Mechanical Engineering M.S.M.E. (Non-Thesis)

Admission Requirements

Regular
1. Completed requirements for the bachelor’s degree or the equivalent in the proposed or closely related field of study in Mechanical Engineering.
2. A 2.75 (4.0 scale) cumulative grade point average or higher on courses in undergraduate work, or equivalent.
3. International students must meet College of Graduate Studies English Proficiency requirements (6.0 IELTS or 80 on TOFEL).

Provisional
A student may be granted provisional admission based upon the recommendation of the Master of Science in Mechanical Engineering Graduate Coordinator and Department Chair.

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

Degree Requirements

<table>
<thead>
<tr>
<th>Core Requirements</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MENG 7137 Principles of Modeling and Simulation</td>
<td>9</td>
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<tr>
<td>MENG 7530 Research in Mechanical Engineering</td>
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<tr>
<td>TMAE 7136 Mechatronics I</td>
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Restricted Elective courses at or above the 5000G level as contracted with the faculty advisor and degree coordinator. Any appropriate course outside of those specified by name for the program or outside of the department must be approved by both the graduate program director and the department chair.

- EENG 5341G Robotic Systems Design w/Lab
- EENG 5342G Computer Systems Design w/Lab
- EENG 5431G Control Systems with Lab
- EENG 5532G Wireless Communications
- EENG 5540G Communication Systems w/Lab
- MATH 5335G Intermediate Linear Algebra
- MATH 5530G Mathematics for Scientists and Engineers
- MENG 5134G Vehicle Dynamics
- MENG 5135G Vibration and Preventive Maintenance
- MENG 5136G Introduction to Finite Element Analysis
- MENG 5137G Mechanical System Design
- MENG 5138G Composite Materials: Manufacturing, Analysis, and Design
- MENG 5139G Renewable Energy
- MENG 5233G Wind Energy
- MENG 5234G Heating, Ventilating, and Air Conditioning
- MENG 5237G Applied Combustion
- MENG 5238G Engine Development and Performance
- MENG 5239G Biofuels Development and Testing
- MENG 5331G Automation and Computer Integrated Manufacturing Systems
- MENG 5333G Robot Dynamics, Design and Analysis
- MENG 5431G Compressible Flow
- MENG 5432G Applied Computational Fluid Dynamics
- MENG 5433G Analysis of Energy Systems
- MENG 5434G Heat Transfer Principles and Applications
- MENG 5536G Mechanical Controls
- MENG 7136 Mechatronics I
- MENG 7138 Mechatronics II
- MENG 7431 Mechanics of Deformable Solids
- MENG 7432 Fracture Mechanics
- MENG 7890 Selected Topics in Mechanical Engineering
- MENG 7891 Special Problems in Mechanical Engineering
- MFGE 5333G Additive Manufacturing Studio
- MFGE 5535G NanoManufacturing
- TMAE 7431 Advanced Quality Control
- TMAE 7432 Advanced Engineering Economy
- TMFG 5133G Automated Manufacturing Systems
- TMFG 5230G International Manufacturing
- TMFG 5233G Manufacturing Applications in Information Technology

Additional restricted electives as approved by the graduate program coordinator and/or department chair.

Capstone Activity
- MENG 7895 Independent Study (AND)
- A 6th Technical Elective

Other Non-Thesis Track Requirements:
- Comprehensive Exam

Total Credit Hours 30

Other Program Requirements (Non-Thesis Track)

1. Each candidate in the Non-Thesis Track of MSME Program must have accomplished the following by the end of their second academic semester to maintain program eligibility:
   - Identify a project adviser (project chair) and form a Project Committee.
   - Determine project topic, and present project proposal to their Project Committee.
2. Each candidate must receive approval from the Graduate Director or Department Chair of the Mechanical Engineering to take courses that are not named specifically as degree electives.

3. Each candidate must complete their project on a subject approved by his/her committee.
   - The comprehensive exam of the research project must be advertised to public one week prior to the defense. The comprehensive exam must be presented at a public exit seminar.
   - The comprehensive exam must be defended before the committee.
   - The comprehensive examination may include questions on the project, and subject matter related to the research project, and related course work.
   - In addition to the comprehensive exam, the student must provide the adviser with all data that was collected, including: electronic files, and a written document detailing the contents of the data.
   - The degree is conferred at the end of the semester, after the student has passed the comprehensive exam and the final written version of the project report has been approved by the committee and accepted by the graduate college.

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

Accelerated Bachelor's to Master's (ABM) Degree

This Accelerated Bachelor's to Master's Degree Program is intended for current undergraduate students in the Department of Mechanical 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 Bachelor's degree program, and at least 30 unique credit hours are required for a Masters degree program. The MSME-ABM program combines 130 hours from the MSME program and 30 hours from the MSME 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, MSME-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 Degree of Science in Mechanical Engineering (ABM-MSME) degree program, the applicant must:

1. Be enrolled in the undergraduate mechanical engineering program (B.S.M.E) in the Department of Mechanical Engineering at the Georgia Southern University.
2. Have completed no less than 25 and no more than 50 credits of ENGR and MENG courses, or permission of Department Chair.
3. Must have 3.0 or better 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.

Degree Requirements: 30 Credit Hours (Non-Thesis)

1. Student in the ABM program will be allowed to use up to 9 credits MENG 5000G level courses offered within the Mechanical Engineering program in meeting the requirements of both a bachelor's degree and a master's degree.
2. The 9 credit hours that will be applied to both the bachelor's and master's degrees include: MENG 5811G, MENG 5822G, and two MENG 5000G level courses approved by each student's research advisor and the the Mechanical Engineering Department's graduate program coordinator.
3. 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).
4. Meet all requirements for both B.S.M.E. and M.S.M.E. degrees.
5. A minimum of 50% of courses for the Master of Science in Mechanical Engineering degree must be taken at or above the 6000 level.

Non-Thesis Track, 30 Credit Hours

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Advisement

Allen E. Paulson College of Engineering and Computing
Dr. Shaowen Xu
P.O. Box 8045
Statesboro, GA 30460
912-478-5006
shaowen@georgiasouthern.edu

Other Program Requirements (Non-Thesis Track)

1. Each candidate in the Non-Thesis Track of MSME Program must have accomplished the following:
   - Identified an adviser and formed a Project Committee by completion of MENG 5811G.
   - Determine topic of research project, and present research proposal to their Project Committee by completion of MENG 5822G.