MEIE 2000. Introduction to Engineering Co-op Education. 1 Hour.
Provides students preparation for the first co-op experience. Focuses on
skills that provide a basis for successful co-op engagement including
expectations and requirements, an introduction to professional
credentials, résumé construction, self-assessment and goal setting,
interviewing, professional and co-op ethics, issues of diversity in the
workplace community, academic planning and decision making, and an
introduction to career portfolios.

MEIE 2949. Introductory Directed Research in Mechanical and Industrial
Engineering. 4 Hours.
Offers an opportunity to pursue project and other independent inquiry
opportunities under faculty supervision for first- and second-year
students. The course is initiated with a student-developed proposal,
including expected learning outcomes and research products, which
is approved by a faculty member in the department. Permission of
instructor required.

MEIE 3000. Professional Issues in Engineering. 1 Hour.
Provides students with an opportunity to reflect on both academic and
coop experiences in the context of planning for the senior year and
beyond. Issues include professional and ethical issues, resolving ethical
conflicts, awareness of engineers as professionals in a diverse world,
strengthening decision-making skills, career portfolios, and lifelong
learning needs, goals, and strategies. Students reflect upon issues of
diversity from their experience in the University and in their cooperative
education placements. Explores the role of different work and learning
styles and diverse personal characteristics on the workplace and the
classroom. Professional issues include impact of the cultural context,
both in the United States and around the world, on the client, government
relations, and the workplace.

MEIE 4701. Capstone Design 1. 1 Hour.
Offers the first in a two-course sequence that culminates the student’s
education and experience with the design process. Students form teams
and are assigned their design project and faculty adviser. Projects can
be industrially, departmentally, or externally sponsored. Students are
expected to communicate with their faculty adviser, course coordinator,
and sponsor using the Internet, teleconferencing, and other electronic
methods. Topics include project management, ethics, cost analysis,
Internet and library research methods, and engineering codes and
standards. Students prepare written reports and make oral presentations.
Students are expected to complete a thorough state-of-the-art report
on their problem and a problem statement with specifications and
requirements.

MEIE 4702. Capstone Design 2. 5 Hours.
Continues MEIE 4701. Students are expected to apply engineering
principles acquired throughout their undergraduate academic and
coop experiences to the design of a system, component, or process.
Each project includes the development and use of design methodology,
formulation of design problem statements and specifications,
consideration of alternative solutions, feasibility considerations, and
detailed system descriptions. Projects include realistic constraints such
as economic factors, safety, reliability, maintenance, aesthetics, ethics,
and political and social impact. Students make oral presentations on their
results in a series of design reviews. Students document their solutions
using a written report that includes an executive summary. A working
prototype or simulation, as appropriate, of their solution is required to
complete the course.

MEIE 6800. Technical Writing. 0 Hours.
Seeks to provide graduate students with guidelines, tools, and strategies
for improving their technical writing. Uses short in-class assignments to
reinforce class concepts. Homework assignments related to the students’
research offer students an opportunity to practice their skills and receive
feedback on their writing. It is hoped that the work students produce is
of direct benefit to themselves and their advisors by allowing students to
write up their own research to date and have it critiqued in an organized
way.

MEIE 6830. Graduate Traineeship 1, Technical Writing and
Communications. 2 Hours.
Focuses on technical writing. Covers writing and preparation tips
for technical papers. Includes effective communications, such as
Ph.D. proposal preparation and presentation, and technical seminar
presentation tips.

MEIE 6850. Research Seminar in Mechanical and Industrial Engineering.
0 Hours.
Offers a research seminar presenting topics of current interest in a variety
of areas in mechanical and industrial engineering. May be repeated
without limit.

MEIE 6860. Graduate Traineeship 2, Research Ethics and Professional
Development. 2 Hours.
Focuses on responsible conduct of research, research misconduct
(plagiarism, falsification, and fabrication), research ethics, and
professional and personal development. Offers optional modules on
grant proposal preparation, academic career preparation, faculty and
professional jobs search, research and teaching statements preparation,
how to become an effective teacher, mentorship, entrepreneurship, and
industry insights and real-world experiences.