory practices, and research on the work, worker and workplace. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S6 900

PSY 220  Lifespan Development (3-0)  3 Hours
This course integrates theory and research as they relate to neurobiological, cognitive, social and emotional development of individuals in cultural context from conception throughout adulthood. The course emphasizes both normal and atypical developmental stages and patterns of adjustment to differing life-time demands. Students will gain an understanding of hereditary and environmental factors on development; prenatal development and the birth process; physical development; language and cognitive development; family relationships; friend and peer relations; school, college, and career experiences; identity; gender; sexuality and health; the aging process and death and dying; as well as the research methods psychologists use to study development. (1.1)
Prerequisite: PSY 121 (C or better)
IAI: S6 902

PSY 222  Child Growth and Development (3-0)  3 Hours
This course is designed to familiarize students with the physical, cognitive, and socioemotional development of the child from conception through adolescence in cultural context. Topics of discussion include genes and heredity; prenatal development and birth; brain development; motor, sensory, and perceptual development; cognitive and memory changes; intelligence and language development; development of the self and identity; attachment and social relationships; and moral development. Emphasis is placed on the interrelationships among the physical, cognitive, social, and emotional domains and the mutual influences of these domains on development. Several theories of child development and methods of studying development are introduced. (1.1)
Prerequisite: PSY 121 (C or better)
IAI: S6 903

PSY 223  Abnormal Psychology (3-0)  3 Hours
This course provides a systematic presentation of the concepts related to psychological disorders with specific emphasis given to diagnostic criteria, as described in the Diagnostic and Statistical Manual of Mental Disorders, theoretical perspectives, etiology, and treatment. (1.1)
Prerequisite: PSY 121 (C or better)
IAI: PSY 905

PSY 224  Theories of Personality (3-0)  3 Hours
This course is designed to present the student with a survey of the major theories of personality. Theorists will be studied according to the following categories: 1) psychoanalytic; 2) humanistic and existential; 3) biological; 4) trait; 5) behavioral; 6) cognitive. Emerging perspectives will also be addressed. Several case studies will be presented for analysis. (1.1)
Prerequisite: PSY 121 (C or better)

PSY 225  Social Psychology (3-0)  3 Hours
This course provides an introduction to the scientific study of individuals thinking, feeling, and behavior within their social environments. This course includes, but is not limited to: research methods, attitude formation and change, social cognition, interpersonal relations, group processes, and social influence. (1.1)
Prerequisite: PSY 121 (C or better)
IAI: SS8900 and PSY908
PSY 226  Adolescent Development  
(3-0)  3 Hours  
This course integrates theory and research as they relate to neurobiological, cognitive, and social-emotional development of adolescents in cultural context. Students will gain an understanding of evolving interpersonal and societal roles; family relationships; friend and peer relations; school, media, and career experiences; identity; gender and sexuality; psychological and social problems; and the research methods psychologists use to study development. (1.1)  
Prerequisite: PSY 121 (C or better)  
IAI: S6 904

PSY 228  Human Sexuality  
(3-0)  3 Hours  
This course provides an examination of the current knowledge and attitudes of the behavioral aspects of human sexuality with particular emphasis on personal, interpersonal, community, and societal influences on sexuality. Topics of interest include sexuality throughout the lifespan, sexual anatomy and physiology, gender roles and gender identity, contraception, pregnancy, birth, lifestyles, love and intimacy, abortion, sexual orientation, sexually transmitted diseases, dysfunction, power/coercion, and sale of sex.  
PSY 228 and SWK 228 are cross-listed. (1.1)  
Prerequisite: PSY 121 (C or better)

PSY 229  Psychology of Gender  
(3-0)  3 Hours  
This course will examine the psychological perspectives on gender. Using empirical research from all areas of psychology, the course will explore the major concepts, theories, and research methods as they relate to gender development across the lifespan. Included is a review of how gender is perceived in relationships, work, education, health, the justice system, and the media. Lastly, the intersectionality of gender with sexual orientation, class, race, religion, ability, and age will be discussed. (1.1)  
Prerequisite: PSY 121 (C or better)  
Fulfills the CLC I/M Education Requirement.

PSY 240  Brain and Behavior  
(3-0)  3 Hours  
This course examines the relationship between the brain and behavior by explaining the structure and function of the nervous system. Additional topics include, but are not limited to, the brain’s role in learning, sensing, perceiving, communicating, sleeping, eating, emotions, sexual behavior, neurological disorders, traumatic injuries, mental disorders, and the research techniques used to study the brain. (1.1)  
Prerequisite: PSY 121 (C or better)

PSY 248  Psychology of the Criminal Mind  
(3-0)  3 Hours  
This course exposes the student to the field of Criminal Psychology. The purpose of this course is to develop an understanding as to the origins of criminal behavior and the clinical and social implications of violent crime. The course will examine the etiology, nature, assessment, and behavior of individuals who commit crimes with an emphasis on violent crimes. Included in this examination will be the role of the family and other social factors, media violence, and genetics. The basic rules of crime scene analysis and processing will also be discussed.  
CRI 248 and PSY 248 are cross-listed. (1.1)  
Prerequisite: PSY 121 (C or better)  
Recommended: CRI 219

PSY 299  Special Topics in Psychology  
(Var.)  1-3 Hours  
This course addresses the in-depth study of special topics in psychology that do not have specific courses in the catalogue. Course content will vary depending on the topic being studied, but could include Research Methods, Writing in Psychology, Domestic Violence, the Brain and Behavior, or Cultural Diversity. This course is repeatable up to three times for a maximum of 6 hours towards degree completion. (1.1)  
May be taken four times for credit toward degree

RETAIL MANAGEMENT (RMC)

Business and Social Sciences Division,  
Room T302, (847) 543-2047

RMC 111  Human Relations in Business  
(3-0)  3 Hours  
This course introduces the human and organizational factors that influence the workplace. Topics will include teamwork, morale, personal efficiency, leadership, personality, and communication in a diverse and changing business environment. (1.2)

RMC 112  Computer Basics/Software Applications  
(3-0)  3 Hours  
This course provides a comprehensive study of the use of computers and technologies. Class topics include computer hardware, software, operating systems, and electronic communications such as email, the Internet, and networks. Students will have an opportunity to analyze computer-purchasing strategies, as well as acquire knowledge on data security and storage. Hands-on software experience will be provided utilizing Word, Excel, Access, PowerPoint, the Internet, and email.  
AOS 112 and RMC 112 are cross-listed. (1.2)  
Course fee

RMC 113  Human Resource Management  
(3-0)  3 Hours  
This course provides a broad overview of relevant human resource management concepts, incorporating legal and ethical issues. Topics include staffing, hiring, training and development, performance evaluation, employee terminations, compensation and benefits, union versus non-union workforces, and workforce diversity issues.  
BUS 113 and RMC 113 are cross-listed. (1.2)

RMC 115  Elements of Supervision  
(3-0)  3 Hours  
This course introduces the role of the supervisor and how it fits in the overall management of an organization. Emphasis is on how the supervisor can impact a department’s productivity. Topics will include: supervisory planning, time management, organizing and delegating tasks, training and coaching employees, Equal Employment Opportunity guidelines, labor relations, managing conflict and stress in the work environment, creating a safe and healthy work environment, and productivity improvement.  
BUS 115 and RMC 115 are cross-listed. (1.2)
COURSE DESCRIPTIONS

RMC 117 Introduction to Marketing Concepts (3-0) 3 Hours
This course will teach the core concepts of marketing, focusing on strategies of product, price, place and promotion. It will highlight the importance of marketing in all sizes of businesses and organizations. Key topics include market research, brand strategy, pricing, distribution, retailing specific decisions and integrated marketing communications. (1.2)

RMC 119 Introduction to Financial Concepts (3-0) 3 Hours
This course introduces students to financial concepts used in running a business. Topics include financial calculations, the budgeting process, and understanding financial statements. (1.2)

RMC 234 Principles of Retailing (3-0) 3 Hours
This course is focused on the world of retailing from a managerial viewpoint. Students will explore the different types of retailers, multichannel retailing, consumer buying behavior, retail marketing strategies, selecting retail site locations, supply chain management, effective merchandising, pricing, store layout/design, store management and customer service. The course is intended to meet the needs of those now working in a retail environment and those wishing to learn more about how retail businesses operate. BUS 234 and RMC 234 are cross-listed. (1.2) Prerequisite: BUS 121 or six hours of RMC coursework.

RMC 237 Managerial Communication (3-0) 3 Hours
This course will guide students in developing the communication skills needed to be successful as a manager. The course is organized in a workshop format, in which students develop, refine, and practice communication skills used by successful managers. The course includes a focus on both oral and written skills used in business at a management level. The content of the course will also include a focus on organization, non-verbal (both delivery and listening) and presentation skills. At the conclusion of the course, students will be able to prepare written business documents such as proposals, memos, and emails; organize and conduct meetings and write meeting minutes; and make formal and informal business presentations. Students will have developed communication skills that effectively inform and persuade their audience in addition to enhancing their credibility as managers. AOS 237, BUS 237 and RMC 237 are cross-listed. (1.2)

RUSSIAN (RUS)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

RUS 121 Beginning Russian I (4-0) 4 Hours
This course will develop basic skills in pronunciation, vocabulary, grammar, reading, listening comprehension, and oral and written communication within the context of the Russian culture. (1.1) Prerequisite: RUS 121

RUS 122 Beginning Russian II (4-0) 4 Hours
This course continues to develop the basic skills introduced in RUS 121: pronunciation, vocabulary, grammar, reading, listening comprehension, and oral and written communication within the context of Russian culture. (1.1) Prerequisite: RUS 121

RUS 221 Intermediate Russian I (4-0) 4 Hours
This course continues to develop the basic skills introduced in RUS 121 and 122. The course is a general review and expansion of beginning grammar, conversation, vocabulary development, readings and writing exercises which focus on life in the former U.S.S.R. (1.1) Prerequisite: RUS 222

RUS 222 Intermediate Russian II (4-0) 4 Hours
This course reviews and expands the use of Russian grammar by introducing more advanced structures into verbal and written communication. Films, material from newspapers and magazines, and from other media will enable students to use authentic materials that are culturally relevant to explore further the Russian speaking-world and its culture. (1.1) Prerequisite: RUS 221 Fulfills the CLC I/M Education Requirement. IAI: H1 900

SCIENCE ELECTIVES (SCI)

Biological and Health Sciences Division, Room B213, (847) 543-2042

SCI 120 Success in College Science Courses (2-2) 3 Hours
This course introduces students to science knowledge and skills necessary to allow for a seamless transition into discipline-specific science courses. This course is not meant to be a general education science course, but rather will prepare students to be more successful in future science lab courses. This course will count as a general elective and will not fulfill the general education science course requirement towards a degree or certificate. (1.1) Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 or ELI 110 AND Basic Algebra Readiness

SIGN LANGUAGE (SGN)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

SGN 121 American Sign Language I (4-0) 4 Hours
This course introduces students to a unique visual-gestural language by emphasizing recognition and production of American Sign Language signs with accurate nonmanual behaviors. It focuses on developing conversational fluency by using major language functions such as introducing oneself, exchanging information, and talking about families, activities, and occupations. (1.2) Prerequisite: College Reading and Writing Readiness

SGN 122 American Sign Language II (4-0) 4 Hours
This course focuses on the progression and fluency of conversational American Sign Language. Emphasis is on expanding vocabulary, fingerspelling, grammatical structures, and honing receptive and expressive skills. It introduces the importance and accurate use of classifiers and continues to concentrate on major language functions including telling locations, making suggestions and requests, and exchanging information. (1.2) Prerequisite: SGN 121 with a grade of C or better
SST 299 Special Topics in Social Sciences (3-0) 3 Hours
This course addresses the in-depth study of special topics in the social or behavioral sciences (anthropology, education, economics, history, political science, psychology, and sociology). Course content will vary depending on the topic being studied. (1.1)
Prerequisite: College Reading and Writing Readiness
May be taken twice for credit toward degree

SOC 121 Introduction to Sociology (3-0) 3 Hours
This course introduces the basic concepts and perspectives for understanding sociology. The course examines how society influences and shapes human behavior. Topics of analysis include, but are not limited to, the development of sociology, theoretical perspectives and research methodologies, culture, social institutions, social change, and social inequality on the basis of class, gender, race and ethnicity, and sexuality. (1.1)
Prerequisite: College Reading and Writing Readiness
IAI: S7 900

SOC 222 Social Problems (3-0) 3 Hours
This course introduces students to sociological perspectives on contemporary social problems. It examines competing definitions of social problems and conceptualizations of how social problems develop over time. The major research methods and theoretical traditions sociologists use to study social problems are presented. The course also analyzes research about contemporary social problems and evaluates social policies aimed at combating these problems. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: SOC 121
IAI: S7 902

SOC 223 Being Different: The Sociology of Deviant Behavior (3-0) 3 Hours
This course examines the social and cultural dimensions of being different, resulting in deviant and violent behavior. The class compares and contrasts explanations for deviant and violent behavior utilizing classic and modern sociological theories with an emphasis on group causes and reactions. Some areas to be covered include classic and modern sociological theories, current deviance statistics and social patterns, stigmatization, violent behaviors (murder, rape), and general deviant behavior due to beliefs or traits. A major theme explored is the idea that it is the societal reaction, not necessarily the action or trait, that causes the label of “deviant” or “different” to be applied. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100
Recommended: SOC 121
IAI: S7 903D

SOC 224 Sociology of the Family (3-0) 3 Hours
This course provides an understanding of sociological concepts, theories, and research methods in relation to marriage and family issues. It explores the influence of contemporary society on family life and offers a historical analysis on how marriages and families have changed over time. The course also introduces students to a cross-cultural comparison of marriages and families throughout the world and diverse family forms. Special emphasis is placed on topics concerning home life such as: balancing work and family, parent and child relationships, dating, marriage and divorce. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: SOC 121
IAI: S7 904

SOC 225 Class, Race, and Gender (3-0) 3 Hours
This course uses various sociological perspectives to examine how class, race, and gender structure individual and group access to power, resources, opportunities, and prestige. It examines how these socially constructed categories provide identity and meaning that shape social interaction and institutional structure and practice. Classical and contemporary theoretical and empirical models demonstrate how the intersection of these major dimensions of inequality represent a source of opportunity and privilege, while simultaneously contributing to the reproduction of social inequality. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: SOC 121
Fulfills the CLC I/M Education Requirement.
IAI: S7 905D

2019-2020 College of Lake County Catalog 387
COURSE DESCRIPTIONS

SOC 229  Sex, Gender, and Power  (3-0)  3 Hours
This course will examine the major sociological concepts, theories, and research methods in relation to gender issues. It will explore the development of gender roles cross-culturally, as well as the consequences of dividing society along gender lines. Topics for discussion may include: gender role socialization, cross-cultural definitions of gender, underrepresentation on the basis of gender, gender differences in communication, gender issues in relation to the family, workplace, and schools, media images of men and women, and gender-based violence.
GXS 229 and SOC 229 are cross-listed. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: SOC 121
Fulfills the CLC I/M Education Requirement.
IAI: S7 904D

SOC 299  Special Topics in Sociology  (Var.)  1-3 Hours
This course addresses the in-depth study of special topics in sociology that do not have specific courses in the catalogue. Course content will vary depending on the topic being studied and may include topics in global inequity, race and gender, education, environment, and social change. This course may be taken up to four times for a maximum of 6 hours towards degree completion. (1.1) May be taken four times, but any topic only once

SPANISH (SPA)

Communication Arts, Humanities and Fine Arts Division, Room B213, (847) 543-2040

SPA 121  Beginning Conversational Spanish I  (4-0)  4 Hours
This course introduces the fundamentals of language necessary for understanding, speaking, reading, and writing of Spanish. It will include practice in pronunciation from dialogues and pattern practices. This is the college level course. (1.1)

SPA 122  Beginning Conversational Spanish II  (4-0)  4 Hours
This course is a continuation of SPA 121. Emphasis will be placed on the development of oral comprehension and conversational ability. Instruction in the appreciation of the Spanish culture will be an integral part of the regular class activities. (1.1)
Prerequisite: SPA 121 OR Tailwind score 34 or above OR Instructor Consent

SPA 123  Spanish for Spanish Speakers  (3-0)  3 Hours
The goal of this course is to enhance the student’s knowledge of his/her native language. This course is designed for those students who speak Spanish at home but have not had any or little formal education in the Spanish language. The course will be taught completely in Spanish and will replace SPA 121 or SPA122 for native and near native Spanish speakers. Attention also will be given to conventions of orthography. (1.1)
Prerequisite: Native or near-native Spanish speaking ability

SPA 221  Intermediate Spanish I  (4-0)  4 Hours
This course covers the continued development of oral comprehension and accurate control of sound system and syntax. It includes selected examples of cultural and contemporary writing to elicit an awareness of the similarities and differences of each culture (English-Spanish) and a fuller understanding of the value systems of the Hispanic societies. (1.1)
Prerequisite: SPA 122 OR Tailwind score 43 or above or Instructor Consent

SPA 222  Intermediate Spanish II  (4-0)  4 Hours
This course continues to expand the knowledge of Spanish grammar, with emphasis in verbal and written communication. Films, short videos, readings and materials from newspapers, magazines, and media are utilized so students explore the Spanish speaking world and cultures based on authentic materials. (1.1)
Prerequisite: SPA 221 OR Tailwind score 52 or above or Instructor Consent
Fulfills the CLC I/M Education Requirement.
IAI: H1 900

SPA 223  Spanish Civilization I  (3-0)  3 Hours
This course is designed to give the advanced student of Spanish the opportunity to increase his/her proficiency in the Spanish language, and to explore the Spanish speaking culture. A selection of readings from literary works, newspapers, magazines, and articles along with films, short videos, and music will provide the writing and conversational material needed to expand the student’s knowledge of the culture and civilization of the Hispanic world. (1.1)
Prerequisite: SPA 222 OR Tailwind score 65 or above or Instructor Consent
Fulfills the CLC I/M Education Requirement.
IAI: H1 900

SPA 224  Spanish Civilization II  (3-0)  3 Hours
This course is the continuance of Spanish Civilization I. Students will continue to gain cultural enrichment through lively discussions, readings, and writing about the Hispanic world. This course will incorporate a broad variety of materials such as literary works, films, interviews, articles, and media in order to provide the students the opportunity to practice the Spanish language. Topics will be different from Spanish Civilization I. (1.1)
Prerequisite: SPA 223 OR Tailwind score 65 or above or Instructor Consent
Fulfills the CLC I/M Education Requirement.
IAI: H1 900

SPANISH ADULT EDUCATION (SAE)

Cultural Education and ESL Division, Building 4 (847) 543-2021

Adult Education classes are intended for people who live in Lake County. They are not appropriate for students with B1, B2, F1, F2, J1 or J2 visas, nor are they appropriate for short-term visitors to the U.S.
In general, students must be at least 18 years old in order to enroll in adult education classes. However, 16-year-olds and 17-year-olds may register with an official Secondary School Reference Form signed by their local High School authorized representative. U.S. High School graduates and 16-year-olds must meet additional eligibility requirements. New students must attend an orientation session before attending classes.
The Adult Education and ESL Division provides several specific types of educational opportunities and is funded in part by grants from the federal government.

**SAE 10**  
**ASE Preparation in Spanish 1 Low**  
**Var.**  
**0.5-6 Hours**  
This course is an individualized program in general language development and mathematics. Students progress at their own rates in reading comprehension, grammar, spelling, and punctuation as well as mathematics. The program is designed to raise basic skills in mathematics, reading and language to a level which will enable students to pursue the ASE Programs. This course is taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory assessment OR consent of instructor or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SAE 11**  
**ASE Preparation in Spanish 2 Low**  
**Var.**  
**0.5-6 Hours**  
This course is designed for students to improve their skills in reading comprehension, grammar, spelling, punctuation and mathematics. The program is designed to enable students to pursue the Spanish ASE test. This course is taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory standardized assessment or consent of instructor and/or department chair. (1.8)  
**Course fee**  
May be taken four times for credit toward degree

**SAE 13**  
**Pre-ASE Mathematics 1 in Spanish**  
**Var.**  
**0.5-6 Hours**  
This mathematics course will cover the real number system and charts and graphs with more than one variable. This course will be taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory assessment (e.g. TABE Espanol pretest levels from 9.0–10.9) OR consent of instructor or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SAE 15**  
**Pre-ASE Mathematics 2 in Spanish**  
**Var.**  
**0.5-6 Hours**  
This mathematics course will cover probability, linear functions, and graphs of linear equations. This course will be taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory assessment (e.g. TABE Espanol pretest levels from 9.0–10.9) OR consent of instructor or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SAE 17**  
**Pre-ASE Mathematics 3 in Spanish**  
**Var.**  
**0.5-6 Hours**  
This mathematics course will cover theorems of geometric figures and coordinate geometry. This course is taught in Spanish. This course serves Spanish speaking Adult Basic Education students without a high school diploma who score a grade level equivalent of 9.0–10.9 on a standardized assessment (e.g. TABE Espanol) test.  
**Prerequisites:** Must be placed into class using a federal/state mandated assessment OR consent of instructor or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SAE 19**  
**Pre-ASE Mathematics 4 in Spanish**  
**Var.**  
**0.5-6 Hours**  
This mathematics course will introduce students to mathematical symbols, their limitations and measurement. Students will use inequality symbols in equations and expressions to represent situations in story problems. This course will be taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory assessment (e.g. TABE Espanol pretest levels from 9.0–10.9) OR consent of instructor or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SAE 20**  
**ASE Preparation in Spanish 1**  
**Var.**  
**0.5-6 Hours**  
This course is a preparation for those who want to take the ASE exam to earn their high school equivalency certificate. It is for adults who have not completed high school. This course will be taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory assessment (e.g. TABE Espanol pretest levels from 11.0-12.9) OR consent of instructor and/or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SAE 21**  
**ASE Preparation in Spanish 2**  
**Var.**  
**0.5-6 Hours**  
This course is for those who need further instruction before attempting the ASE exam to earn their high school equivalency certificate. This course will be taught in Spanish.  
**Prerequisite:** Must be placed into class using a mandatory assessment (e.g. TABE 11.0-12.9) OR consent of instructor and/or department chair. (1.8)  
**Course fee**  
May be taken four times for credit

**SUPPLY CHAIN MANAGEMENT**  
**(SCM)**  
Business and Social Sciences Division, Room T302, (847) 543-2047

**SCM 110**  
**Introduction to Supply Chain Management**  
**(3-0)**  
**3 Hours**  
This course introduces the basics of end-to-end Supply Chain Management (SCM) that are necessary in achieving market and financial value to the company. Students will explore the basic fundamentals of SCM including planning, sourcing, inventory management, warehousing, distribution, logistics and transportation focusing on the role of the front line worker and how their function relates to the business in the service, retail, distribution and manufacturing industries. (1.2)  
**Corequisite:** BUS 121 or Consent of Instructor

**SCM 115**  
**Sourcing and Procurement**  
**(3-0)**  
**3 Hours**  
This course focuses on the strategic role and issues in sourcing and procurement within the supply chain function. Students will discuss the purchasing process, procurement cycle, relationships with suppliers, negotiations, commodities and global sourcing. Students will evaluate cost, price, and value analysis as part of the decision process. (1.2)  
**Prerequisite:** SCM 110 (C or better)

**SCM 120**  
**Inventory Management and Planning**  
**(3-0)**  
**3 Hours**  
This course provides an overview of the dynamics of inventory management and the crucial role that planning plays in the constantly changing supply chain environment. Topics include in-depth understanding of forecasting, customer demand, production planning, new product launches, managing slow moving and obsolete inventory and the technologies needed to support these areas. Concepts in Inventory Management complement those learned in Sourcing and Procurement for a big picture frame of reference. (1.2)  
**Prerequisite:** SCM 110 (C or better)
SCM 125  Warehousing and Distribution  
(3-0)  3 Hours
This course provides students with an understanding of the role of warehousing within the larger Supply Chain function and the crucial role it plays to the business's bottom line. Concepts revolve around the movement of goods within the warehouse environment, including best methods for material handling, warehouse layout, technology and packaging beyond just protection. Students will learn present day warehouse automation and shipping and receiving methods. (1.2)  
Prerequisite: SCM 110 (C or better)

SCM 130  Logistics and Transportation  
(3-0)  3 Hours
This course provides a foundation for the role of transportation and logistics in meeting the needs of the customer as well as the objectives of the company. Students will analyze transportation methods and systems and discuss the role of cost vs. customer service. Regulatory and environmental impacts as well as specific requirements for moving goods between countries will be emphasized. (1.2)  
Prerequisite: SCM 110 (C or better)

SCM 150  Supply Chain Management Internship  
(1-10)  3 Hours
This course provides students with an opportunity to gain practical work experience under the supervision of a Supply Chain manager. The student must complete 150 hours of work at the internship site approved by the CLC supply chain curriculum coordinator. In addition to on-site work, the student will attend a one hour per week internship seminar. (1.2)  
Prerequisite: 18 hours of SCM coursework

SCM 215  Operations Management  
(3-0)  3 Hours
This class will give students a broad, practical perspective towards the field of Operations Management, a core business function. Students will examine concepts and problems encountered in planning, operating and controlling the production of goods and services. Topics include scheduling, inventory management, logistics, quality assurance, supply chain management, facility location and the use of state of the art computer systems to better manage operations. 

BUS 215 and SCM 215 are cross-listed. (1.2)  
Prerequisite: Basic Algebra Readiness and BUS 121

SURGICAL TECHNOLOGY (SRG)

Biological and Health Sciences Division, Room B213, (847) 543-2042

SRG 100  Introduction to Surgical Technology  
(4-4)  6 Hours
This course introduces various types of healthcare institutions and their structures then focuses on the surgical technologist and other surgical team members and their roles within such institutions. It presents concepts of communication skills and ethical, moral, and legal responsibilities of the surgical team members. Sterilization, disinfection, asepsis, and surgical environment as they relate to various clinical roles and care of the patient will be discussed. It introduces basic surgical instruments, equipment and supplies. Focuses include processing and care of instruments, distribution of supplies, and inventory control. In laboratory setting, emphasis is placed on principles and practices related to asepsis, surgical environment and identification and utilization of commonly used surgical instruments, equipment and supplies. (1.2)  
Prerequisites: BIO 111 OR BIO 244 and BIO 245 (all C or better), and admission to the Surgical Technology Program  
Course fee

SRG 110  Principles of Practice and Introduction to Surgical Procedures  
(5-8)  7 Hours
This course introduces the student to the surgical technologist role. It presents concepts of general surgical patient care, wound healing and basic case preparation and procedures. Basics of open, endoscopic, robotics and other minimally invasive procedures are discussed. In both simulated and clinical laboratory settings, emphasis is placed on basic surgical procedures during pre-operative, intra-operative, and post-operative phases commonly performed in the operating room setting. (1.2)  
Prerequisite: SRG 110 (C or better)  
Course fee

SRG 111  Surgical Procedures I  
(4-8)  6 Hours
This course focuses on theory and clinical procedures in general, rectal, obstetric and gynecologic, endoscopic, ear, nose and throat, head and neck, oral and maxillofacial surgeries. In both theory and clinical settings emphasis is placed on knowledge of relevant anatomy, pathology, diagnostic procedures and tests, special preoperative preparation, surgical procedure, prognosis, and postoperative care and complications for surgeries addressed in this course. (1.2)  
Prerequisite: SRG 111 (C or better)  
Course fee

SRG 112  Surgical Procedures II  
(4-8)  6 Hours
This course focuses on theory and clinical procedures in genitourinary, orthopedic, hand, plastic, neurologic, thoracic, cardiac, peripheral vascular, and general pediatric surgeries. In both theory and clinical settings, emphasis is placed on knowledge of relevant anatomy, pathology, diagnostic procedures and tests, special preoperative preparation, surgical procedure, prognosis, and postoperative care and complications for surgeries addressed in this course. (1.2)  
Prerequisite: SRG 112 (C or better)  
Course fee

SRG 113  Surgical Procedures III  
(3-0)  3 Hours
This course focuses on theory and clinical procedures in ophthalmic, peripheral vascular, cardiac, and transplant specialties. In both theory and clinical settings, emphasis is placed on knowledge of relevant anatomy, pathology, diagnostic procedures and tests, special preoperative preparation, special instruments, supplies, and drugs, special equipment, intraoperative preparation, surgical procedure, prognosis, and postoperative care and complications for surgeries addressed in this course. It prepares students for the Certified Surgical Technologist Exam. The role and responsibilities of the surgical technologist, including using professional communication skills and incorporating critical thinking skills in clinical situations are discussed. Students are assisted with developing a professional image through discussion about professional expectations and responsibilities. (1.2)  
Prerequisite: SRG 113 (C or better)  
Course fee
SRG 115  Surgical Technology Internship  
(1-8)  3 Hours  
This course focuses on students’ performance ability in the role of Surgical Technologist during select surgical procedures in general, orthopedic, gynecological, genitourinary, peripheral vascular and ophthalmic. It includes possible clinical experience in, major vascular, cardiac, transplant, trauma, and procurement surgeries. (1.2)  
Prerequisite: SRG 113 (C or better)  
Course fee

SRG 117  Surgical Pharmacology  
(3-0)  3 Hours  
Students enrolled in this course will be provided with an overview of basic pharmacology, emphasizing specific areas of pharmacology as they relate to surgery and anesthesia. Routes of administration and safe practices will also be discussed. Note: This course should ONLY be taken by those students pursuing the Surgical Technology Certificate. (1.2)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness

SRG 118  Advanced Surgical Procedures  
(3-0)  3 Hours  
This course focuses on theory and advanced procedures in general, genitourinary, gynecologic, orthopedic, plastic, neurologic, thoracic, cardiac, peripheral vascular, endoscopic and general pediatric surgeries. Emphasis is placed on knowledge of relevant anatomy, pathology, diagnostic procedures and tests, special preoperative preparation, special instruments, supplies, and drugs, special equipment, intraoperative preparation, surgical procedure, prognosis, and postoperative care and complications for surgeries addressed in this course. Utilization of advanced technologies, such as robotics, minimally invasive radiology and endoscopy in the various surgical procedures and specialties are discussed. (1.2)  
Prerequisite: Completion of the Surgical Technology Certificate Program

SRG 119  Essentials of Microbiology  
(2-0)  2 Hours  
This course introduces students to microorganisms with an emphasis on pathogenic organisms such as bacteria, yeasts, molds and viruses. The role of microorganisms in causing infection and development of immunity will also be discussed. Note: This course should ONLY be taken by those students pursuing the Surgical Technology Certificate. (1.2)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
Course fee

THEATRE (THE)  
Communication Arts, Humanities and Fine Arts Division, Room B213,  
(847) 543-2040

THE 121  Introduction to Theatre I  
(3-0)  3 Hours  
This course presents a broad overview of live theatre. It will cover the various elements that make up theatre, the history of theatre, the theatre of the present, and the practitioners involved in the production of live theatre. Work on college productions is required. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100  
IAI: F1 907

THE 123  Diversity in American Theatre  
(3-0)  3 Hours  
This course will examine various dramatic expressions that reflect the experience and construction of racial and cultural identity in the United States. It will explore issues of diversity in contemporary U.S. society and introduce a sampling of dramatic literature which reflects this diversity. Specific focus will be given to African American Theatre, Hispanic Theatre, Asian American Theatre, Native American Theatre, feminist theatre, and gay and lesbian theatre. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: F1 909D

THE 125  Principles of Acting  
(3-0)  3 Hours  
This course introduces students to the fundamental skills and concepts of acting. Concentration, observation, playing action and other basics are introduced through acting exercises, improvisations, and scene study. Major acting approaches, such as Cohen, Meisner, Stanislavski, and Shurtleff, will be used as the basis for helping the actor acquire craft to create believable characters. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100  
IAI: TA 914

THE 126  Stagecraft  
(3-0)  3 Hours  
This course provides training in methods of scene construction, tool use, property construction, painting, rigging and shifting, with elementary work in lighting practice and control. Practical methods will be taught as well as a survey of historical staging styles to give students an understanding of the evolution of theatre. 20-30 hours of work on college productions is required. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100  
IAI: TA 911

THE 127  Theatre Practicum II  
(0-2)  1 Hour  
This course involves supervised work on a production, either via a smaller acting role or backstage technical work like Props Master, running crew, etc. (1.1)  
Prerequisite: THE 125 or THE 126  
May be taken three times for credit toward degree

THE 128  Introduction to Theatrical Costuming  
(3-0)  3 Hours  
This course is an introduction to the principles and elements of costume design for the theatre. This course will cover design concepts, character analysis and the creation of theorectical costumes for a play. This is a project based class and students will develop beginning costume construction skills. No previous design, sewing or costume experience is required. Students will be required to work on some aspect of college theatre productions. (1.1)  
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

THE 129  Theatre Practicum II  
(0-6)  3 Hours  
This course is designed to give students an in-depth experience of the technical work involved in a theatre production. Students will learn how the elements of theatre proceed from the planning stage through the performance nights. Students will be expected to work on actual crews of a production. (1.1)  
Prerequisite: THE 125 or THE 126  
May be taken three times for credit toward degree

THE 145  Voice for the Stage  
(3-0)  3 Hours  
This course explores the demands of an actor’s vocal life and provides techniques to strengthen the speaker’s vocal instrument. Major voice production approaches, such as Linklater, Berry, and Rodenburg will be used to help the student develop a healthy expressive voice for the stage as well as for everyday communication. (1.1)  
Prerequisite: College Reading and Writing Readiness

2019-2020 College of Lake County Catalog  391
THE 220 Creative Dramatics for the Classroom Teacher
(3-0) 3 Hours
This course introduces the skills and techniques of the creative dramatics process to classroom teachers at the pre-school, grade school, junior high and high school levels for use in all curriculum areas. The format includes explanation, demonstration and discussion of the games, improvisational experiences, role play, storytelling, puppetry and other educational exercises used in the classroom setting. Major emphasis is placed on incorporating creative drama as a process to facilitate learning. (1.1)
Prerequisite: College Reading and Writing Readiness

THE 223 Play Analysis for Production
(3-0) 3 Hours
This course is an introductory exploration of the relationships between the dramatic text and the play in performance with special emphasis on basic terminology and methodology. Representative plays will be studied in their genre, historical and social contexts. (1.1)
Prerequisite: College Reading and Writing Readiness

THE 225 Acting II
(3-0) 3 Hours
This course is a continuation of the study of acting, this course will concentrate on characterization, scene study and ensemble work. An introduction to acting styles and period drama will be included. (1.1)
Prerequisite: THE 125

THE 226 Lighting for Stage and Studio
(3-0) 3 Hours
This course will instruct the student in basic electricity, technology, and design of lighting for the stage; elements of studio lighting techniques will also be taught. Specifications and the use of instrumentation will be learned with a hands on approach. Special emphasis will be given to learning the operation of computer controlled lighting boards, as well as more basic manual lighting controllers. Lighting design theory will be explored and each student will complete two project designs. (1.1)

THE 228 Directing I
(3-0) 3 Hours
This course is an introduction to the principles, problems, procedures of directing for the stage. Will include historical background, script selection, interpretation, stage composition, blocking, rehearsal techniques and performance, and a workshop in which students will have the opportunity for practical application of the principles of directing. (1.1)
Prerequisite: THE 125

THE 229 Stage Makeup
(3-0) 3 Hours
This course is an investigation of the principles, techniques and materials of stage makeup and practical experience in their application. Students will learn how to apply makeup on their own face using both cream and water-based makeup. Contouring, glamour, aging, facial hair, wig use, and historical character are some of the topics that will be covered. In addition, the creation of prosthetics and their applications will be learned. There will also be a section on triage or moulage makeup techniques. (1.1)
Course fee

THE 299 Special Topics in Theatre
(Var.) 1-3 Hours
This course addresses the in-depth study of special topics in Theatre, which do not have specific courses in the catalog. Course content and requirements will vary depending on the topic being studied. (1.1)
Prerequisite: College Reading and Writing Readiness
May be taken four times, but any topic only once

VOCATIONAL SKILLS TRAINING (VST)

VST 717 Model Office I for ESL
(Var.) 0.5-6 Hours
This course is a simulated work environment providing student “employees” with hands-on training necessary for English Language Learners to transition into unsubsidized employment or community college career training programs such as AOS and CIT. Beginning technical skills, basic office skills and on-the-job survival skills will be covered in the course. (1.6)
Corequisite: ESL 50 or higher OR Department Consent
Course fee
May be taken four times for credit

VST 718 Model Office II for ESL
(Var.) 0.5-6 Hours
This course is a continuation of VST 717 and providing English Language Learners to transition into entry level unsubsidized employment or community college career training courses such as AOS and CIT. Beginning technical skills, basic office skills and on-the-job survival skills will be covered in this course. (1.6)
Corequisite: ESL 50 or higher OR Department Consent
Course fee
May be taken four times for credit

VST 719 Model Office III for ESL
(Var.) 0.5-6 Hours
This course is a continuation of Model Office I and II providing English Language Learners as student “employees” with hands-on training necessary for transition into unsubsidized employment or community college career training programs such as AOS and CIT. Technical skills, basic skills and on-the-job survival skills are covered in this course. Students will focus on Word Processing, PowerPoint, Excel or Publisher. (1.6)
Corequisite: ESL 50 or higher OR Department Consent
Course fee
May be taken four times for credit

VST 720 Model Office-Level IIB
(Var.) 0.5-8 Hours
This course is a continuation of VST 719 Model Office - Level IIA. The Model Office is a simulated work environment providing student “employees” with hands-on training necessary for transition into unsubsidized employment in an office environment. Technical skills, basic skills and on-the-job survival skills will be covered in this course. (1.6)
Course fee
WELDING (WLD)

Engineering, Math and Physical Sciences Division, Room T302, (847) 543-2044

WLD 113 Welding Blueprint Reading (3-0) 3 Hours
This course will cover the study and development of blueprint reading skills as they apply to the metals/welding fabrication trades. Skill and proficiency in understanding the make-up and interpretation of prints will include the study of associated materials, processing, dimensioning, weld joint designs and symbols, as well as fundamental drawing abilities.

Note: Student must furnish basic required equipment. (1.2)

WLD 117 Applied Fabricating and Processing (2-2) 3 Hours
This course enables the student to study supplemental machining skills required in the welding fabrication industry. Students will gain experience on various machine tools such as: drill press, horizontal saws, vertical saws, pedestal grinders, brake press, and shears. The identification of various types of ferrous and non-ferrous structural materials will also be visited. Students will continue the study of welding blueprint reading as well as advanced measurement and layout procedures. Final inspection of both welds and weldment dimensions are stressed along with metal finishing processes and the heat treatment of ferrous alloys. Note: Student must furnish basic required equipment. (1.2)

WLD 170 General Welding (2-2) 3 Hours
This course provides a general and basic knowledge of safety, operation, and the fundamentals of gas, shielded metal arc, gas tungsten and gas metal arc welding. Primary and essential skills in their safe and proper operation will be developed. Equipment set up, applications, tools, materials will be covered. Development of welding skills is secondary to the primary understanding of safety, and knowledge of welding processes application and associated equipment.

WLD 171 Gas Welding, Cutting, and Brazing (2-2) 3 Hours
This course will present welding theory, safety, care of equipment, skill development and application with the fuel-gas process. It covers fusion welding, brazing, and cutting processes with steel. Opportunity to practice and work with pipe, cast iron, aluminum, and soldering will be presented.

Note: Student must furnish basic required equipment. (1.2)

Prerequisite: WLD 170

Course fee

WLD 172 Shielded Metal Arc Welding (2-2) 3 Hours
This course covers the fundamental theory and practice of “stick” electrode welding in the flat and horizontal positions. Safety, equipment set-up and adjustment, materials preparation, and electrode selection are emphasized. Opportunity to work with a variety of material thicknesses, joint designs, and all common electrode types will be presented; as well as access to a large variety of machine types. Welding of steel and its alloys is emphasized, but opportunity is provided for study and practice of welding other metals.

Note: Student must furnish basic required equipment. (1.2)

Prerequisite: WLD 170

Course fee

WLD 174 Advanced Shielded Metal Arc Welding (2-2) 3 Hours
This is an advanced study in “stick” electrode welding theory and practices. It features the opportunity to develop out-of-position welding abilities on plate and pipe, study methods of weld testing, certification procedures, and welding of stainless steel, cast iron and aluminum with the SMAW process. Note: Student must furnish basic required equipment. (1.2)

Prerequisite: WLD 170 and WLD 172

Course fee

WLD 175 Gas Metal Arc Welding (2-2) 3 Hours
This course provides the student with a thorough understanding of hazards and safety procedures used in gas metal arc welding. Students will be able to produce quality gas metal arc welds in the flat and horizontal positions on mild steel from 3/16 inch sheet to 1/2 inch plate using single and multiple pass techniques. Short circuit and spray transfer methods are introduced. Students will also learn to troubleshoot problems, apply corrective measures, and perform quality checks on the welds. American Welding Society techniques for visual inspection and mechanical testing will be used to determine quality of welds.

Note: Student must furnish basic required equipment. (1.2)

WLD 176 Welding Certification (2-2) 3 Hours
This course helps students prepare for and complete certification or qualification testing utilizing chosen welding processes. American Welding Society D1.1 standard structural welding code will be used, or those codes specified by a current or potential employer. Note 1: Student must furnish basic required equipment.

Note 2: Student shall be responsible for the costs of any testing or lab reports performed by outside agents. Individuals or groups with special needs or requirements may enroll with the consent of the program coordinator. (1.2)

Prerequisite: WLD 170 (C or better), and one or more of the following: WLD 174, WLD 175, WLD 178 (all C or better)

Recommended: WLD 171 (C or better)

Course fee

WLD 178 Gas Tungsten Arc Welding (2-2) 3 Hours
This course will provide students with a thorough understanding of gas tungsten arc welding, arc characteristics, and safety procedures and hazards. Students will obtain the skills necessary to perform quality gas tungsten arc welds on steel and non-ferrous alloys. Weld characteristics of mild steel and information on pulsed current GTAW will be included. Upon completion of the course, students will be able to use the gas tungsten arc welding process in the flat position to produce quality square groove and fillet welds on carbon steel.

Note: Student must furnish basic required equipment. (1.2)

Prerequisite: WLD 170

Course fee

WLD 179 Gas Tungsten Arc Welding II (2-2) 3 Hours
This course is a continuation of WLD 178 Gas Tungsten Arc Welding and will focus on the welding of stainless steel in the horizontal and overhead positions. Additionally, groove welds in both the 2G and 5G positions using mild steel filler rod on mild steel pipe and stainless steel filler rod on steel pipe will be studied. Thin wall stainless steel pipe and aluminum filler rod on aluminum pipe will also be examined. (1.2)

Prerequisite: WLD 178

Course fee