Applied Engineering M.S.A.E. (Concentration in Advanced Manufacturing Engineering) (Thesis)

Degree Requirements: 30 Credit Hours (Thesis)

Admission Requirements

Regular
1. Completed requirements for the Bachelor’s degree at a college or university accredited by the proper regional accrediting association.
2. An undergraduate degree or the equivalent in the proposed or closely related field of study.
3. A 2.75 (4.0 scale) cumulative grade point average or higher on courses in undergraduate work, or equivalent.
4. International students must meet the College of Graduate Studies English Proficiency requirements.
5. The Master of Science in Applied Engineering program with Advanced Manufacturing Engineering concentration requires: a) a bachelor’s degree in manufacturing engineering or a closely related engineering discipline, and b) permission of the Graduate Program Director.

Provisional
A student may be granted provisional admission based upon the recommendation of the Master of Science in Applied Engineering Graduate Coordinator or department chair.

Non-Degree
Non-degree students are accepted on an individual basis as space is available.

Degree Requirements
A minimum of 50% of courses for the Master of Science in Applied Engineering degree must be taken at or above the 6000 level.

Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFG 5131G</td>
<td>Lean and Six Sigma Green Belt-1</td>
<td>3</td>
</tr>
<tr>
<td>MFG 5132G</td>
<td>Lean and Six Sigma Green Belt-2</td>
<td>3</td>
</tr>
<tr>
<td>MFG 5238G</td>
<td>Facilities Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>MFG 5331G</td>
<td>Advanced Robotics for Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>MFG 5332G</td>
<td>Manufacturing Floor Control</td>
<td>3</td>
</tr>
</tbody>
</table>

Restricted Elective courses at or above the 5000G level as contracted with the faculty advisor and degree coordinator.

Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>MFG 5333G</td>
<td>Additive Manufacturing Studio</td>
</tr>
<tr>
<td>MFG 5334G</td>
<td>Additive Manufacturing of Lightweight Structures</td>
</tr>
<tr>
<td>MFG 5531G</td>
<td>Advanced CNC Machining and Programming</td>
</tr>
<tr>
<td>MFG 5532G</td>
<td>Introduction to MEMS</td>
</tr>
<tr>
<td>MFG 5534G</td>
<td>Packaging</td>
</tr>
<tr>
<td>MFG 5535G</td>
<td>NanoManufacturing</td>
</tr>
<tr>
<td>MFG 5536G</td>
<td>Characterization of Advanced Manufacturing Materials</td>
</tr>
<tr>
<td>MFG 5537G</td>
<td>Design for Environment and Green Manufacturing</td>
</tr>
</tbody>
</table>

Other Thesis Track Requirements
Comprehensive Exam

Total Credit Hours 30

Thesis
Each candidate for the Master of Science in Applied Engineering Thesis Track degree must complete a thesis on a subject approved by the graduate thesis committee. The major professor supervises the research, directs the writing of the thesis, and approves the thesis in its final form. Prior to the final approval, the thesis is read by the thesis committee. One member, termed the second reader, has responsibility for an intensive and rigorous criticism of the thesis and a third member of the thesis committee has the responsibility of an “editorial reader.” Both second and third readers must report all comments to the major professor. The thesis must be defended in an oral examination before the graduate committee prior to final approval and sign-off.

The style and format for the completed thesis shall follow that prescribed by the Director for the Master of Science in Applied Engineering degree. Procedural steps in the preparation of the thesis are as follows:

- The prospectus for the thesis shall be submitted to the major professor and thesis committee for approval.
- The thesis must be electronically submitted to the ETD site for format check by the final thesis submission deadline as stated in the University Calendar.
- The final corrected thesis must be electronically submitted to the ETD site by the ETD format check submission deadline as stated in the University Calendar. The final document must be electronically approved by the Thesis Committee.


Accelerated Bachelor’s to Master’s (ABM) Degree
The Accelerated Bachelor’s to Master’s Degree Program is intended for the current undergraduate students in the Department of Manufacturing Engineering at the Georgia Southern University. It will produce a pathway to earn both a Bachelor’s and a Master’s Degree within five years.

In accordance with SACSCOC requirements, 120 unique credit hours are required in a Bachelors degree program, and at least 30 unique credit hours are required for a Masters degree program. The MSAE-ABM program combines 130 hours from the BSMfgE program and 30 hours from the MSAE program, exceeding the required 150 unique hours between undergraduate and graduate degree programs by 10 hours. The Jack N. Averitt College of Graduate Studies Handbook for
Program Directors and Graduate Advisors permits a maximum of 9 shared credit hours between the undergraduate and graduate degree programs. Therefore, MSAE-ABM students may share a maximum of 9 credit hours of graduate level courses (5000G) in satisfying the requirements of both degree programs.

Admission Requirements

Regular

For regular admission to the Accelerated Bachelor's to Master's of Science in Applied Engineering (ABM-MSAE) degree program, the applicant must:

1. Be enrolled in the undergraduate Manufacturing Engineering program (BS-MFGE) in the Department of Manufacturing Engineering at the Georgia Southern University.
2. Have completed at least 25 credit hours of undergraduate coursework in MFGE courses including MFGE 2531, MFGE 2142, MFGE 2533, MFGE 2239, and MFGE 2534.
3. Have a 3.0 or higher Georgia Southern Institutional GPA.

ABM programs do not allow provisional admission. ABM programs are designed for students who have demonstrated a high level of undergraduate academic performance that validates their ability to be successful graduate students. Students who do not meet the minimum requirements for regular admission may be granted admission to the program upon approval of an admissions committee consisting of at least the Department Chair and the Graduate Program director.

ABM Degree Requirements: 30 Credit Hours (Thesis)

1. Student in the ABM program will be allowed to use up to 9 credits MFGE 5000G level courses offered within the Manufacturing Engineering program in meeting the requirements of both a bachelor’s degree and a master’s degree.
2. Maintain a cumulative graduate GPA of 3.0 (grade of “B” or better) in their graduate degree course work (including the 9 credits of graduate course work shared with the undergraduate degree).
3. Meet all requirements for both the BS-MFGE and M.S.A.E. degrees.
4. An undergraduate student enrolled in graduate classes is limited to 6 credit hours of graduate coursework per semester.
5. A minimum of 50% of courses for the Master of Science in Applied Engineering degree must be taken at or above the 6000 level.

Advisement

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