

**MS in Engineering – Mechanical Engineering Emphasis (Non-Thesis)**

**Curriculum Checklist**

Please refer to the program of study website below as your reference for course selection.

<https://engineering.uga.edu/degree/ms-engineering-mechanical-engineering-emphasis/>

Student Name: \_\_\_\_\_

Student ID (810/811): \_\_\_\_\_ First term of enrollment: \_\_\_\_\_

**The MS in Engineering (Mechanical Engineering) under a non-thesis option requires a minimum of 33 credit hours in the Program of Study.**

Subject/ Number		Hours	Title	Semester	Emphasis Course (Y/N)	Graduate only course (Y/N)	Course Sub. (Y/N)
<b>Required Courses</b>	ENGR 8950	1	Graduate Seminar*			Y	
	GRSC 7001	1	GradFIRST Seminar (UGA required)			Y	
<b>Mechanical Area of Emphasis</b> (at least 15 credit hours)							
<b>Elective Graduate only</b> (at least 12 credit hours)							
<b>Research Courses</b>	ENGR 7010	3	Project-Focused Master Research	List Semesters and Credit Hours:			
<b>Total Credit Hours</b> (by adding all taken courses above – at least 33 hours+ GradFIRST)			<b>Credit Hours Requirement Guideline</b>				
			1. A minimum of 30 semester hours of coursework, which must include: <ul style="list-style-type: none"> <li>• at least 27 hours of graduate-level coursework, including                             <ul style="list-style-type: none"> <li>○ at least <b>15 hours selected from one of the Mechanical Engineering Emphasis</b> course lists.</li> <li>○ at least <b>12 hours from UGA courses open only to graduate students</b> and exclusive of thesis (ENGR 7300, Master’s Thesis) and research (ENGR 7000, Master’s Research, and ENGR 7010, Project-Focused Masters Research)</li> </ul> </li> </ul>				
			2. <b>1 hour of ENGR 8950</b> Graduate Seminar (*Only up to 1 hours of ENGR 8950 may apply on the Program of Study if the student takes it more than once)				
			3. <b>3 hours of ENGR 7010</b> project-based research				
			If you need course substitution, please complete and attach course substitution form. Course substitute form can be found at: <a href="https://engineering.uga.edu/students/graduate/ms-student-program-milestones/">https://engineering.uga.edu/students/graduate/ms-student-program-milestones/</a>				

**Comments:**

Major Professor (sign and date): \_\_\_\_\_

Date

ECAM (Mech, Ag) Director of Graduate Studies Signature: \_\_\_\_\_

Date

# UGA CENGR M.S. Mechanical Engineering

## MECHANICAL ENGINEERING EMPHASIS COURSE LIST

### Design, Optimization, and Manufacturing

- BIOE 6720 Human Factors & Ergonomics in Biomedical Device Design
- CHEM 8880 Nanomaterials: Engineering and Characterization
- CVLE(MCHE)(LAND) 6660 Sustainable Building Design
- CVLE(MCHE) 8350 Nonlinear Finite Element Analysis
- CVLE(MCHE) 8640 Advanced Strength of Materials
- ELEE 6210 Linear Systems
- ELEE 6220 Feedback Control Systems
- ELEE 6230 Sensors and Transducers
- ELEE 6235 Industrial Control Systems
- ELEE 6260 Introduction to Nanoelectronics
- ELEE 6540 Applied Machine Vision
- ELEE 8220 Nonlinear Control Systems
- ELEE 8310 MEMS Design
- ENGR 6350 Introduction to Finite Element Analysis
- ENGR 6670 Quality Engineering
- ENGR 6920 Theory of Design
- ENGR 8103 Computational Engineering
- ENGR 8130 Statistical Learning and Data Mining in Engineering
- ENGR 8910 Foundations for Engineering Research
- ENVE 6550 Environmental Life Cycle Analysis
- ENVE 8450 Design for Rapid Change: Food, Energy, and Water
- INFO 6150 Engineering Informatics
- INFO 8750 Advance Programming for Data Mining
- MCHE 6360 Robotic Manipulators
- MCHE 6390 Advanced Mechanical Vibration
- MCHE 6430 Introduction to Tribology
- MCHE 6650 HVAC Systems for Buildings and Industry
- MCHE 6850 Advanced Manufacturing Processes
- MCHE 8380 Continuum Mechanics
- STAT 6315 Statistical Methods for Researchers

### Energy, Fluid, and Thermal Systems

- CVLE(MCHE)(LAND) 6660 Sustainable Building Design
- CVLE(MCHE) 8160 Advanced Fluid Mechanics
- CVLE(MCHE) 8350 Nonlinear Finite Element Analysis
- CVLE(MCHE) 8640 Advanced Strength of Materials
- ENGR 6350 Introduction to Finite Element Analysis
- ENGR 6490 Renewable Energy Engineering
- ENGR 8103 Computational Engineering
- ENGR 8130 Statistical Learning and Data Mining in Engineering
- ENGR 8180 Advanced Mass Transfer
- ENGR 8220 Microfluidic Transport Phenomena

- ENGR 8910 Foundations for Engineering Research
- ENVE 6230 Energy in Nature, Civilization & Engineering
- ENVE 6250 Energy Systems & the Environment
- ENVE 6530 Energy & Environmental Policy Analysis
- ENVE 6550 Environmental Life Cycle Analysis
- ENVE 8450 Design for Rapid Change: Food, Energy, and Water
- MCHE 6500 Advanced Thermal Fluid Systems
- MCHE 6530 Combustion and Flames
- MCHE 6580 Computational Fluid Dynamics
- MCHE 6650 HVAC Systems for Buildings and Industry
- MCHE 6590 Fluid Mechanics II
- MCHE 8170 Advanced Heat Transfer
- MCHE 8250 Combustion Science
- MCHE 8380 Continuum Mechanics
- MCHE 8500 Technical Foundations of Energy for Policy Practitioners
- MCHE 8650 Aerosol Science and Engineering
- MCHE 8850 Gas Dynamics
- MIST 6550 Energy Informatics
- PHYS 6300 Thermodynamics and Kinetic Theory
- PHYS 8301 Statistical Mechanics I
- STAT 6315 Statistical Methods for Researchers

### **Mechanics and Materials**

- BIOE 6740 Biomaterials
- BIOE 6760 Biomechanics
- BIOE 8210 Multiscale Biomechanics
- BIOE 8490 Advanced Biomaterials
- CVLE(MCHE)(LAND) 6660 Sustainable Building Design
- CVLE(MCHE) 8160 Advanced Fluid Mechanics
- CVLE(MCHE) 8350 Nonlinear Finite Element Analysis
- CVLE(MCHE) 8640 Advanced Strength of Materials
- ENGR 6350 Introduction to Finite Element Analysis
- ENGR 8103 Computational Engineering
- ENGR 8130 Statistical Learning and Data Mining in Engineering
- ENGR 8270 Computational Nanomechanics
- MCHE 6380 Solid Mechanics
- MCHE 6390 Advanced Mechanical Vibrations
- MCHE 6430 Introduction to Tribology
- MCHE 6590 Fluid Mechanics II
- MCHE 6850 Advanced Manufacturing Processes
- MCHE 8380 Continuum Mechanics
- MCHE 8710 Engineering Properties of Animal and Plant Materials: Form and Function
- PHYS 8301 Statistical Mechanics I
- PHYS 8601 Computer Simulation Methods in Physics
- PHYS 8602 Computer Simulations of Materials
- STAT 6315 Statistical Methods for Researchers