**Engineering Science (EGS)**

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<tr>
<th>THE DEGREE</th>
<th>Associate in Science</th>
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<td><strong>THE PROGRAM</strong></td>
<td>Provides a base of mathematics, science, and engineering fundamentals common to the first two years of a Baccalaureate engineering program. Engineering electives provide special courses to suit your particular interest in any sub-discipline of engineering including civil/environmental, electrical/computer, mechanical/industrial, or chemical engineering. Greenfield Community College participates in the College of Engineering Consortium Agreement with University of Massachusetts/Amherst, Western New England University, and others.</td>
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<td><strong>YOUR NEXT STEP</strong></td>
<td>Transfer to a Baccalaureate program as an engineering major. GCC graduates have successfully transferred to University of Massachusetts, Northeastern University, Rensselaer Polytechnic Institute, Western New England University, Worcester Polytechnic University, and others.</td>
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| **PROGRAM CONTACTS** | Ted Johnson, Office: S419D, (413) 775-1429, email: johnsont@gcc.mass.edu  
Amy Ehmann, Office: S419E, (413) 775-1172, email: ehmannagcc.mass.edu |

**Program Requirements**

Any course coded ECO  
EGR 105 Introduction to Engineering, Science, Technology, and Society  
One of the following: EGR 107 Engineering Graphics or EGR 124 Introduction to Digital and Computer Systems  
EGR 114 Computational Tools for Engineers and Scientists  
ENG 101, 103, or 105 English Composition I  
ENG 112, 114, or 116 English Composition II  
MAT 201 Calculus with Analytic Geometry I  
MAT 202 Calculus with Analytic Geometry II  
MAT 203 Multivariate Calculus  
One of the following: MAT 204 Elementary Differential Equations or MAT 205 Elementary Linear Algebra or EGR 213 Probability and Statistics for Scientists and Engineers  
PHY 111 General Physics I with Calculus  
PHY 112 General Physics II with Calculus  

**Program Electives**

Any 6 credits of courses from the list of Behavioral and Social Sciences General Education Electives and Humanities and Fine Arts General Education Electives in the Catalog  
At least 14 credits, see below for examples for the different Engineering specialties, other than a developmental course (see page 35)  

**CONCENTRATION ELECTIVES — see Program Coordinator**

Students, with help from their Engineering academic advisor or the Engineering Coordinator, must select their specific concentration electives. The selection should be based on the student’s expected engineering major (chemical, civil, environmental, electrical, computer, industrial, or mechanical engineering) and on the requirements of the transfer Baccalaureate institution. In most instances, the GCC courses will be accepted at the transferring institution. Courses from this list not accepted by the transferring institution will nevertheless provide valuable background knowledge to prepare students for similar courses at the Baccalaureate institution.

**EXAMPLE LIST OF POSSIBLE CONCENTRATION ELECTIVES:**

- For Electrical and Computer Engineering these could include: Java Programming CIS 251, C++ Programming CIS 252, Data Structures CIS 254, Web site development CIS 151, Introduction to Digital and Computer Systems EGR 124, Biology BIO 126, and at UMass Circuits and Electronics I ECE 210, Continuous-Time Signals and Systems ECE 213, Embedded Systems ECE 231, Modern Physics and Materials for EE's ECE 244.
- For Mechanical Engineering these could include: Statics EGR 205, Dynamics EGR 209, Strength of Materials EGR 206, Introduction to Material Science EGR 223, Thermodynamics EGR 210, Probability and Statistics for Scientists and Engineers EGR 213, General Chemistry CHE 111.
- For Civil and Environmental Engineering these could include: Statics EGR 205, Dynamics EGR 209, Strength of Materials EGR 206, General Chemistry CHE 111, Introduction to Material Science EGR 223, Thermodynamics EGR 210, Probability and Statistics for Scientists and Engineers EGR 213, General Chemistry CHE 111.
- For Chemical Engineering these could include: General Chemistry I CHE 111 and General Chemistry II CHE 112, Organic Chemistry I CHE 201, Organic Chemistry II CHE 202, Thermodynamics EGR 210, Biology BIO 126.
- For Industrial Engineering these could include: Statics EGR 205, Probability and Statistics for Scientists and Engineers EGR 213, Introduction to Material Science EGR 223, Strength of Materials EGR 206, General Chemistry CHE 111.

Placement tests determine readiness for MAT and ENG courses. MAT 090, 095, 096, 107, 108 and ENG 090 and ENG 094 (COL 090) may be required if present skills in these areas are insufficient.

To plan degree completion, see the course descriptions in the catalog or at [http://www.gcc.mass.edu/academics/catalog/classes](http://www.gcc.mass.edu/academics/catalog/classes) which specify the planned semester(s) in which the course is to be scheduled.

1. Courses shown with 3-4 credits refer to transfer credits, which vary depending on the transfer institution.

**Office of Admission • Greenfield Community College**

One College Drive, Greenfield, MA 01301 • (413) 775-1801 • [www.gcc.mass.edu/admission](http://www.gcc.mass.edu/admission)

Greenfield Community College is an affirmative action/equal opportunity institution. For disability accommodation, please contact the Coordinator of Disability Services at (413) 775-1812.