PhD in Mechanical Engineering (Entering with MS Degree)

Curriculum Checklist

Please refer to the program of study website below as your reference for course selection.
https://engineering.uga.edu/degree/phd-mechanical-engineering/

Student Name: _____

Student ID (810/811): _____ Term of Enrollment: _____

The Ph.D. in Mechanical Engineering requires a minimum of 72 credit hours, consisting of a minimum of 28 credit hours of coursework and a minimum of 44 credit hours of research and dissertation beyond B.S. degree.

I already have MS Degree:

- ☐ Yes: Institution and Year _____
- ☐ No: Please use the "PhD in Mechanical Engineering (Entering with BS Degree)" checklist.

Subject/ Number		Hours	Title	Semester	Approved Elective (Y/N)	Graduate only course (Y/N)	Need Course Sub. (Y/N)
Required Courses	ENGR 8130	3	Statistical Learning and Data Mining in Engineering			Y	
	ENGR 8910	3	Foundations for Engineering Research			Y	
	ENGR 8950	1	Graduate Seminar*			Y	
	GRSC 7001	1	GradFIRST Seminar (UGA required)			Y	
Approved Elective (at least 9 credit hours 8000/9000)							
Research Courses	ENGR 9000	41 (at least)	Doctoral Research	List Semesters and Credit Hours:			
	ENGR 9010		Project-Focused Doctoral Research	List Semesters and Credit Hours:			
	ENGR 9300	3	Doctoral Dissertation	List Semesters and Credit Hours:			

Total Credit Hours (by adding all taken courses above – at least 60 hours + GradFIRST)	**Credit Hours Requirement Guideline**
	Students must complete: 1. 7 credit hours of Required ENGR Core Courses (ENGR 8310, ENG8910, ENGR 8950) (*Only up to 1 hour of ENGR 8950 may apply to Program of Study if the student takes it more than once). 2. A minimum of 9 credit hours of 8000-level or above courses should be selected from the list of approved electives. 3. Minimum of 41 Doctoral Research hours (ENGR 9000 Doctoral Research and/or ENGR 9010 Project-Focused Doctoral Research).

	4. 3 hours of ENGR 9300 Doctoral Dissertation If you need course substitution, please complete and attach course substitution form. Course substitute form can be found at: https://engineering.uga.edu/students/graduate/ph-d-student-program-milestones/

Major Professor Signature: _____ Date: _____

ECAM (Mech, Ag) Graduate Coordinator: _____ Date: _____

UGA CENGR Ph.D. in Mechanical Engineering

MECHANICAL ENGINEERING EMPAHSIS COURSE LIST

- 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
- 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 8220 Nonlinear Control Systems
- ELEE 8250 Autonomous Mobile Robots and Manipulation
- ELEE 8310 MEMS Design
- ENED 8030 Educational Research and Evaluation Methods in Engineering
- ENED 8040 Theories of Learning and Human Development in Contemporary Engineering Education Research
- ENED 8050 Systematic Literature Reviews and Meta-Analyses
- ENGR 6350 Introduction to Finite Element Analysis
- ENGR 6670 Quality Engineering
- ENGR 6920 Theory of Design
- ENGR 8103 Computational Engineering: Fundamentals, Elliptic, and Parabolic Differential Equations
- ENGR 8180 Advanced Mass Transfer
- ENGR 8220 Microfluidic Transport Phenomena
- ENGR 8270 Computational Nanomechanics
- ENVE 6230 Energy in Nature, Civilization, and Engineering
- ENVE 6250 Energy Systems and the Environment
- ENVE 6530 Energy and Environmental Policy Analysis
- 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 6380 Solid Mechanics
- MCHE 6390 Advanced Mechanical Vibration
- MCHE 6400 Air Pollution Engineering
- MCHE 6430 Introduction to Tribology
- MCHE 6500 Advanced Thermal Fluid Systems
- MCHE 6530 Combustion and Flames
- MCHE 6580 Computational Fluid Dynamics (CFD)

- MCHE 6590 Fluid Mechanics II
- MCHE 6650 HVAC Systems for Buildings and Industry
- MCHE 6850 Advanced Manufacturing Processes
- 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 8710 Engineering Properties of Animal and Plant Materials: Form and Function
- MCHE 8850 Gas Dynamics
- MIST 6550 Energy Informatics
- PHYS 8601 Computer Simulation Methods in Physics
- PHYS 8602 Computer Simulation of Materials
- STAT 6230 Applied Regression Analysis
- STAT 6250 Applied Multivariate Analysis and Statistical Learning