

## Requirements for Associate in Engineering Science (AES) Degree

The Associate in Engineering Science degree allows pre-engineering students to complete a significant portion of lower-level baccalaureate degree coursework prior to transfer. Baccalaureate engineering programs are highly structured and require extensive, sequential mathematics and science courses at the lower level. Completion of the AES degree does not fulfill the requirements of the Illinois Articulation Initiative General Education Core Curriculum (IAI GECC). In order to take courses in a similar pattern to those of the freshman and sophomore engineering students at a university, some general education courses are postponed to the junior and senior years. After transfer, students either complete the general education requirements of the transfer institution or are given the opportunity to complete the IAI GECC. Engineering

programs vary from one institution to another. It is important that students work closely with an MCC academic advisor and their transfer school.

The following requirements apply to students who first enrolled for Summer 2017 or later. Students who first enrolled prior to Summer 2017 should contact an academic advisor for more information.

- Credit hours are shown in parentheses in front of the course number.
- IAI GECC and Baccalaureate Major course numbers are in bold to the right of the MCC course numbers and titles (e.g., C1 900, EGR 941). Please see an academic advisor for more information about the IAI GECC.

Curriculum: BAC 050	Credit Hours			
<b>Communications (C)</b> 2 courses A grade of C or higher is required for ENG 151 and 152.	6	(3) ENG 151 Composition I (3) ENG 152 Composition II	<b>C1 900</b> <b>C1 901 R</b>	
<b>Humanities (H) &amp; Fine Arts (F)</b> 1-2 courses	3-6	<b>Humanities</b> (3) ART 150 Hum. Through Arts (3) ENG 240 Intro. Shakespeare (3) ENG 251 Intro. to Lit. (3) ENG 253 World Lit. to 1650 (3) ENG 254 World Lit. 1650 to Pres. (3) ENG 255 British Lit. to 1800 (3) ENG 256 British Lit. 1800 to Pres. (3) ENG 260 Amer. Lit. to 1860 (3) ENG 261 Amer. Lit. 1860 to Pres. (3) ENG 270 Bible as Lit. (3) ENG 271 Grk. & Rom. Myth. (3) ENG 272 Non-Western Myth. (3) ENG 275 Women's Lit. (3) ENG 276 Asian Lit. (3) ENG 277 Intro. to Children's Literature (4) FRE 252 Inter. French II (4) GER 252 Inter. German II (3) PHI 151 Intro. to Philosophy (3) PHI 155 Intro. to Logic (3) PHI 160 Eastern Philosophy (3) PHI 240 Philosophy of Religion (3) PHI 251 Intro. to Ethics (3) PHI 261 Religions of World (3) PHI 262 Found. Rel. Texts (4) SPA 252 Inter. Spanish II	<b>Fine Arts</b> (3) ART 150 Hum. Through Arts (3) ART 151 Art Appreciation (3) ART 155 Non-Western Art (3) ART 165 Ethnic Folk Art (3) ART 171 Art Hist. I (3) ART 172 Art Hist. II (3) ART 174 Studies in Contemporary Art (3) ART 175 Hist. of Photography (3) JRN 180 Intro. to Film (3) MUS 151 Music Appreciation (3) MUS 153 Intro. Non-West. Mus. (3) MUS 154 Intro. to Am. Music (3) MUS 171 Music Hist. I (3) MUS 172 Music Hist. II (3) THE 151 Intro. to Theatre	<b>HF 900</b> <b>H3 905</b> <b>H3 900</b> <b>H3 906</b> <b>H3 907</b> <b>H3 912</b> <b>H3 913</b> <b>H3 914</b> <b>H3 915</b> <b>H5 901</b> <b>H9 901</b> <b>H9 901</b> <b>H3 911D</b> <b>H3 908N</b> <b>H3 918</b> <b>H1 900</b> <b>H1 900</b> <b>H4 900</b> <b>H4 906</b> <b>H4 903N</b> <b>H4 905</b> <b>H4 904</b> <b>H5 904N</b> <b>H5 901</b> <b>H1 900</b>

<b>Social &amp; Behavioral Sciences (S)</b> 1-2 courses ECO 251 generally is required for industrial engineering majors and recommended for other engineering specialties.	3-6	(3) ANT 151 Intro. to Anthropology (3) ANT 155 Intro. to Archaeology (3) ANT 160 Intro. Phys. Anthro. (3) ANT 170 Intro. Cult. Antho. (3) ECO 150 Intro. Economics (3) ECO 251 Microeconomics (3) ECO 252 Macroeconomics (3) GEG 202 Geography of the Developed World (3) GEG 203 Geography of the Developing World (3) GEG 204 Economic Geog. (3) HIS 131 Western Civ. I (3) HIS 132 Western Civ. II (3) HIS 165 History of Latin Am. (3) HIS 170 U. S. History I	<b>S1 900N</b> <b>S1 903</b> <b>S1 902</b> <b>S1 901N</b> <b>S3 900</b> <b>S3 902</b> <b>S3 901</b>  <b>S4 901</b>  <b>S4 902N</b> <b>S4 903N</b> <b>S2 902</b> <b>S2 903</b> <b>S2 920N</b> <b>S2 900</b>	(3) HIS 172 U. S. History II (3) PLT 150 Intro. Pol. Thought (3) PLT 151 U. S. Government (3) PLT 155 State & Local Govt. (3) PLT 251 Internat'l. Relations (3) PLT 255 Comparative Govt. (3) PSY 151 Intro. to Psychology (3) PSY 250 Hum. Dev./Life Span (3) PSY 251 Child Psychology (3) PSY 255 Adult Development (3) PSY 260 Intro. to Gerontology (3) PSY 265 Social Psychology (3) SOC 151 Intro. to Sociology (3) SOC 175 Soc. of Families (3) SOC 251 Social Problems (3) SOC 260 Soc. of Race & Eth. (3) SOC 261 Soc. of Sex & Gender	<b>S2 901</b> <b>S5 903</b> <b>S5 900</b> <b>S5 902</b> <b>S5 904</b> <b>S5 905</b> <b>S6 900</b> <b>S6 902</b> <b>S6 903</b> <b>S6 905</b> <b>S6 905</b> <b>S6 905</b> <b>S8 900</b> <b>S7 900</b> <b>S7 902</b> <b>S7 901</b> <b>S7 903D</b> <b>S7 904D</b>
<b>Non-Western Cultures or Minority Cultures within the United States</b> Note: One Non-Western/Minority Cultures course is required. The course that satisfies this requirement may be used to satisfy credits in Humanities/Fine Arts or Social/Behavioral Sciences. Select from courses with an "N" or "D" noted after the IAI code.	0-3	(3) ANT 151 Intro. to Anthro. (3) ART 155 Non-Western Art (3) ART 165 Ethnic Folk Art (3) ANT 170 Intro. to Cultural Anthro. (3) ENG 275 Women's Lit. (3) ENG 276 Asian Lit. (3) GEG 203 Geog./Dev. World	<b>S1 900N</b> <b>F2 903N</b> <b>F2 906D</b>  <b>S1 901N</b> <b>H3 911D</b> <b>H3 908N</b> <b>S4 902N</b>	(3) GEG 204 Economic Geography (3) HIS 165 History of Latin Am. (3) MUS 153 Intro. Non-West. Mus. (3) PHI 160 Eastern Philosophy (3) PHI 261 Religions of the World (3) SOC 260 Soc. of Race & Eth. (3) SOC 261 Soc. of Sex & Gender	<b>S4 903N</b> <b>S2 920N</b> <b>F1 903N</b> <b>H4 903N</b> <b>H5 904N</b> <b>S7 903D</b> <b>S7 904D</b>
<b>Science</b> 3 courses	13	(5) CHM 165 General Chem. I (4) PHY 291 Princ. of Physics I (4) PHY 292 Princ. of Physics II	<b>P1 902L, CHM 911</b> <b>P2 900L, PHY 911</b> <b>PHY 913</b>		
<b>Mathematics</b> 4 courses	17	(5) MAT 175 Calc./Anal. Geo.I (5) MAT 245 Calc./Anal. Geo.II (4) MAT 255 Calc./Anal. Geo. III (3) MAT 260 Differential Equations	<b>M1 900-1, MTH 901</b> <b>M1 900-2, MTH 902</b> <b>M1 900-3, MTH 903</b> <b>MTH 912</b>		
<b>Computer Science</b>	4	(4) CSC 121 Computer Science I	<b>CS 911</b>		
<b>Engineering Specialty</b>	6-22	(4) BIO 157 Fundamentals of Biology (5) CHM 166 General Chemistry II (5) CHM 265 Organic Chemistry I (5) CHM 266 Organic Chemistry II (4) CSC 122 Computer Science II	<b>CHM 912</b> <b>CHM 913</b> <b>CHM 914</b> <b>CS 912</b>	(4) EGR 151 Engineering Graphics (3) EGR 251 Statics (3) EGR 252 Dynamics (4) EGR 260 Circuit Analysis (3) MAT 253 Linear Algebra (4) PHY 293 Princ. of Physics III (2) PHY 294 Thermal Physics	<b>EGR 941</b> <b>EGR 942</b> <b>EGR 943</b> <b>EGR 931L</b>  <b>PHY 914</b>
<b>Total Degree Requirements</b>	60-68				

The IAI Engineering Advisory Committee recommends the following engineering specialty courses for students who are undecided about their baccalaureate transfer institution. Baccalaureate engineering programs vary from one institution to another, so it is important to identify potential transfer institutions early and to follow their catalogs carefully for required courses. Students should meet with an MCC academic advisor for guidance to avoid taking unnecessary or redundant courses.

**Civil/Mechanical/Industrial**

EGR 151 Eng. Graphics  
EGR 251 Statics  
EGR 252 Dynamics

**Chemical Engineering**

CHM 166 Gen. Chem. II  
CHM 265 Organic Chem. I  
CHM 266 Organic Chem. II

**Computer Engineering**

CSC 121 Comp. Science I  
CSC 122 Comp. Science II  
EGR 260 Circuit Analysis

**Electrical Engineering**

EGR 260 Circuit Analysis  
CSC 121 & 122 Comp. Sci. I & II

**Other AES Graduation Requirements:**

- Total of 60-68 credit hours
- 2.0 minimum cumulative GPA at MCC on completion of degree
- 15 semester hours taken at MCC
- Completion of E-Portfolio end-of-program assessment
- Completion of graduation application

### ***Degree Notes:***

- No single course can be used to meet two different requirements (excluding Non-Western and Minority Cultures).
- Baccalaureate engineering programs vary. Consult the catalog of the intended transfer institution for required courses. To meet baccalaureate prerequisites, students can request a course substitution approval for an AES degree requirement. Please see an academic advisor for course selection.
- It is recommended that course sequences be completed at MCC before transferring, since topics are covered in different orders by different schools.
- Students should contact their transfer school as soon as possible for evaluation of their MCC credits.
- Acceptance of a D grade and non-traditional credit (CLEP, AP, DANTEs, military service, proficiency exam) varies from institution to institution.