

Solid Mechanics Concentration:

- 1- ME 2100 – Statics
- 2- CEE 2103 - Mechanics of Solids
- 3- ME 3402 - Solid Mechanics and Design I
- 4- **Restricted elective:** ME 3403 - Solid Mechanics and Design II
- 5 & 6- **Two electives from:**

ME 5000 – Selected Topics in ME[#]
ME 5001 – ME Undergraduate Research[#]
ME 5200 – Stress Analysis II
ME 5201 – Introduction to Finite Elements
ME 5301 – Fracture Mechanics
ME 5330 – EM of Nanomaterials
ME 5500 – Biomechanics
ME 7002 – Continuum Mechanics*
ME 7040 – Introduction to Finite Elements* (in place of ME5201)
ME 7201 – Materials Characterization*
ME7501 – Reinforce Composite Materials*
ME7502 – Fiber Composite Structures*
ME 7550 – Biomechanics of Hard Tissues*
ME 8040 – Adv. Finite Element Analysis*
ME 8200 – Elasticity & Stress Analysis*
ME 8206 – Experimental Stress Analysis*
ME 8350 – Applied Fracture Mechanics*

[#] Requires approval from the chairman and the advisor

* All graduate courses are subject to additional requirements

Thermal/Fluid Systems Concentration:

- 1- ME 3100 - Thermodynamics
- 2- ME 3600 - Fluid Mechanics
- 3- ME 3950 - Heat transfer
- 4- **Restricted elective:** ME 4850 - Thermal-fluid system design
- 5 & 6- **Two electives from:**

ME 5000 – Selected Topics in ME[#]
ME 5001 – ME Undergraduate Research[#]
ME 5101 – Elements of Aerodynamics
ME 5102 – Compressible Fluid Flow
ME 5107 – HVAC
ME 5110 – Elements of Computational Fluid Dynamics
ME 5850 – Energy Systems
ME 7038 – Intro to Computational Fluid Mechanics*
ME 7103 – Adv Engineering Thermodynamics*
ME 7600 – Thermal Management of Electronics*
ME 7700 – Transport Phen in Bio Systems*
ME 8103 – Adv Fluid Mechanics*
ME 8110 – Conduction Heat Transfer*
ME 8120 – Convection Heat Transfer*
ME 8130 – Radiation Heat Transfer*
ME 8250 – Microscale Heat Transfer*
EGR 7800 – Solar Therm. Energy Conversion*

[#] Requires approval from the chairman and the advisor

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Dynamic Systems Concentration:

- 1- ME 2101 – Dynamic Systems I
- 2- ME 3102 – Dynamic Systems II
- 3- ECE 2052 – Fund. of Electrical Engineering
- 4- **Restricted elective:** ME 3103 – Dynamic Systems III
- 5 & 6- **Two electives from:**

ME 5000 – Selected Topics in ME[#]
ME 5001 – ME Undergraduate Research[#]
ME 5201 – Introduction to Finite Elements
ME 5203 – Introduction to Automatic Control
ME 5411 – Mechatronics
ME 5421 – Robotics
ME 5441 – Advanced Systems Modeling
ME 7040 – Introduction to Finite Elements* (in place of ME5201)
ME 7204 – Computer-Aided Anal of Multibody Sys*
ME 7205 – Advanced Dynamics*
ME 7206 – Dynamics of Rotating Machinery*
ME 8204 – Robotics: Analysis and Control*
ME 8207 – Vibration Analysis*
ME 8217 – Random Vibrations*
ME 8402/EGR 8301 – Control Systems Engineering*
ME 8404/EGR 8304 – Nonlinear Control*
ME 8405/EGR 8305 – System Identification*
ME 8406/EGR 8306 – Nonlinear Dynamics*
ME 8407/EGR 8307 – Robust Control*

[#] Requires approval from the chairman and the advisor

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