Students who successfully complete the Associate of Applied Science Degree in Mechanical Engineering Technology at Waukesha County Technical College (WCTC), who successfully complete the courses specified in this agreement, and who meet the admission requirements for the Opus College of Engineering at Marquette University (cumulative GPA greater than 3.0; GPA of 3.0 or greater in mathematics and science courses) can earn a Bachelor of Science Degree in Mechanical Engineering from Marquette University by successfully completing two additional full time years (or equivalent) of required course material.

From the courses at WCTC, up to fifty-four (54) credits may be applied toward the Marquette University Mechanical Engineering program requirements. The transferable courses are as follows:

<table>
<thead>
<tr>
<th>Marquette University Course</th>
<th>Credit</th>
<th>Corresponding WCTC Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1001 Rhetoric and Composition 1 (UCCS-R)</td>
<td>3</td>
<td>801-136 English Composition</td>
<td>3</td>
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<tr>
<td>COMM 1100 Contemporary Presentation (UCCS-R)</td>
<td>3</td>
<td>801-196 Oral/Interpersonal Communication</td>
<td>3</td>
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<tr>
<td>ARSC 9273 Individual &amp; Social Behavior (UCCS-ISB)</td>
<td>3</td>
<td>809-199 Psychology of Human Relations</td>
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<td>ARSC 9281 Human Nature &amp; Ethics (UCCS-HNE)</td>
<td>3</td>
<td>809-166 Introduction to Ethics</td>
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<tr>
<td>MATH 1450 Calculus 1</td>
<td>4</td>
<td>804-198 Technical Calculus 1</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1451 Calculus 2</td>
<td>4</td>
<td>804-156 Technical Calculus 2</td>
<td>4</td>
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<tr>
<td>PHYS 1003 General Physics 1 w/ Calculus</td>
<td>3</td>
<td>806-187 Physics 1 w/ Calculus</td>
<td>3</td>
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<tr>
<td>GEEN 9290 GEEN Lower Division Transfer Credit</td>
<td>3</td>
<td>606-186 3D/Parametric Design</td>
<td>3</td>
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<tr>
<td>GEEN 1200 Engineering Discovery 1</td>
<td>3</td>
<td>606-115 Tech Drafting CAD</td>
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<tr>
<td>GEEN 1210 Engineering Discovery 2</td>
<td>3</td>
<td>606-117 Comp. Programming Engr.</td>
<td>3</td>
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<tr>
<td>MEEN 2110 Statics</td>
<td>3</td>
<td>606-121 Technical Statics</td>
<td>4</td>
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<tr>
<td>MEEN 2120 Dynamics</td>
<td>3</td>
<td>606-169 Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>MEEN 2130 Mechanics of Materials</td>
<td>3</td>
<td>606-123 Solid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>MEEN 3220 Dynamics of Mechanical Systems</td>
<td>3</td>
<td>606-170 Kinematics</td>
<td>3</td>
</tr>
<tr>
<td>MEEN 3250 Design of Machine Elements 1</td>
<td>4</td>
<td>606-116 Machine Design Elements</td>
<td>3</td>
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<tr>
<td>MEEN 3443 Manufacturing Engineering</td>
<td>3</td>
<td>606-135 Engineering Design Projects 2</td>
<td>2</td>
</tr>
<tr>
<td>MEEN 9390 Mechanical Engineering Elective</td>
<td>3</td>
<td>420-160 Manufacturing Processes Cold</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>606-162 Manufacturing Processes Hot</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>606-189 Finite Element Analysis/Engr.</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL CREDITS 54  TOTAL CREDITS 58

Comments: (1) WCTC students must take the 1 credit hour PHYS 1020 Physics Laboratory at Marquette University to complete 4 credit hour Physics 1003 requirement. Marquette University Opus College of Engineering degree requires PHYS1003 (4 credits) and PHYS1004 (4 credits).

For additional information, contact the Engineering Academic Advising Center, Haggerty 280, at 414.288.6000.
### Sophomore Year

**Fall Term:**
- CHEM1001 - General Chemistry 1
- GEEN2952 - Professional Development for Engineers
- MEEN2460 - Materials Science
- MATH2450 - Calculus 3
- Core Elective

**Spring Term:**
- CHEM1002 - General Chemistry 2
- MATH2451 - Differential Equations
- PHYS1004 - General Physics w/Calculus 2
- Core Elective

### Junior Year

**Fall Term:**
- MEEN3310 - Thermodynamics 1
- MEEN3320 - Fluid Mechanics
- MEEN3460 - Materials Selection in Mechanical Design
- PHIL1001 - Philosophy of Human Nature
- PHYS1020 - Laboratory section of PHYS1003

**Spring Term:**
- ELEN3001 - Electric Circuits and Machinery
- MEEN3330 - Fundamentals of Heat transfer
- MEEN3426 - Engineering Statistics
- THEO1001 – Introduction to Theology

### Senior Year

**Fall Term:**
- MEEN3210 - Multidisciplinary Engineering Systems
- MEEN3260 - Numerical Methods in Mechanical Engineering
- MEEN3340 - Thermodynamics 2
- MEEN4920 - Principles of Design
- MEEN4590 - Engineering Fundamentals Review

**Spring Term:**
- MEEN4998 – Senior Design Project
- MEEN Technical Elective
- MEEN Technical Elective
- THEO Second Level Elective
- Core Elective/Free Elective

Mechanical engineering is that branch of engineering, which is concerned with **mechanical and energy systems**, along with the intelligent use of modern materials. Mechanical engineers conceive, plan, design and direct the manufacturing, distribution and operation of a wide variety of **devices, machines and systems for energy conversion, environmental control, materials processing, transportation, materials handling** and other purposes. The field of mechanical engineering is very broad, and the profession thus provides an ideal base for interdisciplinary activities.

In order to accommodate the students' professional interests, the department offers electives in a number of areas of study within mechanical engineering. In choosing electives, the student and faculty adviser confer to determine those courses which best meet the needs and interests of the individual student. By carefully selecting technical elective course work, the student can obtain **in-depth knowledge** in one or possibly two areas of study to compliment the broad, fundamental, required courses.

Students are required to meet with their faculty mentor and academic advisor each semester.

Mechanical Engineering department website: [http://www.marquette.edu/mechanical-engineering](http://www.marquette.edu/mechanical-engineering)

For complete degree requirements and information about the mechanical engineering curriculum, please see the Undergraduate Bulletin: [www.marquette.edu/bulletin](http://www.marquette.edu/bulletin)

For additional information contact:
Mr. J. Christopher Perez, J.D.
Director of Student Studies and Records
Opus College of Engineering
chris.perez@marquette.edu
414.288.6000