



## ENGINEERING AND COMPUTER SCIENCE

Engineering, Math and Physical Sciences  
Division, Room T302, (847) 543-2044  
[www.clcillinois.edu/programs/egr](http://www.clcillinois.edu/programs/egr)

**Degree: Associate in Engineering Science  
Plan 12AB**

This program is **recommended** for students pursuing a **B.S. in Engineering**, including any of the various engineering disciplines (e.g. mechanical, electrical, civil, aeronautical, materials, agricultural, biomedical, chemical, and computer, etc.). The program parallels the first two years of engineering programs at most universities accredited by the Accrediting Board for Engineering and Technology (ABET). Four year schools offering a **B.S. in Engineering** include the University of Illinois at Chicago (UIC), Northern Illinois University (NIU), University of Illinois at Urbana-Champaign (UIUC), Illinois Tech (IIT), Bradley, Southern Illinois University (SIU), Northwestern University, Milwaukee School of Engineering (MSOE), Marquette, Purdue, and more. Upon completion of minimum transfer requirements (which vary by four year school), CLC Engineering students can transfer to complete their B.S degree at a four year college or university.

This program is also appropriate for students pursuing a **B.S. in Computer Science with an engineering focus**. Four year schools offering a B.S. in Computer Science with an engineering focus include University of Illinois at Chicago (UIC), University of Illinois at Urbana-Champaign (UIUC College of Engineering), Illinois Tech (IIT), Southern Illinois University at Carbondale (SIUC) and Southern Illinois University at Edwardsville (SIUE). Students desiring a **B.A. or B.S. in Computer Science with a math or liberal arts focus** may want to pursue the program of study recommended under Computer Science (Associate in Science) on page 150.

Since minor differences in course requirements exist at different universities and in different engineering disciplines within the same university, students are strongly advised to meet with a faculty advisor from the Engineering Department or an Academic Success Advisor, and consult the college catalog and an engineering advisor at their intended transfer institution.

<b>FIRST SEMESTER</b>	<b>14</b>
<b>CLC 120 ^</b>	College Success Seminar [2]
<b>MTH 145</b>	Calculus and Analytic Geometry I 5
<b>CHM 121</b>	General Chemistry I 5
<b>EGR 120</b>	Introduction to Engineering # <b>or</b> Technical Elective 1
<b>ENG 121</b>	English Composition I 3

<b>SECOND SEMESTER</b>	<b>18</b>
<b>MTH 146</b>	Calculus and Analytic Geometry II 4
<b>EGR 121</b>	Engineering Design Graphics 3
<b>ENG 122</b>	English Composition II <b>or</b>
<b>ENG 126</b>	Advanced Composition: Scientific and Technical Communications 3
<b>PHY 123</b>	Physics for Science and Engineering I 5
<b>PSY 121</b>	Introduction to Psychology <b>or</b> other Humanities/Fine Arts or Social Science Elective 3

<b>THIRD SEMESTER</b>	<b>16</b>
<b>PHY 124</b>	Physics for Science and Engineering II 5
<b>EGR 125</b>	Engineering Statics # <b>or</b> Technical Elective 3
<b>MTH 246</b>	Calculus and Analytical Geometry III 5
<b>PHI 125</b>	Introduction to Ethics <b>or</b> other Humanities/Fine Arts <b>or</b> Social Science Elective* 3

<b>FOURTH SEMESTER</b>	<b>15-17</b>
<b>MTH 227</b>	Differential Equations 3
<b>EGR 225</b>	Engineering Dynamics # <b>or</b> Technical Elective 3
<b>EGR 260</b>	Introduction to Circuit Analysis # <b>or</b> Technical Elective 3-4
<b>ECO 222</b>	Principles of Microeconomics <b>or</b> other Humanities/Fine Arts <b>or</b> Social Science Elective* 3
<b>MCS 140</b>	Computer Programming I <b>or</b>
<b>MCS 141</b>	Computer Science I 3-4

<b>OPTIONAL SUMMER RECOMMENDATIONS</b> (based on the institution you intend to transfer to)	
<b>CHM 123</b>	General Chemistry II # 5
<b>EGR 222</b>	Engineering Mechanics of Materials# <b>or</b> Technical Elective 3
<b>PHY 221</b>	Physics for Science and Engineering III # 4

^ The credit for CLC 120, College Success Seminar, is an institutional requirement for graduation. It is not part of the program requirements but must be completed with a D or better.

# Select a minimum of 12 credit hours from the technical elective courses. Courses may include those recommended in the semester schedule above or substitute in a different course from the list below.

\* Select courses from three different disciplines (i.e. different prefixes). At least one course must be selected from the Social and Behavioral Sciences section and one course from either the Humanities or Fine Arts section. See pages 44-45 for specific course list. Include one course in International/Multicultural Education. There will be a + following the course number. This course can fulfill both the I/M requirement and a Social Science, Humanities, or Fine Arts requirement.

**TECHNICAL ELECTIVES FOR SPECIFIC ENGINEERING MAJORS BELOW**

<b>EGR 120</b>	Introduction to Engineering	1
<b>EGR 121</b>	Engineering Design Graphics	3
<b>EGR 125</b>	Engineering Statics	3
<b>EGR 140</b>	How to Make Almost Anything	3
<b>EGR 225</b>	Engineering Dynamics	3
<b>EGR 260</b>	Introduction to Circuit Analysis	4
<b>EGR 222</b>	Engineering Mech of Materials	3
<b>EGR 299</b>	Special Topics in Engineering	1-3
<b>EET 223</b>	Introduction to Digital Electronics	4
<b>BIO 161</b>	General Biology	4
<b>BIO 244</b>	Anatomy and Physiology I	4
<b>CHM 123</b>	General Chemistry II	5
<b>CHM 222</b>	Organic Chemistry I	5
<b>CHM 223</b>	Organic Chemistry II	5
<b>MCS 142</b>	Computer Science II	3
<b>MCS 240</b>	Computer Organization and Architecture	3
<b>MTH 225</b>	Introduction to Linear Algebra	3
<b>MTH 244</b>	Discrete Mathematics	3
<b>PHY 221</b>	Physics for Science and Engineering III	4

These are recommended (not required) electives that students can choose from when developing an academic plan of study. These recommendations align with the IAI Engineering Panel recommendations. Students are strongly recommended to choose courses in consultation with an advisor to meet 4-year Engineering school transfer requirements.

**General or Undecided:**  
EGR 120, 121, 125, 225, 260

**Aeronautical/Aerospace:**  
EGR 120, 121, 125, 222, 225, 260

**Biomedical Engineering:**  
EGR 120, 260, CHM 123, BIO 161, 244

**Chemical Engineering:**  
EGR 120, 121, CHM 123, 222, 223

**Civil Engineering:**  
EGR 120, 121, 125, 222, 225

**Computer Science:**  
EGR 120, MCS 141, 142, 240, MTH 244

**Electrical/Computer Engineering:**  
EET 223, EGR 120, 260, MTH 225, 244

**Industrial Engineering:**  
EGR 120, 121, 125, 225, 222

**Materials Engineering:**  
EGR 120, 121, 125, 222, 225

**Mechanical Engineering:**  
EGR 120, 121, 125, 225, 222, 260

**COURSES OFFERED IN SELECTED SEMESTERS ONLY**

Course	Fall	Spring	Summer
CHM 222	X	X	
EGR 120	X	X	
EGR 125	X	X	
EGR 222		X	X
EGR 225	X	X	
EGR 260		X	
EET 223	X	X	
MCS 240	X		
MTH 225		X	X
MTH 244	X	X	
PHY 123	X	X	
PHY 124	X	X	
PHY 221		X	X

Above schedule assumes sufficient enrollment. For more information about this course of study, students should contact the division office.

For more information on recommended courses or program specific advising, contact the following faculty members or the Engineering, Math and Physical Sciences division at (847) 543-2044:

Jan Edwards | Rob Twardock