# COURSE SYLLABUS

**Course Title:** Introduction to Engineering  
**Department:** Business and Technology  
**Curriculum:** Technology Studies  
**Date submitted:** March 2104 (AAC: 14-27)

<table>
<thead>
<tr>
<th>Course Code:</th>
<th>EGR*111</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
<td>C- or better in Intermediate Algebra (MAT<em>137) OR C- or better in Elementary Algebra/Intermediate Algebra Combined (MAT</em>139)</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Course Descriptors:</th>
<th>Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.</th>
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<tbody>
<tr>
<td>Course Type:</td>
<td>L</td>
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<tr>
<td>Elective Type:</td>
<td>G/LAS</td>
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<tr>
<td>Credit Hours:</td>
<td>3</td>
</tr>
<tr>
<td>Developmental:</td>
<td>No</td>
</tr>
<tr>
<td>Lecture:</td>
<td>3</td>
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<tr>
<td>Clinical:</td>
<td>0</td>
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<tr>
<td>Lab:</td>
<td>0</td>
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<tr>
<td>Studio:</td>
<td>0</td>
</tr>
<tr>
<td>Other:</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>3</td>
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</table>

**Contact Hours:**  
Lecture: 3  
Clinical: 0  
Lab: 0  
Studio: 0  
Other: 0  
TOTAL: 3  
Class Maximum: 19  
Semesters Offered: F/Sp

**Ability-Based Education (ABE) Statement:**  
At Tunxis Community College students are assessed on the knowledge and skills they have learned. The faculty identified the General Education Abilities critical to students’ success in their professional and personal lives. In every class, students are assessed on course abilities, sometimes program abilities, and, in most classes, at least one General Education Ability. Students will receive an evaluation of the degree to which they have demonstrated or not demonstrated that General Education Ability.

**Catalog Course Description:** Introduces students to engineering and the engineering profession through the application of physical conservation principles in analysis and design. Topics include dimensions and units, conservation of mass, momentum, energy and electric charge, static force balances, material properties and selection, measurement errors, mean and standard deviation, elementary engineering economics, and design projects.

**Topical Outline:**  
1. Introduction to Engineering  
2. Engineering Problem Solving  
3. The Scientific Method  
4. Engineering Analysis  
5. Engineering Design
Introduction to Engineering       COURSE SYLLABUS — page 2

6. Problem Solving Tools
7. Technology Communication
8. Engineering Ethics

Upon successful completion of this course, the student will be able to do the following:

COURSE:
1. demonstrate an understanding of the engineering profession and its various disciplines
2. compare the three main approaches to engineering problem solving
3. solve engineering problems using the scientific method
4. identify various problem solving tools used in engineering
5. communicate technology information effectively
6. explain the importance of ethics in engineering

PROGRAM:  (Numbering reflects Program Outcomes as they appear in the college catalog)

Technology Degree Associate Degree:
1. Identify and apply the design principles of engineering and technology when solving basic engineering problems.
2. Utilize the tools, materials, techniques, and technical processes of engineering and technology when solving technical problems.

GENERAL EDUCATION:  (Numbering reflects General Education Outcomes as they appear in the college catalog)

7. Quantitative Reasoning - Students will learn to recognize, understand, and use the quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions.

Demonstrates:  Interprets numerical information and applies sufficient laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.

Does Not Demonstrate:  Misinterprets numerical information or insufficiently applies laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.

Evaluation:
Assessment will be based on the following criteria:
1. Homework
2. Design projects
3. Quizzes and exams

Instructional Resources:
List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.

Required:

Desired:

Textbook(s)
Refer to current academic year printout.