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 an Academic Success 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
- an Academic Success 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
- an Academic Success 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)
Administrative Management and Technology (AMT)
Adult Basic Education (ABE)
Adult Education Bridge Program (BRGA)
Adult Language Education (ALE)
Adult Secondary Education (ASE)
Agriculture (AGR)
Anthropology (ANT)
Arabic (ARA)
Art (ART)
Asian/Asian American Studies (ASI)
Automation, Robotics and Mechatronics (ARM)
Automotive Collision Repair (ACR)
Automotive Technology (AUT)
Biology (BIO)
Business Administration (BUS)
Career Exploration-Adult Education (CRX)
Chemistry (CHM)
Chinese (CHI)
CLC-Student Success (CLC)
Communication (CMM)
Computer Aided Design (CAD)
Computer Information Technology (CIT)
Computerized Numerical Control (CNC)
Criminal Justice (CRJ)
Dance (DNC)
Dental Hygiene (DHY)
Digital Media and Design (DMD)
Early Childhood Education (ECE)
Earth Science (ESC)
Economics (ECO)
Education (EDU)
Educational Work Experience (EWE)
Electrical Engineering Technology (EET)
Electrical Technology (ELC)
Electrician Apprenticeship (EAP)
Electronic Information Technology (EIT)
Electronics Engineering Technology (ELT)
Emergency Medical Technology (EMT)
Engineering (EGR)
English (ENG)
English Language Instruction (ELI)
English as a Second Language (ESL)
Fire Science Technology (FST)
French (FRN)
Gender and Sexuality Studies (GXS)
Geography (GEG)
German (GER)
Health Information Technology (HIT)
Health and Wellness Promotion (HWP)
Heating and Air Conditioning Engineering Technology (HET)
History (HST)
Horticulture (HRT)
Hospitality and Culinary Management (HCM)
Human Services (HUS)
Humanities (HUM)
Industrial Electrician (ISE)
Integrated Education Training (IET)
International Studies (SSI)
Italian (ITL)
Japanese (JPN)
Kinesiology (KIN)
Laser/Photonics/Optics (LPO)
Latin American Studies (LAT)
Legal Studies (LGL)
Machine Tool Trades (MTT)
Massage Therapy (MAS)
Math Computer Science (MCS)
Mathematics (MTH)
Mechanical Engineering Technology (MET)
Medical Assisting (MOA)
Medical Imaging (MIM)
Music (MUS)
Nurse Assisting and Nursing (NUR)
Personal Development (PDS)
Pharmacy (PHM)
Philosophy (PHI)
Phlebotomy (PBT)
Physics (PHY)
Political Science (PSC)
Pre-Bridge - Adult Education (PBRA)
Psychology (PSY)
Russian (RUS)
Sign Language (SGN)
Social Studies Topics (SST)
Social Work (SWK)
Sociology (SOC)
Spanish (SPA)
Spanish Adult Education (SAE)
Supply Chain Management (SCM)
Surgical Technology (SRG)
Theatre (THE)
Vocational Skills Training (VST)
Welding (WLD)
### Accounting
- **ACC 121** Financial Accounting (IAI Code: BUS903)

### Anthropology
- **ANT 121** Introduction to Anthropology (IAI Code: S1900N)
- **ANT 221** Cultural Anthropology (IAI Code: S1901N)
- **ANT 222** Introduction to Physical Anthropology (IAI Code: S1902)
- **ANT 224** Introduction to Archaeology (IAI Code: S1903)
- **ANT 228** Cross-Cultural Relationships (IAI Code: S1904D)

### Arabic
- **ARA 222** Intermediate Modern Standard Arabic II (IAI Code: H1900)

### Art
- **ART 121** Introduction to Art (IAI Code: F2900)
- **ART 240** History of Art I (IAI Code: F2901)
- **ART 241** History of Art II (IAI Code: F2902)
- **ART 260** History of Photography (IAI Code: F2904)
- **ART 261** Non-Western Art History (IAI Code: F2903N)

### Asian/American Studies
- **ASI 121** Introduction to Asian American Studies (IAI Code: H2909D)

### Biology
- **BIO 120** Environmental Biology (IAI Code: L1905L)
- **BIO 123** Principles of Biology I (IAI Code: L1900L)
- **BIO 127** Introduction to Evolution (IAI Code: L1907)
- **BIO 140** Environmental Biology without lab (IAI Code: L1905)
- **BIO 141** Concepts in Biology (IAI Code: L1900L)
- **BIO 149** Genetics and Society (IAI Code: L1906)
- **BIO 161** General Biology I (IAI Code: L1910L)
- **BIO 162** General Biology II (IAI Code: L1910L)

### Chinese
- **CHI 222** Intermediate Chinese II (IAI Code: H1900)

### Chemistry
- **CHM 120** Chemical Concepts (IAI Code: P1902L)
- **CHM 121** General Chemistry I (IAI Code: P1902L)
- **CHM 140** Chemistry for a Changing World (IAI Code: P1903)
- **CHM 142** Chemistry for a Changing World with lab (IAI Code: P1903L)
- **CHM 222** Organic Chemistry I (IAI Code: CHM913)
- **CHM 223** Organic Chemistry II (IAI Code: CHM914)

### Communication
- **CMM 121** Fundamentals of Speech (IAI Code: C2900)

### Computer Information Technology
- **CIT 241** Advanced C++ (IAI Code: CS912)

### Criminal Justice
- **CRI 123** Introduction to Criminology (IAI Code: CRJ912)

### Dance
- **DNC 240** The Art of Dance (IAI Code: F1906)
- **DNC 280** Dance and Popular Culture (IAI Code: F1911D)

### Economics
- **ECO 221** Principles of Macroeconomics (IAI Code: S3901)
- **ECO 222** Principles of Microeconomics (IAI Code: S3902)

### English
- **ENG 121** English Composition I (IAI Code: C1900)
- **ENG 122** English Composition II (IAI Code: C1901)
- **ENG 126** Advanced Composition: Scientific and Technical Communication (IAI Code: C1901R)
- **ENG 129** Women in Literature (IAI Code: H3911D)
- **ENG 223** Early American Literature (IAI Code: H3914)
- **ENG 225** Survey of British Literature I (IAI Code: H3912)
- **ENG 226** Survey of British Literature II (IAI Code: H3913)
- **ENG 227** Introduction to Shakespeare (IAI Code: H3905)
- **ENG 228** World Literature (IAI Code: H3906)
- **ENG 229** American Literature: 20th Century to Present (IAI Code: H3915)
- **ENG 241** Introduction to Poetry (IAI Code: H3903)
- **ENG 243** Introduction to Fiction (IAI Code: H3901)
- **ENG 244** Mythology and Fairy Tales (IAI Code: H9901)
- **ENG 246** Latin American Writers (IAI Code: H3908N)
- **ENG 247** International Women Writers (IAI Code: H3911D)
- **ENG 248** Children’s Literature (IAI Code: H3918)

### Earth Science
- **ESC 120** Earth Science (IAI Code: P1905L)
- **ESC 121** Physical Geology (IAI Code: P1907L)
- **ESC 123** Introduction to Meteorology (IAI Code: P1905)
- **ESC 124** Oceanography (IAI Code: P1905)
- **ESC 125** Geology of National Parks (IAI Code: P1907)
- **ESC 127** Introduction to Meteorology with Lab (IAI Code: P1905L)
- **ESC 128** Great Mysteries of the Earth (IAI Code: P1905)
- **ESC 129** Severe and Hazardous Weather (IAI Code: P1905)
- **ESC 140** Introduction to Astronomy with Lab (IAI Code: P1906L)
- **ESC 141** Introduction to Astronomy (IAI Code: P1906)
- **ESC 224** Environmental Geology (IAI Code: P1908)

### Engineering
- **EGR 260** Introduction to Circuit Analysis (IAI Code: EGR931L)

### French
- **FRN 222** Intermediate French II (IAI Code: H1900)
- **FRN 223** French Civilization I (IAI Code: H1900)
- **FRN 224** French Civilization II (IAI Code: H1900)

### Geography
- **GEG 120** Principles of Physical Geography (IAI Code: P1909)
- **GEG 121** Physical Geography (IAI Code: P1909)
- **GEG 122** Cultural Geography (IAI Code: S4900N)
- **GEG 123** World Regional Geography (IAI Code: S4900N)

### German
- **GER 222** Intermediate German II (IAI Code: H1900)

### Gender and Sexuality
- **GXS 121** Introduction to Gender Studies I (IAI Code: S9 900)
- **GXS 229** Sex, Gender and Power (IAI Code: S7904D)

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<table>
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<tr>
<th>History</th>
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<td>History of Western Civilization to 1500</td>
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<td>HST 122</td>
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<td>History of Western Civilization to 1500</td>
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<tr>
<td>HST 126</td>
<td>S2905N</td>
<td>History of Non-Western World since 1500</td>
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<td>HST 127</td>
<td>S2920N</td>
<td>History of Chinese Culture and Society</td>
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<td>HST 128</td>
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<td>Modern History of the Middle East</td>
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<td>HST 221</td>
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<td>United States History to 1876</td>
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<td>United States History 1876 to Present</td>
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<tr>
<td>HST 245</td>
<td>S2920N</td>
<td>History of Latin America I to 1825</td>
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<tr>
<td>HST 246</td>
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<td>Humanities: Ancient Times to the Middle Ages</td>
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<td>Humanities: Renaissance to the Present</td>
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<tr>
<td>HUM 123</td>
<td>F2908</td>
<td>Introduction to Film</td>
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<tr>
<td>HUM 126</td>
<td>F9900</td>
<td>Introduction to the Performing Arts</td>
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<td>HUM 127</td>
<td>H4906</td>
<td>Critical Thinking</td>
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<tr>
<td>HUM 128</td>
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<td>Introduction to Middle-Eastern Civilizations</td>
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<tr>
<td>HUM 129</td>
<td>HF904N</td>
<td>Introduction to East Asian Civilization</td>
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<td>HUM 140</td>
<td>F2909</td>
<td>Introduction to International Film</td>
</tr>
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<td>HUM 141</td>
<td>HF904N</td>
<td>World Humanities of 20/21 Century</td>
</tr>
<tr>
<td>HUM 221</td>
<td>HF906D</td>
<td>American Decades</td>
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<td>HUM 222</td>
<td>F2908</td>
<td>Film and Society</td>
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<td>HUM 226</td>
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<td>Finite Mathematics I</td>
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<tr>
<td>MTH 140+</td>
<td>M1904</td>
<td>Contemporary Math</td>
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<tr>
<td>MTH 141+</td>
<td>M1901</td>
<td>Quantitative Literacy</td>
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<td>MTH 142+</td>
<td>M1902</td>
<td>General Education Statistics</td>
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<td>MTH 145</td>
<td>M1900-1</td>
<td>Calculus and Analytic Geometry I</td>
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<td>MTH 146</td>
<td>M1900-2</td>
<td>Calculus and Analytic Geometry II</td>
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<td>MTH 221</td>
<td>M1903</td>
<td>Mathematics for Elementary Teaching II</td>
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<td>MTH 222</td>
<td>M1902</td>
<td>Business Statistics</td>
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<td>MTH 224</td>
<td>M1900-B</td>
<td>Calculus for Business and Social Sciences</td>
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<td>MTH 227</td>
<td>MTH912</td>
<td>Ordinary Differential Equations</td>
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<td>MTH 244</td>
<td>M1905</td>
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<tr>
<td>MTH 246</td>
<td>M1900-3</td>
<td>Calculus and Analytic Geometry III</td>
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- MTH 140, MTH 141 and MTH 142 do not fulfill the general education mathematics requirements in Associate in Science degrees.

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<tr>
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<tbody>
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<td>American National Politics</td>
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<tr>
<td>PSC 122</td>
<td>S5902</td>
<td>State and Local Politics</td>
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<tr>
<td>PSC 221</td>
<td>S5905</td>
<td>Comparative Political Systems</td>
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<td>PSC 222</td>
<td>S5904</td>
<td>International Relations</td>
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<td>Introduction to Psychology</td>
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<td>PSY 220</td>
<td>S6902</td>
<td>Lifespan Development</td>
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<td>PSY 222</td>
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<td>Child Growth and Development</td>
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<td>PSY 225</td>
<td>S8900</td>
<td>Social Psychology</td>
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<td>PSY 226</td>
<td>S6904</td>
<td>Adolescent Development</td>
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<td>Introduction to Sociology</td>
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<td>SOC 222</td>
<td>S7901</td>
<td>Social Problems</td>
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<td>SOC 224</td>
<td>S7902</td>
<td>Sociology of the Family</td>
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<td>SOC 225</td>
<td>S7905D</td>
<td>Class, Race and Gender</td>
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<td>S7904D</td>
<td>Sex, Gender and Power</td>
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<tr>
<td>SPA 222</td>
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<td>Intermediate Spanish II</td>
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<td>SPA 223</td>
<td>H1900</td>
<td>Spanish Civilization I</td>
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<td>SPA 224</td>
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<td>Introduction to Theatre I</td>
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<td>THE 123</td>
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<td>THE 125</td>
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<td>Principles of Acting</td>
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<tr>
<td>JPN 222</td>
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<tbody>
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<td>LAT 121</td>
<td>HF906D</td>
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<tr>
<td>PHI 121</td>
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<td>PHI 122</td>
<td>H4906</td>
<td>Logic</td>
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<td>H4905</td>
<td>Philosophy of Religion</td>
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<td>PHI 125</td>
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<td>PHI 126</td>
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<td>World Religions</td>
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<td>PHI 128</td>
<td>H4907</td>
<td>Introduction to Social and Political Philosophy</td>
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<td>PHY 123</td>
<td>P2900L</td>
<td>Physics for Science and Engineering I</td>
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## 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.

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<td>MTH 222</td>
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<td>Organic Chemistry I</td>
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<td>Programming in C++</td>
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<td>Introduction to Corrections</td>
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<tr>
<td>CRJ 229</td>
<td>Juvenile Delinquency</td>
<td>CRJ 914</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Engineering</th>
<th>IAI Code</th>
<th>EGR 941</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGR 121</td>
<td>Engineering Design Graphics</td>
<td>EGR 941</td>
</tr>
<tr>
<td>EGR 125</td>
<td>Engineering Static</td>
<td>EGR 942</td>
</tr>
<tr>
<td>EGR 222</td>
<td>Engineering Mechanics of Materials</td>
<td>EGR 945</td>
</tr>
<tr>
<td>EGR 225</td>
<td>Engineering Dynamics</td>
<td>EGR 943</td>
</tr>
<tr>
<td>EGR 260</td>
<td>Introduction to Circuit Analysis</td>
<td>EGR 931L</td>
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</tbody>
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**English (See Mass Communication)**

**Mass Communication**

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>BUS 214 Advertising</th>
<th>ENG 123 Mass Communications</th>
<th>ENG 124 Newswriting I</th>
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</thead>
<tbody>
<tr>
<td>BUS 903</td>
<td>MC 912</td>
<td>MC 911</td>
<td>MC 919</td>
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**Math Computer Science**

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>MCS 140 Computer Programming for Engineering and Science</th>
<th>MCS 141 Computer Science I</th>
<th>MCS 142 Computer Science II</th>
<th>MTH 244 Discrete Mathematics</th>
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</thead>
<tbody>
<tr>
<td>CS 911</td>
<td>CS 911</td>
<td>CS 912</td>
<td>CS 915</td>
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**Math**

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>MTH 145 Calculus and Analytic Geometry I</th>
<th>MTH 146 Calculus and Analytic Geometry II</th>
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<tbody>
<tr>
<td>MTH 901</td>
<td>MTH 902</td>
<td>MTH 903</td>
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**Chemical Technology**

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>MTH 225 Introduction to Linear Algebra</th>
<th>MTH 227 Ordinary Differential Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 911</td>
<td>MTH 912</td>
<td>MTH 913</td>
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**Psychology**

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>PSY 223 Abnormal Psychology</th>
<th>PSY 225 Social Psychology</th>
</tr>
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<tbody>
<tr>
<td>PSY 905</td>
<td>PSY 908</td>
<td></td>
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**Theatre**

<table>
<thead>
<tr>
<th>IAI Code</th>
<th>CMM 124 Oral Interpretation</th>
<th>THE 125 Principles of Acting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA 916</td>
<td>TA 914</td>
<td>TA 911</td>
</tr>
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</table>
**SAMPLE COURSE LISTING**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Number and Course Title</th>
<th>(Hours of lecture per week) - (Hours of lab per week)</th>
<th>Semester hours of credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 120</td>
<td>Chemical Concepts</td>
<td>3-2 4 Hours</td>
<td>(Hours of lecture per week) - (Hours of lab per week)</td>
<td>Baccalaureate/Transfer course</td>
</tr>
</tbody>
</table>

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 acquired either concurrently with or previous to the course in question

**Course fee** Fee in addition to credit per hour

**IAI:** P1 902L Illinois Articulation Initiative (IAI) Number

**VAR.** Variable

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**ACCOUNTING (ACC)**

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

**ACC 110 Accounting in Business** 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 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 111 Financial Accounting** 4 Hours

This introductory course is a comprehensive course focusing on financial accounting for external users. Course coverage includes basic accounting principles, the accounting cycle with an emphasis on transaction analysis, and financial statements. Specific course topics include the valuation and reporting of cash, receivables, inventory, long-term assets, current and long-term liabilities and stockholders’ equity. (1.2)

**Prerequisite:** ACC 110 (C or better) - AND - CIT 119 or CIT 120

**Recommended:** BUS 121

**Course fee**

**ACC 121 Managerial Accounting** 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 Hours

This course provides an introduction to QuickBooks. Topics covered include company setup, processing transactions through the accounting cycle, merchandising transactions, banking and payroll. (1.2)

**Prerequisite:** 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 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 CIT 111 and CIT 120

**Course fee**

**ACC 212 Federal Taxation of Individuals** 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**
**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 121 (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. This 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)  
**Prerequisite:** ACC 221 (C or better)  
**Course fee**

**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)  
**Prerequisites:** ACC 212 C or better or ACC 213 C or better  
**Course fee**

**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.  
**Course fee**

**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 221 (C or better)  
**Course fee**

**ACC 299** Special Topics in Accounting  
(Variable) 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**
**AMT 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*

**AMT 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*

**AMT 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, typestyles, 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:* AMT 113 or passing score on the Microsoft Word Skill Check Test AND College Reading and Writing Readiness
*Course fee*

**AMT 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

**AMT 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*

**AMT 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:* AMT 170, or Corequisite AMT 170, or permission of instructor
*Course fee*

**AMT 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 109 or ELL 109 or ELL 110 or ENG 100

**AMT 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*

**AMT 176 Business Mathematics (2-2) 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 AMT 171 or AMT 175 or permission of instructor
*Course fee*

**AMT 214 Administrative Office Procedures (3-0) 3 Hours**
This course will prepare students for the role of the administrative professional in a wide variety of industries. Topics to be covered include defining the administrative professional, understanding organizational structures, developing and strengthening problem-solving skills, understanding a global and culturally diverse workforce, and analyzing the opportunities for the administrative role as a job, career, and profession. Also covered will be strategies for managing the day-to-day operations of the office, effective organization and time management, planning and coordinating meetings and events, making travel arrangements, and being a strategic business partner. (1.2)
*Prerequisite:* College Reading and Writing Readiness

**AMT 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*

**AMT 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:* (AMT 112 and AMT 113) or CIT 119
*Course fee*

**AMT 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. AMT 233 and BUS 233 are cross-listed. (1.2)
*Prerequisite:* BUS 121 or AMT 214 or Department Consent.
COURSE DESCRIPTIONS

AMT 233
Prerequisite: AMT 111 or ENG 121
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. (1.2)
Prerequisite: AMT 111 or ENG 121

AMT 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. (1.2)
Prerequisite: AMT 111 or ENG 121

AMT 239 Social Media Marketing
(3-0) 3 Hours
This course provides an introduction to the use of social media marketing within a business context. The course provides an overview of the role of social media in building and managing customer relationships as a component of the larger marketing program. Students will develop the tools to communicate with customers using the major social network platforms and learn how to analyze platform-specific metrics to measure media effectiveness. AMT 239 and BUS 239 are cross-listed. (1.2)
Prerequisite: College Reading and Writing
Course fee

AMT 299 Selected Topics in Office Automation
(Variable) 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, K Building (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.

ABE 10 Literacy I
(Variable) 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
(Variable) 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 to read and comprehend. 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. TACE 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 13 Beginning Mathematics 1
(Variable) 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. TACE 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
(Variable) 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. TACE 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
(Variable) 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. TACE 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
(Variable) 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. TACE 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  
(Variable) 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  
(Variable) 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.
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  
(Variable) 0.5-6 Hours
This reading class teaches syllable patterns, phonemes, vocabulary and reading comprehension strategies.
Prerequisites: 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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 to 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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 and/or department chair. (1.7)
Course fee
May be taken four times for credit

ABE 32  Intermediate Reading 1  
(Variable) 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  
(Variable) 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 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 34  Intermediate Reading 2  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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  
(Variable) 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

ABE 44  High Intermediate Reading 2  
(Variable) 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 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
abr 45 high intermediate mathematics 2
(Variable) 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

abr 46 high intermediate reading 3
(Variable) 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

abr 47 high intermediate mathematics 3
(Variable) 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 6.0-8.9) OR consent of instructor or department chair. (1.7)

Course fee
May be taken four times for credit

abr 48 high intermediate reading 4
(Variable) 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

abr 49 high intermediate mathematics 4
(Variable) 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

ADULT EDUCATION BRIDGE PROGRAM (BRGA)

Adult Education and ESL Division, K Building (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.

abr 20 introduction to administrative management technology bridge program - Part I
(Variable) 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’s Administrative Management and Technologies certificates and degrees. (1.7)

Concurrent Enrollment: BRGA 21

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. Students MUST also be enrolled in BRGA 20 - Introduction to Administrative Management Technology Bridge Program - Part I. (1.7)

Course fee
May be taken four times for credit toward degree

abr 21 introduction to administrative management technology bridge program - Part II
(Variable) 0.5-6 Hours
This course is Part II of the Introduction to Administrative Management Technology course and will continue to focus on building basic reading, vocabulary, math and computer skills needed for students interested in entering an Office Administration career cluster course of study. The course will further allow students to explore office workplace skills through contextualized readings, writings and projects related to CLC’s Administrative Management and Technology certificate and degree programs.

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. Students MUST also be enrolled in BRGA 20 - Introduction to Administrative Management Technology Bridge Program - Part I. (1.7)

Course fee
May be taken four times for credit toward degree

abr 25 introduction to entrepreneurship
(Variable) 0.5-6 Hours
This course will focus on building the basic reading, vocabulary, and critical thinking skills necessary for Adult Education students interested in pursuing a future in Entrepreneurship. It will allow students to explore a variety of topics related to small business ownership through contextualized readings and activities. Learning strategies and study skills for future academic success will also be included. (1.7)

Course fee
May be taken four times for credit toward degree
### BRGA 30 Introduction to Computer Technology Bridge Program

*Course Information: (Variable) 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.

**Prerequisite:** Must have a 8.0 or higher on the Test of Adult Basic Education (TABE) Level D and Department consent.

**Corequisite:** May also be enrolled in or previously enrolled in one of the following classes: ESL 52, ESL 60, ELI 60, ABE 40 level, GED 10 level or GED 20 level. (1.7)

**Course fee**

*May be taken four times for credit toward degree*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Hours</th>
<th>Prerequisite</th>
<th>Corequisite</th>
<th>Course fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRGA 44</td>
<td>Introduction to Math for Manufacturing</td>
<td>(Variable) 0.5-6 Hours</td>
<td>ABE 40 and a score of 7.0 or higher on a standardized testing instrument and teacher recommendation.</td>
<td>(1.7)</td>
<td>May be taken four times for credit</td>
</tr>
<tr>
<td>BRGA 45</td>
<td>Introduction to Manufacturing as a Career for ABE</td>
<td>(Variable) 0.5-6 Hours</td>
<td>BRGA 40 or students must achieve a 7.0 on the current NRS standardized testing instrument.</td>
<td>(1.7)</td>
<td>May be taken four times for credit</td>
</tr>
<tr>
<td>BRGA 46</td>
<td>Exploring Manufacturing Careers at the College of Lake County</td>
<td>(Variable) 0.5-6 Hours</td>
<td>BRGA 40 or admission is determined by a 7.0 or higher on a high intermediate standardized test instrument.</td>
<td>(1.7)</td>
<td>May be taken four times for credit</td>
</tr>
</tbody>
</table>

### BRGA 40 Introduction to Manufacturing for ELLs

*Course Information: (Variable) 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*

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BRGA 50</td>
<td>Reading Improvement Healthcare Bridge</td>
<td>(Variable) 0.5-6 Hours</td>
<td>BRGA 40 or admission is determined by a 7.0 or higher on a high intermediate standardized test instrument.</td>
<td>(1.7)</td>
<td>May be taken four times for credit</td>
</tr>
<tr>
<td>BRGA 51</td>
<td>Writing Improvement Healthcare Bridge</td>
<td>(Variable) 0.5-6 Hours</td>
<td>BRGA 40 or admission is determined by a 7.0 or higher on a high intermediate standardized test instrument.</td>
<td>(1.7)</td>
<td>May be taken four times for credit</td>
</tr>
</tbody>
</table>
BRGA 52  Social Sciences Healthcare Bridge (Variable) 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 Healthcare Bridge (Variable) 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 Healthcare Bridge (Variable) 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.
Course fee
May be taken four times for credit

BRGA 55  Job Readiness Healthcare 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.
Course fee
May be taken four times for credit

BRGA 56  Study Skills Healthcare Bridge (Variable) 2-6 Hours
Study Skills class for Health Care Bridge focuses on preparing Adult Education students for college level courses in the Allied Health Department. The course will focus on understanding how college courses are organized and what teacher’s general expectations are. It will describe how to use a syllabus, how to plan homework assignments, and how to prepare for tests. Note taking from lectures and from texts will be included.
Reading for content knowledge will be emphasized. In addition, it will cover various examination processes including essay exams, pop tests, and finals.
Course fee
May be taken four times for credit

BRGA 57  Reading Improvement Early Childhood Education Bridge (Variable) 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.
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

BRGA 58  Bridge to Forklift Technician (Variable) 0.5-6 Hours
This course will focus on building the basic reading, vocabulary, and critical thinking skills necessary for Adult Education students interested in pursuing a future as a forklift technician through the WPDI Forklift Technician Certificate Program. This contextualized program includes study skills, time management and career and transition services embedded in the curriculum as required by the ICCB Adult Education Bridge requirements.
Prerequisites: Must have 6.0 or higher on the Test of Adult Basic Education (TABE) Level D and consent of instructor.
Course fee
May be taken four times for credit toward degree

BRGA 59  Writing Improvement for Early Childhood Education Bridge (Variable) 0.5-6 Hours
This course will prepare students for a career pathway in Early Childhood Education. It will focus on the writing skills necessary to be successful in later early childhood education college coursework.
Prerequisites: Must have 6.0 or higher on Test of Adult Basic Education (TABE) Level D or Department Consent.
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

BRGA 60  Bridge to Careers in Criminal Justice (3-0) 3 Hours
This course will focus on a comprehensive approach to Law, Public Safety, Corrections, Security and Criminal Justice career exploration. Students will be provided opportunities and resources to seek career information related to various professions in law enforcement, courts, institutional and community corrections, and private security.
Contextualized instruction, Career Exploration and Transition services will be included.
Academic support units for study skills, reading comprehension and contextualized lesson plans in this career cluster will be included.
Prerequisites: Must have a 6.0 or higher on the Test of Adult Basic Education (TABE) Level D and consent of instructor.
Course fee
May be taken four times for credit toward degree

BRGA 61  Bridge to Forklift Technician (Variable) 0.5-6 Hours
This course will focus on building the basic reading, vocabulary, and critical thinking skills necessary for Adult Education students interested in pursuing a future as a forklift technician through the WPDI Forklift Technician Certificate Program. This contextualized program includes study skills, time management and career and transition services embedded in the curriculum as required by the ICCB Adult Education Bridge requirements.
Prerequisites: Must have 6.0 or higher on the Test of Adult Basic Education (TABE) Level D and consent of instructor.
Course fee
May be taken four times for credit toward degree
ADULT LANGUAGE EDUCATION (ALE)

Adult Education and ESL Division, K Building (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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ALE 66 Advanced Learning Skills for Transit (Variable) 0.5-6 Hours
This course introduces English Language Learners at the advanced level of 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
May be taken four times for credit

ALE 67 Advanced Grammar for Transitions (Variable) 0.5-6 Hours
This course introduces English Language Learners 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 conditional. Practice includes both oral and written activities. (1.7) Course fee
May be taken four times for credit

ALE 68 Advanced Reading for Transitions (Variable) 0.5-6 Hours
This course introduces English Language Learners at the advanced level of 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

ALE 69 Advanced Writing for Transitions (Variable) 0.5-6 Hours
This course introduces English Language Learners at the advanced level of 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 SECONDARY EDUCATION (ASE)

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

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ASE 10 Pre-ASE 1 (Variable) 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 Program.
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 (Variable) 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 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 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 (Variable) 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  
(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  
(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  
(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  
(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  
(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  
(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  
(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  
(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  
(Formerly GED 21) This course is for those who need further instruction before attempting the ASE exam to earn their high school equivalency certificate. 
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

ASE 22  ASE Reading 1  
(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: 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 23  ASE Algebra 1  
(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 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 24  ASE Reading 2  
(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  
(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 9.0-10.9) OR consent of instructor or department chair. (1.8) 
Course fee
Prerequisite: Mandatory placement with a standardized 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 27 ASE Algebra 3
(Variable) 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
(Variable) 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
(Variable) 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 33 ASE Geometry 1
(Variable) 0.5-6 Hours
(Formerly GED 33) 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 35 ASE Geometry 2
(Variable) 0.5-6 Hours
(Formerly GED 35) 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 37 ASE Geometry 3
(Variable) 0.5-6 Hours
(Formerly GED 37) 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 39 ASE Geometry 4
(Variable) 0.5-6 Hours
(Formerly GED 39) 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

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
ANTHROPOLOGY (ANT)

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

**ANT 121** Introduction to Anthropology (3-0) 3 Hours
This course is an introduction to the nature of humans and their development and relationship to the physical, social, and cultural environments both past and present. This course surveys the major fields of anthropology: physical anthropology, ethnology, linguistics, and archaeology, with an emphasis on non-Western cultures and underrepresented groups. (1.1)
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ESL 109 or ESL 110 or ENG 100
Note: For online sections, College Reading and Writing Readiness is required
Fulfills the CLC I/M Education Requirement.
IAI: S1 900N

**ANT 221** Cultural Anthropology (3-0) 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 ESL 109 or ESL 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 222** Introduction to Physical Anthropology (3-0) 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 adaptation 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 (3-0) 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 228** Cross-Cultural Relationships (3-0) 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 240** Anthropological Field Methods (Variable) 1-4 Hours
(Formerly ANT 226) This course is an introduction to the field techniques of a select anthropological subfield, and includes instruction in research design, project planning, data collection, and report preparation. Field Methods will be conducted at an approved location, such as an archaeological site or an ethnographic setting. The course will involve completing a variety of supervised field tasks, and will be complemented by lectures and discussion.
Prerequisite: Department Consent (1.1)
May be taken three times for credit toward degree

**ANT 241** Anthropological Lab Methods (Variable) 1-4 Hours
This course is an introduction to the lab techniques of a select anthropological subfield, and includes instruction in laboratory organization, planning, and data organization, analysis, and interpretation. Lab research will be conducted at an approved location, such as an archaeological site or an ethnographic setting. The course will involve completing a variety of supervised laboratory tasks and will be complemented by lectures and discussion.
Prerequisite: Department Consent (1.1)
Course fee
May be taken three times for credit toward degree

**ANT 299** Special Topics in Anthropology (Variable) 1-3 Hours
This course addresses the in-depth study of special topics in anthropology that do not have specific courses in the catalogue. 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 toward 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 (4-0) 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)

**ARA 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
COURSE DESCRIPTIONS

ARA 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

ARA 222 Intermediate Modern Standard Arabic II
(4-0) 4 Hours
This course continues to expand the knowledge of Arabic grammar, with emphasis on 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

ART (ART)

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

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 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 be drawn only by freehand 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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 149</td>
<td>Digital Photography I</td>
<td>(2-2)</td>
<td>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</td>
</tr>
<tr>
<td>ART 220</td>
<td>Watercolor II</td>
<td>(0-4)</td>
<td>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: ART 128</td>
</tr>
<tr>
<td>ART 222</td>
<td>Computer Art I</td>
<td>(0-6)</td>
<td>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</td>
</tr>
<tr>
<td>ART 224</td>
<td>Painting I</td>
<td>(0-6)</td>
<td>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 Course fee</td>
</tr>
<tr>
<td>ART 226</td>
<td>Ceramics I</td>
<td>(0-6)</td>
<td>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</td>
</tr>
<tr>
<td>ART 229</td>
<td>Three Dimensional Design</td>
<td>(0-6)</td>
<td>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</td>
</tr>
<tr>
<td>ART 232</td>
<td>Sculpture I</td>
<td>(0-6)</td>
<td>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</td>
</tr>
<tr>
<td>ART 235</td>
<td>Painting II</td>
<td>(0-6)</td>
<td>3 Hours This 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</td>
</tr>
<tr>
<td>ART 246</td>
<td>Sculpture II</td>
<td>(0-6)</td>
<td>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 Course fee</td>
</tr>
<tr>
<td>ART 250</td>
<td>Figure Drawing</td>
<td>(0-6)</td>
<td>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</td>
</tr>
</tbody>
</table>
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 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 246  Ceramics II  
(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 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 260  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 costs. (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, lighting, wire frames, vector points, 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 222

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 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 299  Special Topics in Art  
(Variable)  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, CLC English Placement Test Score of 450 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 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)  
Prerequisite: ARM 111 (C or better) or consent of department  
Course fee

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)  
Prerequisite: ARM 112 (C or better) or consent of department  
Course fee

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)  
Prerequisite: ARM 113 (C or better) or consent of department  
Course fee

ARM 115  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, CLC English Placement Test Score of 450 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 116  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)  
Prerequisite: ARM 115 (C or better) or consent of department  
Course fee

ARM 117  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)  
Prerequisite: ARM 116 (C or better) or consent of department  
Course fee

ARM 118  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)  
Prerequisite: ARM 117 (C or better) or consent of department  
Course fee

ARM 119  Mechatronics Graphics IV  
(1-0)  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)  
Prerequisites: ARM 153, ARM 158, ARM 173 (All C or better), ELI Accuplacer 221 or higher, CLC English Placement Test score 450 or higher, ELI 103, ELI 104, ELI 110 (All C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.  
Course fee

ARM 121  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)  
Prerequisites: ARM 153, ARM 158, ARM 173 (All C or better), ELI Accuplacer 221 or higher, CLC English Placement Test score 450 or higher, ELI 103, ELI 104, ELI 110 (All C or better), or College Reading and Writing Readiness AND Basic Algebra Readiness.  
Course fee

ARM 131  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)  
Prerequisite: ARM 131 (C or better) or consent of department  
Course fee

ARM 132  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)  
Prerequisite: ARM 132 (C or better) or consent of department  
Course fee

ARM 133  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)  
Prerequisite: ARM 133 (C or better) or consent of department  
Course fee
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, CLC English Placement Test Score of 450 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, CLC English Placement Test Score of 450 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 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, CLC English Placement Test Score of 450 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)
Prerequisite: ARM 153, ARM 158 and ARM 173 (all C or better)
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 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)  
Prerequisites: ARM 153, ARM 158, ARM 173 (All C or better), ELI Accuplacer 221 or higher, CLC English Placement Test score 450 or higher, ELI 103, ELI 104, ELI 110 (All 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  Capstone I  
(.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. (1.2)  
Prerequisite: ARM 193 (C or better) AND MTH 117 (C or better) or math placement score of 55 or higher or Math ACT of 28 or higher or Math SAT of 640 or higher.  
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 pneumatics and hydraulic systems. (1.2)  
Concurrent Enrollment: ARM 196 (C or better)  
Course fee

ARM 198  Complete Systems Integration III  
(.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 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: MTH 117 (C or better) or appropriate score on the math placement test or Math ACT of 28 or higher or Math SAT of 640 or higher-AND- ARM 133 and ARM 176 and ARM 193 and ARM 198 (all C or better)  
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 153 (C or better) AND MTH 117 (C or better) or math placement test score of 55 or higher or Math SAT of 28 or higher or Math ACT 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 preventive 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 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)
Course fee

AUTOMOTIVE COLLISION REPAIR (ACR)

ACR 110  Introduction to Automotive Collision Repair
(2-2)  3 Hours
This course provides the beginning automotive collision repair 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)
Prerequisite: ACR 110 and ACR 112 (formerly ABR 110) (both 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)
Corequisite: ACR 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)
Course fee

ACR 131  Automotive Refinishing I
(2-2)  3 Hours
(Formerly ABR 130) This course will introduce the students to the 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 breakdown 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)
Corequisite: 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)  
Corequisite: ACR 215 (ABR 215) (C or better)  
Course fee

ACR 137 Automotive Mechanical Systems  
(3-4) 5 Hours  
(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 processes 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  
(3-4) 5 Hours  
(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 processes 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  
(3-4) 5 Hours  
(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  
(2-2) 3 Hours  
(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  
(3-4) 5 Hours  
(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  
(3-4) 5 Hours  
(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, pin-stripping, wood grains, texture finishes, mural design, gold leafing, airbrushing, 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, pin striping 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
AUTOMOTIVE TECHNOLOGY (AUT)

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

AUT 110 Introduction to Automotive Technology (2-3) 3 Hours
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

AUT 111 Engine Repair (3-3) 4 Hours
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

AUT 112 Braking Systems (3-3) 4 Hours
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

AUT 113 Suspension and Alignment (3-3) 4 Hours
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

AUT 131 Auto Electrical I (3-3) 4 Hours
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

AUT 132 Manual Drive Train and Axles (3-3) 4 Hours
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

AUT 231 Auto Electrical II (3-3) 4 Hours
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

AUT 232 Automatic Transmission and Transaxle (3-3) 4 Hours
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

AUT 233 Advanced Driveline Systems (2-3) 3 Hours
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

AUT 251 Powertrain Controls (3-3) 4 Hours
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

AUT 252 Powertrain Management (3-3) 4 Hours
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

AUT 275 Air Conditioning and Heating (3-3) 4 Hours
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
COURSE 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. (1.2)
Prerequisites: 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 (Variable) 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)

BIO 111 Human Form and Function (3-2) 4 Hours
This course is intended to provide students with a preliminary 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 (approximate1/2) 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 OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100-AND-Basic Algebra Readiness
Course fee
IAI: L1 905L

BIO 123 Principles of Biology (3-2) 4 Hours
This course introduces basic biological principles of life processes held in common by all organisms. Topics covered include the chemical and physical basis of life, cell structure and function, concepts of heredity, population genetics, and evolution. Note: Though this course will provide a general understanding of the basics of cellular biology qualifying it as a general education course it will also provide a foundation for those students potentially entering an allied health program (dental hygiene, nursing, medical images, etc.). (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: L1 900L

BIO 126 Local Flora (1-2) 2 Hours
Introduces lab and field identification of plants of northeastern Illinois. Students use taxonomic keys and make useful collections of plants from various habitats.
Note: Field trips during scheduled class time are an essential part of this course and are, therefore, required. The cost of travel to the site of the field work will be borne by the student. (1.1)
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness
Course fee
May be taken three times, but any topic only once

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 ELI 110 or ENG 100-AND-Basic Algebra Readiness  
Course fee  
IAI: L1 900L  

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  

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 (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 910L, BIO 910  

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: L1 910L, BIO 910  

BIO 210  Independent Research in Biology  
(Variable)  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  

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 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  
(Variable)  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)

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.  
(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.  
(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 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, copywriting, 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 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. Note: BUS 221 and LGL 221 are cross-listed. (1.1)
Prerequisite: LGL 110 or BUS 121 or Department Consent

BUS 222 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. Note: BUS 222 and LGL 222 are cross-listed. (1.1)
Prerequisite: LGL 110 or LGL 221 or BUS 221

BUS 223 Principles of Management
(3-0) 3 Hours
This course is a study of management theories and practices, emphasizing key concepts and skills needed to execute the classic management functions of planning, leading, organizing, and controlling. Emphasis is on theories, concepts, and models related to these key management functions with the intent to better understand the manager’s role and responsibilities in contributing to an organization’s desired objectives. (1.1)
Prerequisite: BUS 121 or Department Consent

BUS 227 Principles of Marketing
(3-0) 3 Hours
(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 or Department Consent

BUS 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.
AMT 233 and BUS 233 are cross-listed. (1.2)
Prerequisite: BUS 121 or AMT 214 or Department Consent.
BUS 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. (1.2) Prerequisite: BUS 121 or Department Consent

BUS 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.

BUS 238 Project Management (3-0) 3 Hours
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 Marketing (3-0) 3 Hours
This course provides an introduction to the use of social media marketing within a business context. The course provides an overview of the role of social media in building and managing customer relationships as a component of the larger marketing program. Students will develop the tools to communicate with customers using the major social network platforms and analyze platform specific metrics to measure media effectiveness.

AMT 239 and BUS 239 are cross-listed. (1.2) Prerequisite: College Reading and Writing Readiness

BUS 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.

AMT 253 and BUS 253 are cross-listed. (1.2) Prerequisite: BUS 121 or Department Consent. Recommended: BUS 223 or BUS 233 or AMT 233

BUS 270 Introduction to Global Business (3-0) 3 Hours
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 Fuills the CLC I/M Education Requirement.

BUS 299 Selected Topics in Business (Variable) 1-3 Hours
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

CAREER EXPLORATION ADULT EDUCATION (CRX)

Adult Education and ESL Division, K Building (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 (Variable) 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. (1.1) 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
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 MTH 108 (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: P1 902L, CHM 911

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: CHM 912

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 142  Chemistry for a Changing World-LAB  (3-2)  4 Hours
This course emphasizes 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 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 222  Organic Chemistry I  (3-4)  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 913

CHM 223  Organic Chemistry II  (3-4)  5 Hours
This course presents the fundamental principles of organic chemistry with an emphasis on the syntheses, 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

CHM 225  Biochemistry  (3-0)  3 Hours
This is a non-laboratory course for students interested in science majors, pre-professional health majors (i.e., pharmacy, nutrition, physician’s assistant programs as well as other allied-health disciplines). The course examines the strong relationship between structure and function of the major biologically relevant macromolecules: proteins, nucleic acids, carbohydrates, and lipids. The course emphasizes the reactions and mechanisms involved in metabolism, enzyme kinetics and regulation, transport, replication, transcription, and translation. The course explores the impact of chemical biology research and biotechnology in medicine. (1.1)
Prerequisite: CHM 222 (C or better)
Corequisite: CHM 223

CHM 299  Special Topics in Chemistry  (Variable)  1-3 Hours
This course addresses the in-depth study of special topics in chemistry that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may include environmental issues, impact of chemistry in medicine, implications of recent research in chemistry, chemical biology, forensics, instrumentation used in chemical analyses, student research project(s) in chemistry, 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 for credit toward degree
CHINESE (CHI)

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

CHI 121  Beginning Chinese I
(4-0)  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 122  Beginning Chinese II
(4-0)  4 Hours
This course is the second 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 Chinese culture. (1.1)
Prerequisite: CHI 121

CHI 221  Intermediate Chinese I
(4-0)  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 221

CHI 222  Intermediate Chinese II
(4-0)  4 Hours
This course continues to expand the knowledge of Chinese 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 Chinese speaking world and cultures based on authentic materials. (1.1)
Prerequisite: CHI 221
Fulfils the CLC I/M Education Requirement.
IAI: H1 900

CLC - STUDENT SUCCESS (CLC)

Counseling, Advising and Transfer Center, Room B118, (847) 543-2060

CLC 120  College Success Seminar
(2-0)  2 Hours
This course is designed to teach students attitudes and skills valuable for college success. Topics may include: growth mindset, self-advocacy skills, college resources, college culture, financial literacy, and academic success strategies, such as study skills, time management, and goal setting. Throughout this course, students will develop skills necessary for promoting positive human relations in a diverse society. (1.1)
Prerequisite: CLC English Placement Test score of 450 or higher or ENG 103 AND ENG 104 (Both C or better) or ELI 110 or College Reading and Writing Readiness
Recommended: Enrollment in at least one other CLC course

COMMUNICATION (CMM)

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

CMM 111  Communication Skills
(3-0)  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)
Prerequisite: College Reading and Writing Readiness
IAI: TA 916

CMM 112  Business and Professional Speaking
(3-0)  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
(3-0)  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

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 121  Fundamentals of Speech
(3-0)  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
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
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

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. (1.2)
Prerequisites: CAD 117 or EGR 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: 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
COURSE INFORMATION AND DESCRIPTIONS

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 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

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 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 (Variable) 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. (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 AND Basic Algebra 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 Course fee

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 AND Basic Algebra Readiness  
Course fee
IAI: BUS 902

CIT 130  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  
(2-2) 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, basic system administration tasks, network configuration and services, and security. By the end of the course, students will be familiar with the Linux command-line environment, utilities, applications, network configuration and services, security and troubleshooting, as well as the graphical X Window environment. Students completing this course may work towards the CompTIA Linux+ and LPIC-1: Linux Administrator industry certifications. This course was previously titled CIS 117 – Linux Operating System and before that was titled CIS 115 – PC Operating Systems, Linux OS topic. (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)  
Prerequisite: College Reading and Writing Readiness AND Basic Algebra Readiness  
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  CCNA I: Introduction to Networks  
(2-2) 3 Hours
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. This is the first of the three courses sequence to prepare for CCNA industry certification.  
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 MTH 108 (C or better) or appropriate score on the CLC Math Placement Test, Math ACT, or Math SAT  
Course fee
IAI: CS 911
CIT 142  Programming in Python (3-2) 4 Hours
This course covers basic to intermediate level programming concepts and problem-solving skills in Python language. Contents include the fundamentals of data storage, input and output, control structures, functions, sequences and lists, file I/O, and objects that are created from standard library classes and users. Students will design, implement, and debug object-oriented Python programs, including simple event-driven Graphical User Interface (GUI) applications. (1.1) **Prerequisite:** MTH 108 (C or better) or Higher level math course or appropriate score on the CLC Math Placement Test or appropriate score on Math ACT or Math SAT or CIT 134-OR-concurrent enrollment in CIT 131 or CIT 132 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 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 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 Corequisite: CIT 130 or CIT 131 Course fee

CIT 159  CCNA II: Switching, Routing and Wireless Essentials (2-2) 3 Hours
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 Protocols such as RIP and OSPF, Virtual Local Area Networks (VLANs), Inter-VLAN routing in both IPv4 and IPv6 networks. The course also covers LAN and switch security concepts and configurations. This is the second of three courses sequence to prepare for CCNA industry certification. (1.2) **Prerequisite:** CIT 139 Recommended: CIT 131 Course fee

CIT 162  Ethical Hacking (2-2) 3 Hours
This course is designed for students that want to be IT security professionals by understanding and exploring weaknesses and vulnerabilities in target systems. This course covers knowledge and tools used by a malicious hacker but the skills will be used in a lawful and legitimate manner to assess the security posture of target systems. Students will be prepared for the exam to earn the Certified Ethical Hacking (C|EH) credential. (1.2) **Prerequisites:** CIT 152 (C or better) OR Consent of Instructor Course fee

CIT 170  Web Page Development (3-0) 3 Hours
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, adding web page interactive 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

CIT 171  Web Page Scripting (3-0) 3 Hours
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
CIT 173    PHP Programming
(3-0)  3 Hours
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

CIT 174    Adobe Dreamweaver
(3-0)  3 Hours
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

CIT 218    CCNA III: Enterprise Networking, Security and Automation
(2-2)  3 Hours
This course describes the architecture, components, and operations of routers and switches in a larger and more complex network as well as (WAN) technologies and network services required by converged applications in a 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. 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. This is the third course of a three-course sequence to prepare for CCNA industry certification. (1.2)
Prerequisite: CIT 159 (C or better) or Department Consent
Course fee

CIT 241    Advanced C++
(3-0)  3 Hours
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
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 Certified 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 Cybersecurity capstone course students will use the 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 course provides students with the practical skills necessary to enhance their network security background and prepare for associate-level Cisco CCNA Cyber Ops Certification. (1.2)
Prerequisite: CIT 152 (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 (MCSA: 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 as taught in the course’s prerequisites, the course aims to introduce forensic topics related to “active” 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 (Variable) 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, but any topic only once

COURSE INFORMATION
AND DESCRIPTIONS

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 279 Selected Topics in Computer Information Technology
(Variable) 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 (1-0) 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 (2-2) 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 (2-2) 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 (2-2) 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, 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 (2-2) 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 (2-2) 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

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CNC 218  Introduction to Master CAM
(2-2)  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
(1-6)  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
(2-3)  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
(2-2)  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

CNC 299  Special Topics:
CNC Machining Technology
(Variable)  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  Introduction to Forensic Science
(2-2)  3 Hours
This course provides students with an educational background regarding 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 will be examined. The use of scientific methods, techniques, and instrumentation will be explored. (1.2)
Prerequisite: College Reading and Writing Readiness

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

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  Introduction to Private Security
(3-0)  3 Hours
This course introduces students to the private security profession in the United States. Topics covered include the relationship between private security and the criminal justice system, as well as current trends in the profession. Students will explore specialized security fields and career opportunities in various industries. This course will also provide insight into various aspects of security, including, but not limited to, community, retail, corporate, business and industrial problems and concerns. In addition, governmental and legal aspects of security will be examined. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: CRJ 121

IAI: CRJ 901
COURSE DESCRIPTIONS

CRJ 130  Report Writing  
(3-0)  3 Hours
This course is designed to expose today’s criminal justice student to the purpose of report writing. Students will build the skills required to create various types of police reports thoroughly and insightfully. The student will recognize the impact that written reports have on the entire criminal justice process, while identifying and utilizing, through practice, how to build clear, concise and correct reports. Emphasis will be placed on sound grammar and syntax, while introducing the need to adhere to policy and constitutional mandates in the report writing process. Key concepts include, but are not limited to, the following: Differeniate reports based on type and purpose, construct sound narratives in both chronological and categorical formats; Recognize and apply sound revision and editing techniques, and proper integration, use, and disposal of field notes. (1.2)
Prerequisite: College Reading and Writing Readiness
Recommended: CRJ 121

CRJ 150  Careers in Criminal Justice  
(3-0)  3 Hours
This course will focus on a comprehensive approach to criminal justice career exploration. Students will be provided opportunities and resources to seek career information related to various professions in law enforcement, courts, institutional and community corrections, and private security. Students will be guided through individual and group exercises that assist in identifying the duties and ethical realities for various careers in criminal justice, as well as the advantages and disadvantages for those careers. Additionally, techniques of study such as time management, listening and note taking, textbook reading, preparing for examinations, and utilizing learning resources are covered. (1.2)
Prerequisite: College Reading and Writing Readiness OR Concurrent Enrollment in ENG 108 or ENG 109 or ELI 108 or ELI 109 or ELI 110 or ENG 100

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
Recommended: CRJ 121

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 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 218  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 16 hours per week. (1.2)
Prerequisite: Criminal Justice major with minimum of 30 semester hours completed and approval of criminal internship coordinator.

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  
(Variable)  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 introduces students to the field of Criminal Psychology. The purpose of this course is to develop an understanding 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

CRJ 299 Special Topics in Criminal Justice
(Variable) 3 Hours
This course addresses the in-depth study of special topics in criminal justice that do not have specific courses in the catalog. Course content will vary depending on the topic being studied and may include topics in criminology, law enforcement, courts process, corrections, or private security. This course is repeatable up to three times with topical change, for a maximum of 9 hours towards degree completion.
Prerequisite: To be determined relative to topic
May be taken twice, but any topic only once

DANCE (DNC)

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

DNC 121 Ballet I
(3-0) 3 Hours
This course introduces students to ballet techniques and styles. No prior dance experience is needed. Students will learn basic skills, terminology, and performance expressiveness in ballet. An overview of the history of ballet is including in the course. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
May be taken twice for credit toward degree

DNC 122 Contemporary I
(3-0) 3 Hours
This course introduces students to contemporary dance techniques and styles. No prior dance experience is needed. Students will learn basic movement skills, terminology, and performance expressiveness in contemporary dance styles. An overview of major innovators is included in the course covering the evolution of contemporary dance from the early modern dance pioneers and up through the contemporary choreographers working today. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
May be taken twice for credit toward degree

DNC 123 Jazz I
(3-0) 3 Hours
This course introduces students to jazz dance techniques and styles. No prior dance experience is needed. Students will learn basic skills, terminology, and performance expressiveness in jazz dance. An overview of the history of jazz dance is including in the course. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
May be taken twice for credit toward degree

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
COURSE INFORMATION
AND DESCRIPTIONS

DNC 128 Latin Dance I
(3-0) 3 Hours
This course introduces students to Latin dance techniques and styles (merengue, bachata, salsa, cha-cha, cumbia). No prior dance experience is needed. Students will learn basic skills, terminology, and performance expressiveness in Latin dance forms individually, with a partner, and in a group setting. An overview of the history of Latin dance forms is including in the course. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1) 
Fulfills the CLC I/M Education Requirement. May be taken twice for credit toward degree

DNC 129 Dance Practicum I
(Variable) 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 (1.1)
May be taken twice for credit toward degree

DNC 130 Contemporary Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in Contemporary/Modern technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 131 Ballet Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in ballet technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 132 Jazz Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in Jazz technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 133 Musical Theatre Dance Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in musical theatre dance technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 134 Tap Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in tap technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 135 Hip Hop Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in hip hop technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 136 Latin Dance Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in Latin dance technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)
DNC 152 Capoeira Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in Capoeira technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 153 Tap Practicum
(Variable) 1-2 Hours
This course provides students with practical experience in tap technique and performance studies. Note: This course is repeatable for a maximum of 12 hours, but only 6 may be applied toward the associates degree. (1.1)

DNC 160 Teaching Methods I
(3-0) 3 Hours
This course provides students with practical experience in 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 161 Teaching Dance for Children
(3-0) 3 Hours
This course introduces students to theories and methods of teaching dance to children. The course will cover Illinois Arts Learning Standards/Dance Standards and focus on age-appropriate development in dance. Students will learn how to plan, manage, teach, and evaluate dance for children in studio, community, and elementary, middle, and high schools. Recommended: Student should have a foundation in one or more core dance techniques (i.e. ballet, contemporary, hip hop, tap, social, etc.) before taking this course. (1.1)

DNC 221 Ballet II
(3-0) 3 Hours
This course is designed as a continuation of Ballet I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of ballet. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
Prerequisite: DNC 121 (C or better) or Department Consent
May be taken twice for credit toward degree

DNC 222 Contemporary II
(3-0) 3 Hours
This course is designed as a continuation of Contemporary I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of contemporary dance. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
Prerequisite: DNC 122 (C or better) or Department Consent
May be taken twice for credit toward degree

DNC 223 Jazz II
(3-0) 3 Hours
This course is designed as a continuation of Jazz I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of jazz dance. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
Prerequisite: DNC 123 (C or better)
May be taken twice for credit toward degree

DNC 224 Intermediate Yoga
(3-0) 3 Hours
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

DNC 225 Choreography II
(3-0) 3 Hours
This course is designed as a continuation of Choreography I to provide further developments in mastery of students own artistic movement practice. Studies will focus on group work and students will continue to explore, examine, and analyze acclaimed choreographers from diverse backgrounds and disciplines. (1.2)
Prerequisite: DNC 125 (C or better)

DNC 227 Musical Theatre Dance II
(3-0) 3 Hours
This course is designed as a continuation of Musical Theatre Dance I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures related to American musical dancing. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
Prerequisite: DNC 127 (C or better)
May be taken twice for credit toward degree

DNC 228 Latin Dance II
(3-0) 3 Hours
This course is designed as a continuation of Latin Dance I to introduce Samba, Rumba, and Tango. Students will expand on skills, terminology, and performance expressiveness in Latin dance forms individually, with a partner, and in a group setting. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of Latin dance. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. Recommended: DNC 128 (C or better) (1.2) Fulfills the CLC I/M Education Requirement. May be taken twice for credit toward degree
DNC 240 The Art of Dance (3-0) 3 Hours
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

DNC 241 Hip Hop II (3-0) 3 Hours
This course is designed as a continuation of Hip Hop I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of hip hop. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.1)
Prerequisite: DNC 160 (C or better)
Fulfills the CLC I/M Education Requirement.

DNC 242 Capoeira II (3-0) 3 Hours
This course is designed as a continuation of Capoeira I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of Capoeira. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.2)
Prerequisite: DNC 142 (C or better)
Fulfills the CLC I/M Education Requirement.

DNC 243 Tap II (3-0) 3 Hours
This course is designed as a continuation of Tap I to provide further developments in mastery of movement and the expansion of artistic expression and performance skills. Students will continue to explore and analyze historical, theoretical, and culturally diverse trends and figures in the discipline of tap. This course is repeatable one time for a maximum of six hours that may be applied to the associates degree. (1.2)
Prerequisite: DNC 143 (C or better)
May be taken twice for credit toward degree

DNC 260 Teaching Methods II (2-1) 3 Hours
This course advances the content learned in Teaching Methods I, by providing prospective teachers with supervised, field-based teaching experiences. Working within one’s discipline, students will apprentice with a teaching mentor in the classroom: observing, assisting and teaching. Course discussions with peers allow students to give and receive feedback on issues that arise in the studio. Students will ultimately teach movement classes as the lead instructor, demonstrating a strong understanding of the movement form taught, as well as the pedagogical skills needed to meet professional standards. Students will continue to learn the art and business of teaching, as students develop their unique teaching philosophy, and prepare to work in the professional field. Field experiences may include off campus settings, and a background check may be required for certain partnered organizations. (1.1)
Prerequisite: DNC 160 (C or better)
May be taken twice for credit toward degree

DNC 280 Dance and Popular Culture (3-0) 3 Hours
In this course, students examine contemporary culture and popular dance in the United States within the framework of sociopolitical, historical, gender, ethnicity, and identity constructs. American dance forms from the 1920’s to the present will be studied including the innovations and contributions made by African and Latin Americans. Students will understand how popular dance reflects the people, attitudes, and values of American society and shapes national identity. Social and political changes, aesthetic values, literature, music, and technological advances will provide a larger cultural understanding of popular dance forms. (1.1)
Fulfills the CLC I/M Education Requirement.
IAI: F1 911D

DENTAL HYGIENE (DHY)

DHY 111 Preclinic Theory and Practice of Dental Hygiene (2-0) 2 Hours
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

DHY 112 Theory and Practice of Dental Hygiene I (2-0) 2 Hours
This course is a continuation of DHY 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, DHY 113, DHY 115, DHY 117, DHY 171 (all C or better)
Course fee

DHY 113 Pre-Clinical Dental Hygiene (0-6) 2 Hours
This course provides clinical practice in fundamental dental hygiene and instrumentation skills on manikin (typodont) models and student partners. (1.2)
Corequisite: DHY 111
Course fee

DHY 114 Clinical Dental Hygiene I (0-8) 2 Hours
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: DHY 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 111  
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 171  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)  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)  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 233  Advanced Dental Hygiene II  
(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 271  Community Dentistry I  
(2-0)  2 Hours  
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

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/XHTML 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
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 113 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.

Course fee

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 finishings. (1.2) 
Prerequisite: DMD 111 C or better or DMD 121 C or better
Course fee

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) 
Prerequisite: DMD 116 Web Design and Development
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.

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 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,
COURSE DESCRIPTIONS

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 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 incorporated 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 design 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 ROM, DVD and Web technologies. In addition to learning the technical capabilities of the software, students will discuss 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 270 Advanced Video Production
(2-2) 3 Hours

This is an advanced course designed to develop creative and technical skills in digital video filmmaking and production. Students will expand their experience with digital video filmmaking by producing narrative and documentary shorts. The course will emphasis creativity with script development, directing and concentrate on advanced planning throughout pre-production, production and post-production. Advanced concepts, techniques and hands-on experience with video cameras, audio design and recording, lighting and post-production effects will be studied. (1.2)

Prerequisite: DMD 170

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: DMD 121 and Basic Algebra Readiness

Course fee

DMD 275 Audio Recording and Production
(2-2) 3 Hours

This course develops skills and experience in digital audio recording and production. Students will be introduced to both analog and digital recording terminology, theory, techniques, software and hardware. Students will work in a professional-level audio recording studio gaining experience with studio and live recording, engineering, editing, mixing and mastering professional audio projects. Extensive practice with microphones and outboard gear will be covered within the studio environment. All levels of audio recording and production will be covered to produce audio recordings and music for various media uses. (1.2)
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 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

DMD 299 Selected Topics in Digital Media and Design (Variable) 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**

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**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. (1.1) Note: Students are required to complete ten hours of field observations in diverse early childhood settings. Current Illinois State Police criminal background check required. **Prerequisite:** College Reading and Writing Readiness Course fee

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 diversities, 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 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 EDU 124 (both C or better), and current Illinois State Police criminal background check required. Current medical documentation may be required.
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 required. (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 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. (1.1)
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: 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 cr hrs in ECE courses to include ECE 117, 132, 141, 214, 215, 220, 223, 229 and 241 (all C or better); CLC GPA 2.40 or above; Dept Chair approval 60 days prior to the first day of the 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 cr hrs in ECE courses to include ECE 117, 121, 141, 214, 215, 220, 223, 229 and 241 (all C or better); CLC GPA 2.40 or above; Dept Chair approval 60 days prior to the first day of the 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 cr hrs in ECE courses to include ECE 116, 121, 124 or EDU 124, 132, 141, 215, 220, 229 and 241 (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 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 cr hrs in ECE courses to include ECE 116, 121, 124 or EDU 124, 132, 141, 215, 220, 229 and 241 (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 (Variable) 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 (3-3) 4 Hours This course is designed for students who are interested in physical features related to our dynamic earth. There are four disciplines that make up the course: geology, oceanography, meteorology and astronomy. Topics covered within these disciplines include: volcanoes, earthquakes, plate tectonics, geologic history, geomorphology, chemical and physical oceanography, changing oceans, the atmosphere and moisture, weather systems, severe storms, modern astronomy, the Moon, the solar system, and beyond the solar system. Course materials are organized to enable students to understand how different components of our dynamic earth are related to one another. Each topic includes 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 AND Basic Algebra Readiness* 
*IAI: P1 906L*

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* 
*IAI: P1 905*

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 905L*

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 905*

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 OR 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* 
*Course fee* 
*IAI: P1 906L*
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 AND Basic Algebra Readiness
IAI: P1 906

ECO 221  Principles of Macroeconomics  (3-0)  3 Hours
This course analyzes the national economy by measuring and tracking the changes in key economic variables such as GDP and the economic growth rate, the unemployment rate, and the inflation rate. Principal macroeconomic issues will be explored and discussed from diverse economic models and will include a discussion on the use and effectiveness of fiscal and monetary policies as well as the causes and consequences of recessions and expansions on the national economy. (1.1)
Prerequisite: College Reading and Writing Readiness AND MTH 102 OR MTH 105 (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 analyzes the economic decision-making of households and firms under the limitations of scarce resources. Fundamental concepts of economics including demand, supply, market equilibrium, elasticity, consumer utility, and the behavior of firms will be discussed and analyzed. The production decisions of firms will be evaluated under different market structures including perfect competition, monopoly, monopolistic competition, and oligopoly. (1.1)
Prerequisite: College Reading and Writing Readiness AND MTH 102 OR MTH 105 (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)

ECO 224  Public Finance  (3-0)  3 Hours
This course explains the economic functions of government in a capitalistic economic system. It focuses on government operations in two distinct areas: government expenditure and government revenue. First, government expenditure programs are examined with primary emphasis on the provision of public goods and on welfare distribution functions. The second aspect of the course examines how the government collects revenue. Topics such as cost-benefit analysis and ability to pay and benefit principles of taxation are explained as well as the relationship between fiscal policy and debt and deficit management. (1.1)
Prerequisite: ECO 221 or ECO 222 (either C or better)

EDUCATION (EDU)

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

EDU 121  Introduction to Teaching  (2-2)  3 Hours
This course provides the prospective teacher with an introduction to teaching in United States school systems. Other topics included are history and philosophy of education, school organization and governance, ethical and legal issues, the nature of teaching, curriculum, the social context, diversity, professional leadership, and current issues. (1.1)
Prerequisite: College Reading and Writing Readiness
Course fee
EDU 124  Child Development for Educators  
(3-0)  
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, socioeconomics, 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

EDU 222  The Exceptional Child  
(3-0)  
This course is an overview of children and adolescents with exceptional cognitive, physical, social, and emotional characteristics, including learning disabilities. It includes assessment, screening, educational needs, family communication, community resources, and legal aspects. (1.1)  
Prerequisite: ECE 124 or EDU 124 or PSY 226 (all C or better)

EDU 223  Technology in the Classroom  
(3-0)  
This course focuses on the uses of basic technology for management and instruction in PreK-12 classrooms. Students will develop the knowledge and skills they need to appropriately and responsibly use technology tools, resources, processes, and systems; to access, retrieve and evaluate information from various media; and to successfully integrate computers into the curriculum. Note: Basic computer skills recommended. (1.1)  
Prerequisite: ECE 121 or EDU 121 (both C or better)  
Course fee

EDU 224  Diversity in Schools and Society  
(3-0)  
This course will survey the personal, social, political, legal, cultural, and educational factors involved in diversity and human relations, and how these factors impact teaching, learning, and other human interactions. The course will cover the major diversity theories, as well as use an experiential model for making theoretical knowledge relevant in the individual teacher’s life. Topics include racial, ethnic, social class, linguistic, religious, cultural, and sexual diversity. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Recommended: EDU 121  
Fulfills the CLC I/M Education Requirement.

EDU 225  Educational Psychology  
(3-0)  
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 242  Observational/Clinical Experience in Education  
(0-2)  
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  
(Variable) 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

EDUCATIONAL WORK EXPERIENCE (EWE)

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)

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  
(Variable) 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  
(Variable) 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
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: EWE 220 (C or better)  
May be taken four times for credit toward degree

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 170 and MTH 122
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

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
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; combinational 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: ELC 114 is recommended. (1.2)
Prerequisite: EET 170, EET 174 or ELC 172
Course fee

EET 299  Special Topics in Electrical/ Electronics Engineering
(Variable)  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. (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 ELT 170 and ELC 172 or equivalent knowledge. (1.2)
Course fee

ELC 172  Applied AC Circuit Theory
(1.5-1)  2 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 journeymen 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 journeymen electrician (1.2)
**EAP 113 Electrician Apprenticeship Work Experience III**

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.

*Note:* Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician (1.2)

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**EAP 114 Electrician Apprenticeship Work Experience IV**

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.

*Note:* Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician (1.2)

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**EAP 115 Electrician Apprenticeship Work Experience V**

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.

*Note:* Requirements: Admission into the Local IBEW 150 Apprenticeship Program. Job placement with a registered journeyman electrician (1.2)

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**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)

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**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 EET 170 is recommended, not required. (1.2)

Course fee

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**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:* EIT 230 (C or better)

Recommended: EIT 210 (C or better)

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**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

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**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

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**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)

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**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

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COURSE DESCRIPTIONS

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

COURSE INFORMATION
AND DESCRIPTIONS

EMERGENCY MEDICAL
TECHNICIAN (EMT)

EMT 111  Emergency Medical
Technician-Basic
(5-4)
7 Hours
This course prepares students to take the
licensure 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
(0-16)
3 Hours
This course prepares students to take the
licensure 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 Assoc 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/trama 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. (1.2)
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. This 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 120 Introduction to Engineering (.5-1) 1 Hour
This introductory, freshman-level Engineering Transfer course introduces students to the different fields of engineering using case studies and guest speakers from the various engineering disciplines. Students are prepared for success in college and professional careers by learning about study skills specific to engineering coursework, teamwork, networking, engineering ethics, academic and career planning, applying for internships, and professional workplace behavior. Project-based activities in an engineering lab are included. (1.1)
Prerequisite: MTH 108 (C or better) AND College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ELI 110 or ENG 100

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 943

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

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 designated 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 designated 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 223 (Introduction to Digital Electronics). (1.1)
Prerequisite: MTH 146 (C or better)
Corequisite: PHY 124 and MTH 246 or MTH 227
IAI: EGR 931L
COURSE DESCRIPTIONS

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 proficiency prerequisite, but whose academic proficiency test scores indicate that they are close to that achievement. Each section of English 100 is linked with a section of English 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 English 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 or ELI 108 (C or better) or ELI 103 and ELI 104 (both B or better) or ELI 110 (C or better) or Language Proficiency Concurrent Enrollment: ENG 121

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: CLC English Placement Test Score of 450 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: CLC English Placement Test Score of 480 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 furthers 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
Prerequisite: professional deadlines. This course will 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 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: ELI 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 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 crafting process 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 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)

**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 120 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: ENG120 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 241   Introduction to Poetry  
(3-0) 3 Hours  
The course is designed to introduce students to a wide variety 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: H3901

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: ENG120 or ENG 121 (C or better) 
Fulfills the CLC I/M Education Requirement. 
IAI: H3 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: ENG120 or ENG 121 (C or better) 
Fulfills the CLC I/M Education Requirement. 
IAI: H3 908N

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: ENG120 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 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 272** Principles and Practices in Foreign Language Teaching (3-0) 3 Hours
This course will present important principles and practices in language learning and teaching in a foreign language context. There will be an overview of first and second language acquisition theories and of issues to consider in both first and second language acquisition. There will be a discussion of the importance of considering the teaching and learning context, as well as other factors that need to be considered when planning instruction, including learners’ backgrounds, learning preferences and current needs. Please Note: This course does not satisfy the requirements of the ISBE ESL endorsement. (1.2) **Prerequisite:** College Reading and Writing Readiness

**ENG 273** English Language: Structure and Use (3-0) 3 Hours
This introductory course will explore the English language, its internal structure and its function. An analysis of the English language in terms of its phonetics, phonology, and grammar will be made. Students will apply this knowledge in examining and developing methods and techniques to teach English learners in different teaching contexts. Please Note: This course does not satisfy the requirements of the ISBE ESL endorsement. (1.2) **Prerequisite:** College Reading and Writing Readiness

**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 methodical 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 TESOL 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

**ENG 299** Special Topics in English (Variable) 1-3 Hours
This course addresses the in-depth study of special topics in English that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. Topics may include Humor in Literature, the Graphic Novel, Literature of Horror, Social Change Movements, Speculative Fiction, Contemporary International Writers, African American Literature, etc. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours towards degree completion. (1.2) **Prerequisite:** College Reading and Writing Readiness. Other prerequisites will vary depending on topic. **May be taken four times, but any topic only once**

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**ENGLISH LANGUAGE INSTRUCTION (ELI)**

**ELI 100** Topics in Academic Enhancement for English Language Learners (Variable) 1-4 Hours
This course will help high-intermediate to advanced level English language learners to improve and practice specific language skills, such as pronunciation, vocabulary, or grammar, in an academic or professional context. **Note:** This course may be repeated. (1.4) **Prerequisite:** ELI Accuplacer score of 199 or higher OR College Reading and Writing Readiness **May be taken four times for credit toward degree**

**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. 
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 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 CLC English Placement Test Score of 450 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 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 CLC English Placement Test score of 480 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

ELI 125 Introduction to American College Culture (Variable) 1-4 Hours
This course introduces college-level academic strategies and acculturation skills to English language learners with academic goals. Topics will include the organization of higher education systems in the US, the differences and navigation of US grading systems, Western learning and teaching styles, personal and academic support structures within the college, differences in academic requirements and expectations, appropriate classroom behavior and linguistic forms, and healthy and safe acclimation to the academic and social college environment. (1.1)

Prerequisite: ELI Accuplacer test score of 221 or higher OR CLC English Placement Test Score of 450 or higher OR College Reading and Writing Readiness

Corequisite: ELI 103 or ELI 104 or ELI 108 or ELI 109 or ELI 110

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ENGLISH AS A SECOND LANGUAGE (ESL)

Adult Education and ESL Division, K Building (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.

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)

ESL 27 ESL: Academic Purposes: Level II: Grammar (3-0) 3 Hours
Students learning English at level 2 of English language proficiency will learn English grammar and syntactic structures to help them in academic speaking, reading and writing. Course content will include singular and plural nouns and verbs, pronouns, adjectives and adverbs and present and present progressive verbs. Practice will include both written and oral activities. (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 (Variable) 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) Course fee May be taken four times for credit

ESL 31 Beginning ESL Literacy Level 1.2 (Variable) 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 (Variable) 0.5-6 Hours
This course supports development of speaking and listening 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 (Variable) 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 write in English to prepare for later academic reading assignments. Students will read short authentic and adapted selections and will develop multiple comprehension strategies, such as finding main ideas and details, identifying transition words and using a bilingual dictionary. (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 for later academic reading 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  
(Variable)  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  
(Variable)  0.5-6 Hours  
This course is a continuation of Beginning Level 2.1. This course is intended for English as 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  
(Variable)  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 ESL Level 3.2  
(Variable)  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  
(Variable)  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

ESL 45  English as a Second Language - Conversation I  
(Variable)  1.5-3 Hours  
This course is for English-as-a-Second Language students who already know some English grammar and have some knowledge of vocabulary 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 46  High Intermediate Listening and Speaking for College and Career Preparation  
(Variable)  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  
**(Variable) 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, modal verbs, 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 48  ESL: Academic Purposes  
**Level IV Reading**  
**(3-0) 3 Hours**  
Students learning English at level 4 of English language proficiency will read in English to prepare for later academic reading assignments. They will read authentic short stories and essays and adapted non-fiction articles, learn word forms and parts of speech, learn to use a monolingual dictionary, scan and skim texts for information, and use contextual clues to find meanings of new vocabulary. Practice includes both oral and written work related to texts and new vocabulary. (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  
**(Variable) 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  
**(Variable) 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  
**(Variable) 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  
**(Variable) 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  
**(Variable) 0.5-6 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  
**(Variable) 0.5-6 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  
**(Variable) 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 (Variable) 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 (Variable) 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 (Variable) 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 workforce, life skills and transition into a variety of college programs. 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 teacher recommendation. (1.9)
Course fee
May be taken four times for credit

ESL 61  Low Advanced ESL 6.2 (Variable) 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 ESL exam and/or teacher recommendation. (1.9)
Course fee
May be taken four times for credit

ESL 62  Advanced ESL 7.1 (Variable) 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 63  Advanced ESL Level 7.2 (Variable) 0.5-6 Hours
This course is a continuation of Advanced Level 7.1. This course is for Advanced Language Learners who are familiar with many of the essential grammatical structures and most verb tenses, but who need further skills in speaking, reading and writing English. Students will strengthen and refine their control of speaking, reading and writing skills through a variety of topics based on American culture and cultural issues.
Prerequisite: Appropriate score on the state mandated ESL exam and/or teacher recommendation. (1.9)
Course fee
May be taken four times for credit toward degree
ESL 96 Advanced Grammar and Writing Skills - Fall (Variable) 0.5-6 Hours
The course will help improve writing skills for the students at advanced level of English language, as well as ELLs in the Transitions program. It is geared toward preparing them to improve their writing skills in various types and formats of written assignments required in workplace and college.
Prerequisites: Appropriate score on CASAS or TABE test (1.9)
Course fee
May be taken four times for credit

ESL 97 Advanced Grammar and Writing Skills - Spring (Variable) 0.5-6 Hours
The course is a continuation of ESL 96 and will further help improve writing skills for students at the Advanced level of ESL as well as ELLs in Adult Education college and work place transition programs. It is geared toward preparing ELLs to improve their writing skills in various types and formats of written English required in the workplace and college.
Prerequisites: Appropriate score on CASAS or TABE test (1.9)
Course fee
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 and emergency services, career opportunities in fire protection and related fields. This course further address topics including the culture and history of emergency services, fire loss analysis, along with the organization and function of public and private fire protection services. Additional insight will be provided on the topics of fire departments as part of local government, laws and regulations affecting the fire service, fire service nomenclature, and specific fire protection functions. Other topics will include basic fire chemistry and physics, introduction to fire protection systems, introduction to fire strategy and tactics, and life safety initiatives. (1.2)
Note: Individuals with greater than one year firefighter experience are not eligible for credit.
Prerequisite: College Reading and Writing Readiness OR concurrent enrollment in ENG 109 or ELI 109 or ENG 100-AND: Basic Algebra Readiness

FST 116 Fire Fighting Tactics and Strategy I (3-0) 3 Hours
An introduction to the basic principles and methods associated with the strategic and tactical responsibilities of the line officer on the fireground. Emphasizes size-up, fire operations, pre-fire planning, and basic engine and truck company operations.
Note: FST 111 and/or one year active experience in the fire service is recommended. (1.2)
Prerequisite: FST 111 (C or better)

FST 117 Fire Fighting Tactics and Strategy II (3-0) 3 Hours
Continuation of FST 116, with advanced principles and methods associated with fireground 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)

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 extinguishers and 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 (3-3) 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)
Course fee

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)
Course fee
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, teaching methods, 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 advance 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. Recognized by the Office of the State Fire Marshal towards Instructor 2/Company Officer certification.  
(1.2)  
Prerequisite: FST 173 (C or better)  

FST 177  Fire Prevention Principles I  
(3-0)  3 Hours  
This course provides fundamental knowledge relating to the field of fire prevention. 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 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)  

FST 182  Building Construction for Fire Protection  
(3-0)  3 Hours  
This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.  
(1.2)  
Prerequisite: FST 111 (C or better)  

FST 192  Hazardous Materials Operations  
(2-2)  3 Hours  
This course is designed for firefighters and other persons who might encounter Hazardous Materials in the course of their occupations. This course will stress identification, site entry, isolations, evacuation, use of Hazardous Safety Data sheets, and how to obtain assistance at the hazardous materials scene. Practical applications and hands-on experiences are required for this course. The course is designed to meet the requirements of Hazardous Materials First Responder Awareness, and Hazardous Materials First Responder Operations, of the Office of the State Fire Marshal Certification, OSHA 29 CFR 1910, and NFPA 472.  
(1.2)  
Prerequisite: FST 111 (C or better)  
Course fee  

FST 193  Fire Protection Hydraulics and Water Supply  
(3-0)  3 Hours  
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and solve water supply problems.  
(1.2)  
Prerequisite: FST 111 (C or better)  

FST 200  Terrorism and Homeland Security  
(3-0)  3 Hours  
(Formerly EDM 212) This course focuses on helping students understand the issues relating to modern day terrorism and how government responds to such events. This course will also introduce students to disasters which often impact our country. Emphasis will be placed on helping students understand the concept of unified response and how multiple, diverse organizations will interact to respond and mitigate such events. Additional emphasis will involve an in-depth understanding of the National Incident Management System (NIMS) and how this system is used by emergency responders. Student groups will work to plan and solve issues related to disaster events of varying complexity.  
(1.2)  
Prerequisite: College Reading and Writing Readiness  

FST 201  Fire Investigation I  
(3-0)  3 Hours  
This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire starter, and types of fire causes.  
(1.2)  
Prerequisite: FST 111 (C or better)  

FST 202  Fire Investigation II  
(3-0)  3 Hours  
This course is intended to provide the student with advanced technical knowledge on the rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation and court testimony.  
(1.2)  
Prerequisite: FST 111 (C or better)
FST 206  Occupational Safety and Health for Emergency Services  
(3-0) 3 Hours  
This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations. (1.2)  
Prerequisite: FST 111 (C or better)

FST 217  Fire Officer Communications  
(3-0) 3 Hours  
Techniques of company officer communications and group dynamics. Acquaints the student with the principles of communications and the role of the company officer in both formal and informal communication processes.  
Note: Student orientation and pre-scheduled classroom meetings required. (1.2)  
Prerequisite: FST 111 (C or better)

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 and Operations  
(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 with 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

FRN 221  Intermediate French I  
(4-0) 4 Hours  
Review and further study of grammar concepts, continued aural-oral practice, simple conversation and selected readings with text analysis. (1.1)  
Prerequisite: FRN 122 OR Tailwind score 50 or above or Instructor Consent

FRN 222  Intermediate French II  
(4-0) 4 Hours  
This course reviews and expands the use of French 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 French-speaking world and its culture. (1.1)  
Prerequisite: FRN 221 (C or better) OR Tailwind score 60 or above or Instructor Consent  
Fulfills the CLC I/M Education Requirement.  
IAI: H1 900

FRN 223  French Civilization I  
(3-0) 3 Hours  
Composition and conversation based on contemporary writings emphasizing the social, political, economic and literary trends of modern France. (1.1)  
Prerequisite: FRN 222 OR Tailwind score 73 or above or Instructor Consent  
IAI: H1 900

FRN 224  French Civilization II  
(3-0) 3 Hours  
Study of France and its people through its language and political institutions as well as major trends in literature and art from the Gallo-Roman area to the present. (1.1)  
Prerequisite: FRN 223 OR Tailwind score 73 or above or Instructor Consent  
IAI: H1 900

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: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: S9 900

GXS 221  Feminist Theories  
(3-0) 3 Hours  
This course explores the theoretical foundations of the individual and institutional oppression of underrepresented groups. The course provides an analysis of classic and contemporary feminist theories from a multidisciplinary, social science perspective. It introduces students to prominent feminist scholars within the social sciences and discusses the feminist movement as the basis for social policy and social activism. (1.1)  
Prerequisite: SOC 121 (C or better)  
Fulfills the CLC I/M Education Requirement.
GEOGRAPHY (GEG)

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
IAI: P1 909L

GEG 121  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  Geography of Latin America
(3-0)  3 Hours
This introductory social science course is a survey of Latin America’s cultural, economic, physical, political, and social geographies. It emphasizes problems and potentials of regional development and land use. GEG 223 is offered for elective credits. (1.1)
Prerequisite: College Reading and Writing Readiness

GEG 240  Geographic Information Systems I
(3-0)  3 Hours
This course is an introduction to the fundamentals of GIS and basic geographic concepts necessary for analyzing and utilizing spatial data. These concepts include map scale, projections, coordinate systems, methods of symbolizing map data, vector versus raster spatial analysis, air photos and satellite imagery in mapping. Uses of GIS discussed will include its applications in mapping, environmental studies, planning, management and business. (1.1)
Prerequisite: College Reading and Writing Readiness

GEG 299  Special Topics: Geography
(Variable)  1-3 Hours
This course addresses the in-depth study of special topics in geography, which 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
GERMAIN (GER)

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

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

GER 122 Beginning Conversational German II
(4-0) 4 Hours
Fundamentals of language necessary for understanding, speaking, reading, and writing of German. Practice in pronunciation from dialogues and pattern practices. This is a continuation of GER 121. (1.1)
Prerequisite: GER 121 OR Tailwind score 43 or above or Instructor Consent

GER 221 Intermediate German I
(4-0) 4 Hours
Review and further study of grammar concepts, continued oral practice, simple conversation and selected readings. Laboratory practice encouraged. (1.1)
Prerequisite: GER 122 OR Tailwind score 49 or above or Instructor Consent

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

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 HVACR Electricity 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 119 HVACR Electricity 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 starters, 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 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

Note:
Student will be required to purchase basic hand tools used in this and other HVACR courses. (1.2)
HET 135  Plumbing and Pipefitting I
(2-2)  3 Hours
This course introduces students to blueprint
drawings and detail sheets; piping system
standards and specifications; and trade math.
Students will be exposed to advanced 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,
minute 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 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 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. (1.2)
Note: The student will be required to purchase
basic hand tools that will be used in this
and other refrigeration and air conditioning
courses.
Corequisite: HET 110 or Consent of Instructor
Course fee

HET 191  HVAC 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 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.  
Prerequisite: HET 110 and HET 111  
Course fee

HET 193  Recertification Preparation  
(1.2)  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.  
Prerequisite: HET 110 and HET 111 or consent of instructor  
Course fee

HET 194  NATE Certification Preparation  
(2-0)  2 Hours  
This course prepares students to sit for the North American Technician Excellence (NATE) HVAC Exams. All pertinent material prior to the administration of the exams is reviewed.  
Prerequisite: Consent of Instructor  
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 are introduced. Electric controls including thermostats, relays, and contactors are studied, as well as capacitors, 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, and piping techniques for residential and commercial HVAC equipment are introduced. 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 HVAC courses.  
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 HVAC courses.  
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 CLC English Placement Test Score of 480 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 HVAC courses.  
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 CLC English Placement Test Score of 480 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, floor plans, elevations, section, detail and mechanical plans. It requires students to develop a layout of an air conditioning duct system and fittings. Fabrication of these parts, including proper use of hand-tools and shop equipment used to fabricate duct systems and fittings will be focus as a main competency. Some of the topics covered will include methods of measurements, layouts, tolerances, allowances for joints, and other fittings.  
Prerequisite: HET 155 (C or better)
HET 252  Air Conditioning III Installation & Service  (2-4) 4 Hours
This course covers various types of residential heating and air-conditioning service techniques and installation procedures, including equipment selection, layout, duct fabrication, piping techniques, troubleshooting, codes, preventive maintenance, multiple systems, and system accessories. Students will learn the techniques of the service and installation needs of the residential heating and air-conditioning industry through lectures, demonstrations, and lab experiences. The function and operational characteristics of various types of residential heating and air-conditioning 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 residential heating and air-conditioning industry. Equipment selection, layout, duct fabrication, troubleshooting, codes, preventive maintenance, system balancing, component capacity, multiple systems, system accessories codes, and preventive maintenance concerning residential heating and air-conditioning appliances are also covered. This course reinforces load calculations, ventilation requirements, piping techniques, 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: MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum CLC English Placement Test Score of 480 or higher 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 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: MTH 230 AND MTH 114 or higher or appropriate score on Math Placement test or Math ACT score of 17 or higher; AND minimum CLC English Placement Test Score of 480 or higher or College Reading and Writing Readiness; OR Consent of Instructor
Course fee

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. (1.2)
Prerequisite: Consent of Instructor
Course fee

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 CLC English Placement Test Score of 480 or higher or College Reading and Writing Readiness; OR Consent of Instructor
Course fee

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

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
Prerequisite: for all types of healthcare facility records are techniques to ensure quality documentation content and structure as well as the application department and profession. Health data and standards, and the health information healthcare delivery system, regulations (2-2) 3 Hours

Information Technology
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: College Reading and Writing Readiness

HIT 132 Basic ICD-10-CM Coding (2-2) 3 Hours
This course introduces students to the ICD-10-CM 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: HIT 111 (C or better)
Corequisite: 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 172 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 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 231 Leadership and Management in Health Information Management (1-2) 2 Hours
This course introduces students to the basic principles of supervision as applied to the health information profession. The elements and concepts related to leadership and organizational management including human, financial, and physical resources are included. (1.2)
Prerequisite: HIT 115 (C or better) and admission into the HIT program Course fee

HIT 232 Quality Management and 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  
(2-2)  3 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)  
Prerequisite: 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)

HIT 299  Special Topics: HIT  
(Variable)  1-3 Hours  
This course is designed to meet the needs of students for specialized instruction in current health information technology topics. Course content will vary depending on the topic being studied.  
Prerequisite: Will vary depending on topic.  
Consent of the department required. (1.2)  
May be taken three times, but any topic only once

HEALTH AND WELLNESS PROMOTION (HWP)

HWP 160  Yoga I  
(0-2)  1 Hour  
(Previously PED 160) 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 KIN 160 are cross-listed. (1.1)  
Prerequisite: College Reading and Writing Readiness

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 250  Special Topics: Health and Wellness Promotion (HWP)  
(Variable)  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
HISTORY (HST)

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

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 China
(3-0) 3 Hours
This course surveys China from the earliest times to the end of the Qianlong reign with attention to the influence of religion, culture and conquest on the modern world, focusing on cross-cultural exchange between the various regions, since 1500. Themes studied will include the influence of religion, culture and conquest 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.
IAI: S2 905N

HST 126 History/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
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 with 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
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 conquest 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 221 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 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
IAI: S2 901

HST 223  American Popular Culture (3-0) 3 Hours
This course is a survey of American cultural and social history as reflected in popular expressions such as live entertainment, music, sports, movies, print, radio, television, advertising, cyberspace, and social media. (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

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. (1.2)
Prerequisite: College Reading and Writing Readiness
IAI: AG 905

HRT 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

HST 242  History of Chicago (3-0) 3 Hours
This course is a historical survey of the Chicago region from the colonial era thru 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

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 247  History of the Second World War (3-0) 3 Hours
This course will examine the causes, course and end of the Second World War, studying the origins of the war in Europe and Asia; examining the effects of the war on belligerent, occupied, and neutral nations and regions globally as well as the effects of the war in various areas including society, politics and culture. (1.1)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.

HST 299  Special Topics in History (Variable) 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)

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

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. (1.2)
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
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. (1.2)  
Corequisite: HRT 121 (C or better)  
Recommended: CHM 140  
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 botanic 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. (1.2)  
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. (1.2)  
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 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 appropriate score on the Math Placement Test or Basic Algebra Readiness  
Course fee

HRT 222  Greenhouse Crop Production and Management  (2-2)  3 Hours  
This course covers the production of greenhouse crops, the cultural practices required for growth and the management of greenhouse production facilities. Seeding, watering, fertilization, containers, growing medias, temperature control, and insect and disease control will be covered. Bedding plants and containerized crops will be grown throughout the semester. (1.1)  
Prerequisite: College Reading and Writing Readiness AND HRT 121 (C or better)  
Recommended: BIO 222  
Course fee

HRT 225  Green Business & 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 include 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 HRT 121 (C or better)  
Recommended: BIO 222  
Course fee

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  (2-2)  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 125 (C or better) OR 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. (1.2)
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. (1.2)
Prerequisite: College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ELI 109 AND 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. (1.2)
Prerequisite: College Reading and Writing Readiness
Corequisite: HRT 121 (C or better)
Recommended: HRT 125
Course fee

HRT 280  Horticulture Practicum  (Variable)  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 also will 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  (Variable)  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 recertification. 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  
(Variable)  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, pâte a choux, tarts, pies and cookies. (1.2)
**Prerequisite:** College Reading and Writing Readiness or concurrent enrollment in ENG 109 or ESL 109 AND Basic Algebra Readiness or concurrent enrollment in MTH 114
**Corequisite:** HCM 113
**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

### 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 (Variable) 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)

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

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 121 Health and Nutrition (3-0) 3 Hours
This course presents the student with concepts related to achieving optimal health and well-being. This includes meeting personal needs as well as the health and safety needs for children, adolescents, and adults in group and treatment settings. Strong emphasis is placed on nutrition, health, and safety issues, including healthy lifestyles, prevention, physical fitness, scientific and economic data, food policy, and controversies. Students will examine various models of physical and mental health, discuss stress responses, substance use disorders, and chronic diseases, and identify risk factors and their interrelationships with healthy nutrition and behaviors. (1.1)
Prerequisite: College Reading and Writing Readiness
Recommended: Basic Algebra 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, 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. (1.1)
Prerequisite: HUS 128 or HUS 140 (both C or better)

HUS 134 Intimate Violence Crisis Response (4-0) 4 Hours
This course will provide the student with an understanding and knowledge of the specialized areas of Domestic Violence and Sexual Violence 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 survivors 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. These 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 toward volunteering or working in the Sexual Violence, Domestic Violence, and related fields--Illinois Certified Domestic Violence Professional (ICDVP) and Illinois Coalition Against Sexual Assault Certification (ICASA). This course is intended for students and practitioners in any field, as well as community members from all walks of life. (1.2)
Prerequisite: HUS 128 or HUS 140 (both 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 abuse 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 (2-0) 2 Hours
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.
Recommended Prerequisite: HUS 140 (C or better) and HUS 128 (C or better) (1.2)

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 156 Pharm & Disease in Substance Use (3-0) 3 Hours
This course provides an exploration of the psychotropic medications and diseases that impact many persons with substance use disorders. Students will become familiar with neurobiological processes, including neurotransmission, the various elements of the nervous system, and the effects, mechanisms, and actions of classes of psychotropic drugs. They will study the terms and abbreviations used in the medical and psychotherapy profession. Students will explore the biological, social and psychological aspects of communicable diseases and their relationship with substance use disorders. Specific topics include epidemiology, disease progression and treatment of HIV, STDs and hepatitis. 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 (Variable) 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 171 Human Services Practicum II (Variable) 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 219 Human Services Internship (Variable) 1-4 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 includes field work, supervision hours, assignments, and a supervision seminar class. To apply this course toward a certificate or degree, the student must complete a total of 300 hours at an approved agency. This is a variable credit course (1-4 credits), with 75 internship 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), a GPA of 2.40 and Consent of Human Service Coordinator.

HUS 231 Adult Development and Aging (3-0) 3 Hours
This course integrates theory and research related to changes across adulthood in areas such as: biological, cognitive, personality, mental health, social-emotional, careers, life review, and closure. Students will gain an understanding of the aging process using a lifespan perspective focusing on emerging/early adulthood to late adulthood within a multicultural context. Note: HUS 231 and PSY 231 are cross-listed. (1.1) 
Prerequisite: PSY 121 (C or better)
HUS 232 Trauma and Violence (4-0)
4 Hours
This course provides an introduction to the knowledge, skills, and values necessary for working in the area of trauma, advocacy, treatment, and violence prevention in contemporary society with diverse populations. Theoretical concepts will be introduced on the following topics: causes of trauma, types of trauma and violence, violence prevention, crisis intervention, self-care for client and provider, cultural competency, grief and loss, post-traumatic stress disorder, and victimization. In addition, students will gain skills in therapeutic techniques, assessment, and interventions appropriate for working with people (individuals, families, groups) impacted by trauma at various developmental life stages and their specific issues. These include gender and culture, which relate to children, adolescents, young adults, adults, and older adults. Social service agencies and resources for referrals will be explored.
Recommended Prerequisite: HUS 128 (C or better) (1.2)

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 multi-disciplinary 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, extramural 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)

HUS 275 Addiction Counseling Practicum I (Variable) (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 out-patient 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 a minimum GPA of 2.5
May be taken four times for credit toward degree

HUS 276 Addiction Counseling Practicum II (Variable) (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 278 Addiction Counselor Capstone (1-0)
1 Hour
This course provides a review of the requirements for certification as a Certified Alcohol and Drug Counselor (CADC) through ICB/IAODAPCA. Students will be familiarized with the certification process, increasing their knowledge and skills as addiction counselors, and review for the written examination. Test-taking strategies, examination references, anxiety and stress reduction tactics, and other approaches for increasing test-taking confidence will be covered. This course is designed for the new counselor entering the field, students completing an ICB Accredited Training Program, and counselors interested in refreshing their knowledge, skills, and attitudes. (1.2)
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 philosophy 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
Fulfills the CLC I/M Education Requirement.
IAI: H2 903N

HUM 124  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 125  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 126  Introduction to the 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

HUM 127  World Humanities
(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
IAI: F2 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 (Variable) 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

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, K Building (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 (Variable) 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 (Variable) 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)
Prerequisite: ITL 121

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 121

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 123 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 222 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 conversation, vocabulary development, and reading and writing of Kana and Kanji within the context of Japanese culture. (1.1)
Prerequisite: JPN 122

JPN 223 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 222
Fulfils the CLC I/M Education Requirement.
IAI: H1 900

KINESIOLOGY (KIN)

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

KIN 121 Individual Activities
(0-2) 1 Hour
(Previously PED 121) 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 KIN 121 and/or KIN 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.
Prerequisite: College Reading and Writing Readiness
May be taken four times for credit toward degree

KIN 123 Team Sports I
(Variable) 0.5-1 Hour
(Previously PED 123) 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 cr hr earned in KIN 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

KIN 128 Introduction to Recreation
(3-0) 3 Hours
(Previously PED 128) 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.
Note: Students will spend lab time in local park districts during the second half of the semester. (1.1)
Prerequisite: College Reading and Writing Readiness

KIN 160 Yoga I
(0-2) 1 Hour
(Previously PED 160) 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 KIN 160 are cross-listed. (1.1)

KIN 220 Physical Education in the Elementary School
(2-2) 3 Hours
(Previously PED 220) 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
KIN 221 Introduction to Physical Education (3-0) 3 Hours
(Previously PED 221) 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

KIN 228 First Aid/CPR (2-0) 2 Hours
(Previously PED 228) 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 CLC English Placement Test Score of 450 or higher OR ELL 103 (C or better) OR ELL 104 (C or better) OR ELL 110 OR College Reading and Writing Readiness

Course fee

KIN 229 Experience in the Out-of-Doors (Variable) 1-3 Hours
(Previously PED 229) 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

KIN 242 Philosophy of Coaching (Variable) 0.5-3 Hours
(Previously PED 242) 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

KIN 243 Theory and Practice of Fitness (1-2) 2 Hours
(Previously PED 243) 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

KIN 250 Introduction to the Rehabilitation Aide (2-1) 3 Hours
This course introduces students to the foundational knowledge, skills, and abilities required to work as a physical or occupational therapy aide. Topics include terminology, patient care and communication, evidence-based modalities, therapeutic exercise, and facility operations. (1.1)
Prerequisite: College Reading and Writing Readiness

KIN 270 Biomechanics and Kinesiology (3-0) 3 Hours
(Previously PED 270) This course will introduce students 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

KIN 271 Exercise Physiology (3-0) 3 Hours
(Previously PED 271) This course will explore the study of human function as it relates to responses and adaptations resulting from physical activity and exercise. Systemic interactions and cellular changes during and after activity will be examined. (1.1)
Prerequisite: College Reading and Writing Readiness

KIN 272 Exercise Testing and Prescription (3-0) 3 Hours
(Previously PED 272) This course will prepare students to screen, stratify risk, and assess health-related physical fitness. Principles of effective and meaningful exercise program design will also be explored. (1.1)
Prerequisite: KIN 270 and KIN 271 (both C or better)

LASER/PHOTONICS/OPTICS (LPO)

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, CLC English Placement Test Score of 450 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, CLC English Placement Test Score of 450 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
LPO 113  Photonics-Enabled Technologies  
(2-2) 3 Hours  
The subject matter covered in this course includes topics such as laser welding, laser cutting, drilling, 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 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) 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 (LGL)  
(PREVIOUSLY PLS)

LGL 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

LGL 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: LGL 110 (C or better) OR ENG 121 or equivalent (C or better) and concurrent enrollment in LGL 110 OR department consent
Prerequisite: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 115 Law Office Technology and E-Discovery (4-0) 4 Hours
This course is designed to instruct students in the use of common office software programs such as Microsoft Office Suite and Adobe, 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 electronic filing and electronic discovery. (1.2)
Prerequisite: LGL 110 (C or better)
Corequisite: LGL 114

LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better) and LGL 112 (C or better)

LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 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. Note: BUS 221 and LGL 221 are cross-listed (1.1)
Prerequisite: LGL 110 or BUS 121 or Department Consent

LGL 222 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. Note: LGL 222 and BUS 222 are cross-listed. (1.1)
Prerequisite: LGL 110 or LGL 221 or BUS 221

LGL 227 Law & Society: Marquee Moments of the United States Supreme Court (3-0) 3 Hours
This class is the study of law as it really exists in the world. This course will answer important question about when the law affects society and when society affects the law. Students will learn about the American legal system and its social and historical context. Students will discover how law is made and analyze the way in which the law affects people’s behavior and effects changes in society, considering always how events shape our understanding of the law. The throughline of our learning will be the most momentous decisions of the United States Supreme Court. (1.2)
Prerequisite: College Reading and Writing Readiness
LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 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: LGL 110 (C or better)

LGL 241  International Human Rights Law and Justice  (3-0)  3 Hours
This course will provide students with a multidisciplinary introduction to crimes against humanity, genocide and mass atrocity crimes. Students will examine human rights violations and the legal developments that preceded modern genocides, crimes against humanity and mass atrocity crimes such as the Holocaust, Darfur, Rwanda and others. Students will further explore the international legal responses to human rights violations such as the role of the United Nations, the establishment and operation of the International Criminal Court and International Humanitarian Law. Students will also examine effectiveness of nonviolent direct action and the role of Restorative Justice as an approach to healing communities and preventing future harm. Course may include experiential learning through international travel. (1.2)
Prerequisite: College Reading and Writing Readiness
Fulfills the CLC I/M Education Requirement.

LGL 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: LGL 110 and LGL 112 and LGL 114 (all C or better) and Consent of Instructor
Corequisite: LGL 251

LGL 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: LGL 112 (C or better) and LGL 114 (C or better) and completion of a minimum of two additional LGL courses.

LGL 270  Legal Studies Assessment Seminar  (3-0)  3 Hours
This course is an exit requirement for all students completing the Legal Studies (LGL) 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: LGL 112 (C or better) and LGL 114 (C or better) and completion of a minimum of two additional LGL courses.
Corequisite: LGL 251
Course fee

LGL 299  Topics in Legal Studies  (Variable)  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 legal profession or topics that provide additional depth within a legal specialty area. This course may be repeated for up to a total of six credit hours. (1.2)
Prerequisite: LGL 110 OR Department Consent
May be taken twice for credit toward degree

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, sise 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

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 demonstrate 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 Diemaking 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 B213, (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. Anatomical 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, or BIO 244 and BIO 245 AND MAS 119, KIN 228 (all C or better)  
Concurrent Enrollment: MAS 112, MAS 114, MAS 116, MAS 131 and MAS 132  
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, or BIO 244 and BIO 245 AND MAS 119, KIN 228 (all C or better)  
Concurrent Enrollment: MAS 110, MAS 114, MAS 116, MAS 131 and MAS 132  
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, or BIO 244 and BIO 245 AND MAS 119, KIN 228 (all C or better)  
Concurrent Enrollment: MAS 110, MAS 112, MAS 116, MAS 131 and MAS 132  
Course fee
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Hours</th>
<th>Description</th>
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<tr>
<td>MAS 116</td>
<td>Clinical Skills and Special Populations</td>
<td>(2-2)</td>
<td>3</td>
<td>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.</td>
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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)
Prequisite: 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 (Variable) 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)
Prequisite: MAS 132 (C or better) or Massage Therapy Licensure
Course fee
May be taken four times for credit toward degree

MATH COMPUTER SCIENCE (MCS)

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

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)
Prequisite: 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)
Prequisite: 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

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)
Prequisite: 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

MCS 144 Introduction to Object-Oriented Programming (3-0) 3 Hours
This course is designed to fulfill the requirements established by the Association for Computing Machinery (ACM) for the CS2 course. It also is designed to meet the computer science requirements of engineering students with applications in math. This is a course in object-oriented programming style using the Java programming language. Applications include object-oriented design, software engineering, and use of current development tools. Previous programming experience is recommended. (1.1)
Prequisite: MCS 140 and MCS 141. (1.1)
Prequisite: 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

MCS 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)
Prequisite: MCS 142 (C or better)
Course fee

MATHMATICS (MTH)

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

MTH 101 Elementary Concepts of Mathematics (4-0) 4 Hours
This course is designed as a review of the principles of arithmetic: fractions, decimals, ratios, proportions, percent, introduction to algebra, US customary and metric measurements, formulas for area, perimeter, and volume 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. Specific calculator required. Contact EMPS division office for referral or additional information. (1.4)
Prequisite: 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)
Prequisite: 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 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. 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 this course. Contact the EMPS division office for details. (1.4)

Prerequisite: MTH 102 or MTH 105 (C or better) or an 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 an 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 course 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, 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 with the combination of an IAI MTH course meets the Math requirement for the AS degree. Check the catalog for other Associate degrees including AAS degrees to see if this course meets the Math requirement. (1.1)

Prerequisite: MTH 108 (or higher math level) C or better, or an appropriate score on CLC Math Placement Test, Math SAT, or MATH ACT.
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 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 in depth: graph theory, counting techniques and probability, topics in geometry, logic/set theory, linear programming, and game theory. Note: A specific graphing calculator is required for this course. Contact EMPS division office for details. This course does not meet the math requirement in the Associate in Science or Associate in Engineering Science, but may be used as elective credits. (1.1) Prerequisites: MTH 105 or MTH 108 or higher level math course (C or better)-or- two years of approved high school 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 develops conceptual understanding 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. Note: A specific graphing calculator is required for this course. Contact EMPS division office for details. This course does not meet the math requirement in the Associate in Science or Associate in Engineering Science, but may be used as elective credits. Prerequisites: MTH 105 or MTH 108 or higher level math course (C or better)-or- two years of approved high school 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 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 testing 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. This course does not meet the math requirement in the Associate in Science or Associate in Engineering Science, but may be used as elective credits. Prerequisites: MTH 105 or MTH 108 or higher level math course (C or better)-or- two years of approved high school 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 900-1, MTH 901

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 Division 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 122 (D 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: M1 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 an 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  
(Variable)  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: MET 111

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 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: Department Consent
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 and 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 Department Consent or EGR 222 (both C or better)

MET 299 Special Topics: Mechanical Engineering Technology (Variable) 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 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)  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 PBT 110, and PBT 115 (all C or better).
Course fee

MOA 299  Special Topics: MOA
(Variable)  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
Course fee

MEDICAL IMAGING (MIM)

MIM 110  Introduction to Medical Imaging
(3-0)  3 Hours
This course 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, patient care, and radiation protection. (1.2)
Prerequisite: College Reading and Writing Readiness
Course fee

MIM 111  Radiographic Anatomy and Positioning I
(4-2)  5 Hours
This course 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)
Prerequisites: Acceptance into the Medical Imaging Program
Course fee

MIM 112  Principles of Radiographic Exposure
(2-1)  2.5 Hours
This course covers the factors that control the production of a radiographic image and a basic understanding of radiation protection. (1.2)
Prerequisite: MIM 113, MIM 114 and MIM 116 (all C or better)
Corequisite: MIM 115 and MIM 210
Course fee

MIM 113  Radiographic Anatomy and Positioning II
(4-2)  5 Hours
This course 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 111 (C or better)
Corequisites: MIM 114 and MIM 116
Course fee

MIM 114  Clinical Practice I
(0-16)  3 Hours
This course provides the student with a supervised competency based clinical practice. Emphasis on routine chest, abdomen, upper and lower extremities. (1.2)
Prerequisite: MIM 111 (C or better)
Corequisites: MIM 113 and MIM 116
Course fee

MIM 115  Clinical Practice II
(Variable)  1-3 Hours
This course provides the student with a supervised competency based clinical practice. Emphasis on routine examinations of the appendicular and axial skeleton. (1.2)
Prerequisites: MIM 113, 114, and 116 (all C or better)
Course fee

MIM 116  Advanced Radiographic Procedures
(2-0)  2 Hours
This course includes a detailed study of the fluoroscopic procedures performed in radiology departments and surgical procedures routinely performed in the surgical suite. Includes identification of contrast agents, anatomical structures investigated, and examination procedures. (1.2)
Prerequisite: MIM 111 (C or better)
Corequisite: MIM 113 and MIM 114
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  
This course 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)  
Prerequisites: MIM 113, MIM 114 and MIM 116 (all C or better)  
Corequisites: MIM 112 and MIM 115  
Course fee

MIM 211  Imaging Equipment  
(5-1)  5.5 Hours  
This course covers mechanical and electrical physics applied to x-ray equipment and factors affecting x-ray emission. Labs and discussions regarding principles of radiographic exposure and image evaluation are included. (1.2)  
Prerequisite: MIM 212 (C or better)  
Corequisites: MIM 215 and MIM 216  
Course fee

MIM 212  Clinical Practice III  
(Variable)  1-3 Hours  
This course provides students a supervised clinical practice. Emphasis on fluoroscopic, surgical, trauma, and mobile radiography. (1.2)  
Prerequisites: MIM 112, MIM 115 and MIM 210 (all 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  
(2.5-1)  3 Hours  
This course provides the fundamentals of radiation biology, radiation regulations, radiation measurements, and radiation protection of patients and personnel. Labs include principles of radiographic exposure, quality control and film critique. (1.2)  
Prerequisites: MIM 211, MIM 215 and MIM 216 (all C or better)  
Corequisites: MIM 219, MIM 271 and MIM 275  
Course fee

MIM 215  Clinical Practice IV  
(Variable)  1-3 Hours  
This course provides supervised competency based clinical practice. Emphasis continued on routine, fluoroscopic, surgical, trauma and mobile radiography. Includes orientation rotations to advanced imaging modalities. (1.2)  
Prerequisite: MIM 212 (C or better)  
Corequisites: MIM 211 and MIM 216  
Course fee

MIM 216  Computed Imaging  
(2-0)  2 Hours  
This course introduces the student to computer design as it applies to radiology, including a survey into computed and digital radiography functions and processing parameters. Physics and imaging parameters of computed and digital imaging techniques are emphasized. (1.2)  
Prerequisite: MIM 212 (C or better)  
Corequisites: MIM 211 and MIM 215

MIM 219  Radiography Seminar  
(2-0)  2 Hours  
This course will provide students with a review and discussion of radiographic principles, techniques and methods. Emphasis is placed on the interdependence of theory and principles as students review for the national certification exam. (1.2)  
Prerequisites: MIM 211, MIM 215 and MIM 216 (all C or better)  
Corequisites: MIM 214, MIM 271 and MIM 275

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 & Sectional Anatomy I  
(3-0)  3 Hours  
This course introduces MRI scanning procedures, applications, sectional anatomy and pathology. Scanning parameters and patient care will be emphasized for examinations of the brain, spine and bony pelvis. Radiographic critiques and quality assurance will also be emphasized. (1.2)  
Prerequisite: Acceptance into the program  
Corequisite: MIM 251 and MIM 272

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 Procedures and Sectional Anatomy II  
(3-0)  3 Hours  
This course introduces MRI scanning procedures, applications, sectional anatomy and pathology. Scanning parameters and patient care will be emphasized for examinations of the upper extremities, lower extremities, thorax, abdomen and soft tissue pelvis. Radiographic critiques and quality assurance will also be emphasized. (1.2)  
Prerequisite: MIM 253 (C or better)  
Corequisite: MIM 272

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 skull, central nervous, soft tissue neck, respiratory, and digestive 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 257  MRI Procedures & Sectional Anatomy III  
(3-0) 3 Hours  
This course covers MRI scanning procedures, applications, sectional anatomy and pathology. Scanning parameters and patient care will be emphasized for examination of advanced imaging procedures such as breast, prostate and cardiac imaging. In addition, biopsy procedures will be discussed. (1.2)  
Prerequisites: MIM 255 (C or better)  
Corequisites: MIM 272

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  
This course provides the student a supervised competency based clinical practice. Emphasis on routine and non-routine radiographic procedures. Students will complete all competencies required by the American Registry of Radiologic Technologists. (1.2)  
Prerequisites: MIM 211, MIM 215 C and MIM 216 (all C or better)  
Corequisites: MIM 214, MIM 219 and MIM 275  
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: Admission to 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

MIM 275  Introduction to Sectional Anatomy  
(1-0) 1 Hour  
This course is designed to introduce students to advanced imaging modalities and provide an introductory knowledge of cross sectional anatomy. Basic principles and safety in CT and MRI will be discussed along with imaging planes of the head, chest, abdomen, pelvis, spine, knee and shoulder. (1.2)  
Prerequisite: MIM 211 (C or better), MIM 215 (C or better), MIM 216 (C or better)  
Corequisite: MIM 214, MIM 219, MIM 271

MIM 279  Special Topics in Medical Imaging  
(Variable) 0.5-3 Hours  
This course is designed to meet the need for specialized instruction in current medical imaging topics. Course content will vary depending on the topic being studied.  
Prerequisites: Will vary depending upon topic. (1.2)  
May be taken twice for credit toward degree

MUS 121  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)

MUS 141 Applied Music-Voice I  
(Variable) 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 science or degree. (1.1)  
Course fee  
May be taken 4 times for a maximum of 4 hours toward degree

MUS 143 Applied Music Piano I  
(Variable) 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 a maximum of 4 hours toward degree

MUS 144 Applied Music-Jazz Piano I  
(Variable) 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 a maximum of 4 hours 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  
Course fee

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

MUS 160 Applied Music - Violin I  
(Variable) 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 a maximum of 4 hours toward degree

MUS 161 Applied Music-Viola I  
(Variable) 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 a maximum of 4 hours toward degree
MUS 162  Applied Music Cello I  (Variable)  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 a maximum of 4 hours toward degree

MUS 163  Applied Music-String Bass I  (Variable)  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 a maximum of 4 hours toward degree

MUS 164  Applied Music-Flute I  (Variable)  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 a maximum of 4 hours toward degree

MUS 165  Applied Music-Oboe I  (Variable)  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 a maximum of 4 hours toward degree

MUS 166  Applied Music-Clarinet I  (Variable)  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 a maximum of 4 hours toward degree

MUS 167  Applied Music English Horn I  (Variable)  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 a maximum of 4 hours toward degree

MUS 168  Applied Music-Bassoon I  (Variable)  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 a maximum of 4 hours toward degree

MUS 169  Applied Music-Bass Clarinet I  (Variable)  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 a maximum of 4 hours toward degree

MUS 180  Applied Music-Saxophone I  (Variable)  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 a maximum of 4 hours toward degree

MUS 181  Applied Music-Trumpet I  (Variable)  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 a maximum of 4 hours toward degree

MUS 182  Applied Music-French Horn I  (Variable)  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 a maximum of 4 hours toward degree
MUS 183  Applied Music Trombone I  (Variable)  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 a maximum of 4 hours toward degree

MUS 184  Applied Music Baritone Horn I  (Variable)  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 a maximum of 4 hours toward degree

MUS 185  Applied Music Tuba I  (Variable)  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 a maximum of 4 hours toward degree

MUS 186  Applied Music-Percussion I  (Variable)  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 a maximum of 4 hours toward degree

MUS 187  Applied Music-Guitar I  (Variable)  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 a maximum of 4 hours toward degree

MUS 188  Applied Music-Electric Bass I  (Variable)  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 a maximum of 4 hours 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 4 times for a maximum of 4 hours 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
COURSE DESCRIPTIONS

MUS 241  Applied Music-Voice II
(Variable) 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 a maximum of 4 hours toward degree

MUS 243  Applied Music-Piano II
(Variable) 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 a maximum of 4 hours toward degree

MUS 244  Applied Music-Jazz Piano II
(Variable) 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 a maximum of 4 hours 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 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 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 250  Applied Music Violin II
(Variable) 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 a maximum of 4 hours toward degree

MUS 260  Applied Music Violin II
(Variable) 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 a maximum of 4 hours toward degree

MUS 264  Applied Music-Flute II
(Variable) 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 a maximum of 4 hours toward degree

MUS 266  Applied Music-Clarinet II
(Variable) 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 a maximum of 4 hours toward degree

MUS 280  Applied Music-Saxophone II
(Variable) 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 a maximum of 4 hours toward degree

MUS 263  Applied Music-String Bass II
(Variable) 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 a maximum of 4 hours toward degree
MUS 281  Applied Music-Trumpet II  (Variable)  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 a maximum of 4 hours toward degree

MUS 282  Applied Music French Horn II  (Variable)  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 a maximum of 4 hours toward degree

MUS 283  Applied Music-Trombone II  (Variable)  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 a maximum of 4 hours toward degree

MUS 284  Applied Music-Electric Bass II  (Variable)  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 a maximum of 4 hours toward degree

MUS 285  Applied Music-Percussion II  (Variable)  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 a maximum of 4 hours toward degree

MUS 286  Applied Music-Guitar II  (Variable)  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 a maximum of 4 hours toward degree

MUS 287  Applied Music-Electric Bass II  (Variable)  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 a maximum of 4 hours toward degree

NURSING (NUR)

BIOLOGICAL AND HEALTH SCIENCES DIVISION

NUR 100  Nurse Assisting  (6-3)  7 Hours
In this course, students will learn basic nursing skills to assist the older adult with bathing, grooming, eating, elimination, and moving. Students will also learn techniques for making beds, answering call lights, taking measurements such as temperature, pulse, respiration, and blood pressure, and performing other cares as directed by the licensed nurse. While performing all cares, students will learn how to incorporate communication and observational techniques, principles of infection control, safety precautions, and resident rights. In addition, students will gain an understanding of the role of the CNA as a member of the healthcare team along with the legal and ethical implications of the role. This course is approved by the Illinois Department of Public Health and prepares students to take the Illinois Nurse Aide Competency Exam to become a Certified Nurse Assistant (CNA). (1.2)
Prerequisite: One of the following (or higher): TABE-10.0, CLC English Placement Test 480 or greater, or ELI Accuplacer-285; OR ELI 103 and 104 (B or better); OR ELI 108, ELI 110, or ENG 108 (all C or better); OR College Reading and Writing Readiness AND 16 years or older
Course fee

NUR 133  Foundational Concepts of Nursing Practice  (5-9)  8 Hours
This course introduces the nursing process and the nursing assessment of patients and families in various clinical settings within the health care system. There is a focus on physical assessment, therapeutic communication and the role of the professional nurse. Students will learn clinical decision making and develop critical thinking skills. The course introduces pharmacology, information technology, and introductory nursing skills required for safe and effective patient care. The course focuses on the adult population and evidence-based practice with special emphasis on the older adult. (1.2)
Corequisite: BIO 245 (or BIO 124) and BIO 246 (both C or better if taken previously)
and acceptance into the Nursing program
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 232  Mental Health Nursing (2-3) 3 Hours
This course expands the use of therapeutic communication in select patient populations. The course also focuses on utilization of the nursing process and evidence-based practice in providing safe care to individuals with acute and chronic mental health disorders. Instructional methodologies include patient-centered clinical experiences and structured classroom student-teacher interactions. (1.2)
Prerequisite: NUR 134 (C or better)
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

NUR 299  Special Topics in Nursing (Variable) 1-3 Hours
This course addresses the in-depth study of special topics in nursing that do not have specific courses in the catalog. Course content will vary depending on the topic being studied. This course is repeatable up to three times, any topic only once, for a maximum of 6 hours towards degree completion.
Prerequisite: Department Consent (1.2)
May be taken four times, but any topic only once

PERSONAL DEVELOPMENT (PDS)

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 English Placement Test Score of 450 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 109 or ELI 110 or ENG 108 or ENG 109 or College Reading and Writing Readiness
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.

PHARMACY (PHM)

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

PHM 120 Pharmacy Practice and Operations (4-0) 4 Hours
This course introduces students to the skills necessary for success as a pharmacy technician. The course will introduce five core modalities including interpersonal skills, foundational professional knowledge, processing and handling of medications and orders, quality patient care, and regulatory compliance. (1.2) 
Prerequisite: College Reading and Writing Readiness and admission into the program 
Concurrent Enrollment: PHM 130

PHM 130 Pharmacy Calculations (3-0) 3 Hours
This course introduces students to fundamental math skills required to successfully operate in a pharmacy health care setting. Students will interpret prescriptions and calculate required drug dosages using necessary math and pharmaceutical knowledge to report safe dosages and strengths. Topics include a review of basic math skills (number systems, fractions, decimals, ratios, proportions, and percents), conversion of measurement systems (metric, apothecary, and household) and specific pharmaceutical calculation strategies for drug dosages. (1.2) 
Prerequisite: College Reading and Writing Readiness and Basic Algebra Readiness 
Concurrent Enrollment: PHM 120

PHM 150 Pharmacy Law and Ethics (3-0) 3 Hours
This course introduces students to the fundamentals of state and federal pharmacy regulations. Students will develop a personal framework for ethical judgement by learning fundamentals of healthcare history, national oversight and state regulations. Students who complete this course will also have a comprehensive understanding of regulations in prescription processing, dispensing, and medication handling. (1.2) 
Prerequisite: PHM 120 (C or better) and PHM 130 (C or better) 
Concurrent Enrollment: PHM 151

PHM 151 Pharmacy Lab and Simulation (0-3) 3 Hours
This course will allow students to experience hands-on pharmacy practice skills in a realistic environment without the impact or potential impact on patients. Students will learn pharmacy operations by completing activities in a mock pharmacy. This course connects learned pharmacy material with real life experience in a safe learning environment. (1.2) 
Prerequisite: PHM 120 (C or better) and PHM 130 (C or better) 
Concurrent Enrollment: PHM 150 
Course fee

PHM 190 Pharmacy Technician Exam Certificate Review (2-0) 2 Hours
This course is designed to provide students with a robust review to prepare for and successfully pass the national Pharmacy Technician Certification Exam® (PTCE®). (1.2) 
Prerequisite: PHM 150 (C or better) and PHM 151 (C or better) and MOA 110 (C or better) 
Concurrent Enrollment: PHM 201 and PHM 202 
Course fee

PHM 201 Pharmacy Community Clinical (0-6) 2 Hours
This course provides the students a supervised competency based clinical practice. Emphasis on community pharmacy operations, translating medication orders, filling prescription orders, third-party adjudication, customer service and working within the healthcare team. (1.2) 
Prerequisite: PHM 150 (C or better) and PHM 151 (C or better) and MOA 110 (C or better) or HIT 111 (C or better) 
Concurrent Enrollment: PHM 190 and PHM 201 
Course fee

PHM 202 Pharmacy Hospital Clinical (0-6) 2 Hours
This course provides the students a supervised competency based clinical practice in the contemporary hospital pharmacy setting. Students will practice foundational pharmacy skills of processing medication orders, implementing quality patient care, and following applicable regulatory and compliance standards. (1.2) 
Prerequisite: PHM 150 (C or better) and PHM 151 (C or better) and MOA 110 (C or better) or HIT 111 (C or better) 
Concurrent Enrollment: PHM 190 and PHM 201

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
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, characteristics 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 124  World Religions  
(3-0)  3 Hours  
This course introduces students to the teachings, rituals, symbols, and cultures of living world religions. Religions such as Hinduism, Buddhism, Confucianism, Taoism, Shintoism, Judaism, Christianity, Islam, and the religions of Africa may be included. This course will help to broaden the student’s understanding and appreciation of these belief systems. (1.1)  
Prerequisite: College Reading and Writing Readiness  
Fulfills the CLC I/M Education Requirement.  
IAI: H5 904N

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 126  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 127  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 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 130  Special Topics in Philosophy  
(Variable)  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.

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 222  Special Topics in Philosophy  
(Variable)  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.

PHI 223  Refractory Problems  
(Variable)  1-3 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 224  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  
(Variable)  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.

PHI 300  Special Topics in Philosophy  
(Variable)  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.

PHI 301  Special Topics in Philosophy  
(Variable)  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.

PHI 302  Special Topics in Philosophy  
(Variable)  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.

PHI 303  Special Topics in Philosophy  
(Variable)  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.

PHI 304  Special Topics in Philosophy  
(Variable)  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.

PHI 305  Special Topics in Philosophy  
(Variable)  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.

PHI 306  Special Topics in Philosophy  
(Variable)  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.

PHI 307  Special Topics in Philosophy  
(Variable)  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.
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: P2 900L

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 (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 120 Introduction to Political Science (3-0) 3 Hours
This course is a brief survey of the primary subfields of political science. It is designed to introduce students to the important ideas and values used in political discourse and to provide a better understanding of current political issues, events and behavior at the national and global level. The subfields examined include empirical political theory, normative political theory, comparative politics, international relations, and political economy. The focus within each subfield will be on the key terms, concepts and theories that define the subfield’s scope of inquiry. (1.1)
Prerequisite: College Reading and Writing Readiness

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
**COURSE INFORMATION AND DESCRIPTIONS**

**PRE-BRIDGE (PBRA)**

Adult Education and ESL Division, K Building (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 (Variable) 0.5-6 Hours**

This introductory course will focus on building the basic reading, vocabulary, math and computer skills needed for students to prepare 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.
- Must also be enrolled in 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 (Variable) 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 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 (Variable) 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

**PBRA 60 Preparation for Early Childhood Education Careers (Variable) 0.5-6 Hours**

This pre-bridge to early childhood education helps students strengthen language skills, particularly reading skills, necessary to gain entrance into the Early Childhood Education classes in the Adult Education Division.

**Prerequisites:** Appropriate score on reading assessment or teacher recommendation and/or consent of department chair. (1.7)

**Course fee**
May be taken four times for credit

**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 with an emphasis on cultural competence and social justice. It 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)

**Corequisite:** College Reading and Writing Readiness OR ENG 100 and CLC 120

**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

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 mental health disorders with specific emphasis given to empirical research, diagnostic criteria, as described in the Diagnostic and Statistical Manual of Mental Disorders, theoretical perspectives, etiology, treatment, and legal and ethical responsibilities. (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) IAI: SS8900 and PSY908

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: S6 904

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 900

PSY 227  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. PSY 227 and GXS 227 are cross-listed. (1.1) Prerequisite: PSY 121 (C or better) Fulfills the CLC /M Education Requirement.

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 231  Adult Development and Aging  (3-0)  3 Hours
This course integrates theory and research related to changes across adulthood in areas such as: biological, cognitive, personality, mental health, social-emotional, careers, life review, and closure. Students will gain an understanding of the aging process using a lifespan perspective focusing on emerging/early adulthood to late adulthood within a multicultural context. Note: HUS 231 and PSY 231 are cross-listed. (1.1) Prerequisite: PSY 121 (C or better)

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)
COURSE DESCRIPTIONS

PSY 242  Cognitive Psychology  
(3-0)  3 Hours  
This course will introduce core issues, theories, and experimental findings in cognitive psychology. Topics to be covered include attention, communication, decision making, expertise, language, learning, memory, problem solving, and research methods. The goal of this course is for students to apply the research from cognitive psychology to real world situations. (1.1)  
Prerequisite: PSY 121 (C or better)

PSY 248  Psychology of the Criminal Mind  
(3-0)  3 Hours  
This course introduces students to the field of Criminal Psychology. The purpose of this course is to develop an understanding 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.  
Prerequisite: PSY 248 and PSY 228 are cross-listed. (1.1)  
Recommended: CRJ 219

PSY 299  Special Topics in Psychology  
(Variable)  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

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

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  
Recommended: SGN 121 with a grade of C or better

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

SOCIAL STUDIES TOPICS (SST)  
Business and Social Sciences Division, Room T302, (847) 543-2047

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

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

SWK 121  Introduction to Social Work  
(3-0)  3 Hours  
This course provides an introduction to the knowledge, skills, and values necessary for generalist social work in contemporary society. Social welfare services, policies, and their historical origins will be presented along with the unique experiences of diverse and at-risk populations affected by various social problems. It provides an overview of the range of public and private social services available for meeting these problems. (1.1)  
Prerequisite: College Reading and Writing Readiness

SWK 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.  
Prerequisite: SWK 228 and SWK 228 are cross-listed. (1.1)  
Prerequisite: PSY 121 (C or better)
SOCIOLOGY (SOC)

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

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 901

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

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 902

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 904D

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

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)
COURSE DESCRIPTIONS

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)

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

SPA 225  Spanish for ESL Speakers  (3-0)  3 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 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

SPA 226  ASE Preparation in Spanish 1 Low  (Variable) 0.5-6 Hours
May be taken four times for credit toward degree

SLE 10  ASE Preparation in Spanish 1 High  (Variable) 0.5-6 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 227  ASE Preparation in Spanish 2 Low  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 228  ASE Preparation in Spanish 2 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 229  ASE Preparation in Spanish 3 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 230  ASE Preparation in Spanish 4 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 231  ASE Preparation in Spanish 5 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 232  ASE Preparation in Spanish 6 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 233  ASE Preparation in Spanish 7 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 234  ASE Preparation in Spanish 8 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 235  ASE Preparation in Spanish 9 High  (Variable) 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 assessment OR consent of instructor or department chair. (1.8) Course fee May be taken four times for credit

SPA 236  ASE Preparation in Spanish 10 High  (Variable) 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 assessment 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 (Variable) 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 (Variable) 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 I (Variable) 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 9.0-10.9) 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 II (Variable) 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)**

**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
**Recommended:** Basic Algebra Readiness, If working toward the Supply Chain Management AAS, completion of the required Math course (MTH 122 or MTH 127 or MTH 142 or MTH 222 or AMT 122) before SCM 110 is helpful.
**Course fee**
**May be taken four times for credit**

**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 Capstone (1-10) 3 Hours**
This course provides students with an opportunity to demonstrate their knowledge of the supply chain management field in one of several ways: internship, capstone project, service-learning project or approved SCM certification. In addition to on-site or independent work, the student will complete 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.
**Prerequisite:** SCM 215 and BUS 121
SURGICAL TECHNOLOGY (SRG)

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

SRG 110  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)
Prerequisite: BIO 111 and BIO 123 OR BIO 123, BIO 244 and BIO 245 AND HUM 127 and HIT 111 (all C or better), and admission to the Surgical Technology Program
Course fee

SRG 111  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 112  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, special instruments, supplies, drugs, special equipment, intraoperative 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 113  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, special instruments, supplies, and drugs, special equipment, intraoperative 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 114  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, gynecologic, 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: Acceptance into the Surgical Technology Program

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: SRG 113, SRG 117 and SRG 119 or BIO 246 (all C or better)
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<th>COURSE INFORMATION</th>
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<tr>
<td><strong>SRG 119</strong> Essentials of Microbiology (2-0) 2 Hours</td>
<td><strong>THE 125</strong> 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 student 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: F1 914</td>
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<tr>
<td><strong>THE 121</strong> Introduction to Theatre I (3-0) 3 Hours</td>
<td><strong>THE 126</strong> 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 914</td>
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<td><strong>THE 123</strong> Diversity in American Theatre (3-0) 3 Hours</td>
<td><strong>THE 127</strong> 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</td>
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<td><strong>THE 128</strong> Introduction to Theatrical Costuming (3-0) 3 Hours</td>
<td><strong>THE 129</strong> Theatre Practicum (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</td>
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<td><strong>THE 145</strong> 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</td>
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<td><strong>THE 200</strong> 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</td>
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<td><strong>THE 223</strong> 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</td>
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VOCATIONAL SKILLS TRAINING (VST)

Adult Education and ESL Division, K Building (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.

VST 717 Model Office I for ESL (Variable) 0.5-6 Hours
This course is a simulated work environment providing student “employees” with hands-on training necessary for transition into unsubsidized employment or community college career training programs such as AMT 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 (Variable) 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 AMT 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 (Variable) 0.5-8 Hours
This course is a continuation of VST 718 Model Office-Level IIA. The Model Office is a simulated work environment providing students “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 weldment 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)
Prerequisite: WLD 113 and WLD 170, and one of the following: WLD 172 or WLD 175 or WLD 178
Course fee

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.
Note: Student must furnish basic required equipment. (1.2)
Course fee

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)
Prerequisite: WLD 170
Course fee

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
WLD 180  Robotics Welding I  
(2-2)  3 Hours  
This course introduces students to the knowledge and skills necessary to operate and program a Gas Metal Arc Welding (GMAW) Robotic System. Skill sets developed will include: safe operation, error correction and user interface, teach pendant controls, fundamental motion types, weld schedules and basic fixture design for fabrication. This course also provides fundamental robotic safety precautions associated with operation and programming. (1.2)  
Prerequisites: WLD 113 and MTH 114 (Both C or better)-OR- Basic Algebra Readiness  
Corequisite: WLD 175  
Course fee  

WLD 299  Special Topics in Welding  
(Variable)  1-6 Hours  
This course is designed to provide welding students an opportunity to explore the diversity of topics, businesses, equipment and applications in the welding industry that are not specifically addressed by any existing welding course offered at College of Lake County. This course is repeatable up to three times with a maximum allowable credit of six (6) hours. (1.2)  
May be taken three times for credit toward degree