The University Curriculum Committee recommends approval of the following:

1. New Courses

**AGEC 401. Global Agri-Industries and Markets: Study Abroad. (3-0). Credit 3.**
Understanding agri-industries and markets; analysis of production; importing; exporting; provides classroom experience with an exposure to a variety of global cultures in an international setting. Course may be repeated 3 times for credit. Prerequisites: AGEC 105 or 3 hours of economics; junior or senior classification or approval of instructor.

**AGEC 402. Survey of International Agricultural Economics Study Abroad. (3-0). Credit 3.**
Examine, from an international setting, the shape of international agriculture; how culture, history, politics and geography in foreign countries affect the production and management of agricultural products; agricultural policy formation; countries' natural resources and competitive strategies. Course may be taken 3 times for credit. Prerequisites: AGEC 105 or 3 hours of economics; junior or senior classification or approval of instructor.

**POLS 456. Environmental Political Theory. (3-0). Credit 3.**
Examination of classical and contemporary theories of politics and the environment, overview of main lines of thought on how human beings should interact with and manage the physical environment, with attention to the particular problems raised by these issues for political theory. Prerequisites: POLS 206; junior or senior classification.

2. Withdrawal of Courses

**MEEN 465. Mechanical Processing of Materials.**

**MEEN 473. Powerplant Engineering.**

3. Changes in Courses

**MEEN 381. Seminar.**

Course description

From: Oral presentation of selected topics from current literature of the field; technical films showing practical application of theories of engineering and manufacturing processes; presentations by industrial representatives.

To: Presentations by practicing engineers and faculty addressing: effective communications, engineering practices, professional registration, ethics, career-long competence, contemporary issues, impact of technology on society and being informed; prepare a resume, a lifelong learning plan, two papers, two oral presentations and complete an online assessment of the mechanical engineering program.
MEEN 402. Intermediate Design.

Course description
From: Case studies from the areas of mechanical, electro-hydraulic, electromechanical and thermal systems; generalized failure analysis, performance evaluation, design codes, standards and test methods used in a major design project.
To: Product detail design and development process including case studies: may include project management, marketing considerations, manufacturing, detailed design specifications; failure modes, application of codes and standards, selection of design margins; product (component) development guidelines; intellectual property, product liability and ethical responsibility.

MEEN 404. Engineering Laboratory.

Course description
From: Applications of basic measurement techniques and instrumentation to the experimental investigation of mechanical engineering systems-engines, turbines, refrigeration systems, flow and heat transfer devices, mechanical systems; written reports covering the planning, execution, results and conclusions of the investigations.
To: Systematic design of experimental investigations; student teams identify topics and develop experimental designs including: establishing the need; functional decomposition; requirements; conducting the experiment; analyzing and interpreting the results and written and oral reports documenting the objectives, procedure, analysis, and results and conclusion of two or three experiments.

Prerequisites
From: MEEN 260, 360, 364 and 461.
To: MEEN 260, 360, 364, 461; MEEN 401 or registration therein; junior or senior classification.
MEEN 408. Introduction to Robotics.

Course description
From: Introduction to robotics; motion generating and sensing; robotic assembly; economic considerations; system integration; kinematics; dynamics; topics selected from current research programs.
To: Forward and inverse kinematics of robot manipulators, path planning, motion planning for mobile robots, dynamics of robot manipulators, control algorithms; computed torque algorithm, adaptive control algorithms and current topics in mobile robots; cooperative motion planning of mobile robots and formation control.

Prerequisites
From: MEEN 364.
To: MEEN 364 or equivalent; junior or senior classification.

MEEN 455. Engineering with Plastics.

Course description
From: Relationship of polymer structure to physical and mechanical properties; applications; injection molding and usage in design.
To: Polymer structure, processing, property characterization at the molecular, microscopic and macroscopic dimensional levels for thermosets, thermoplastics, elastomers, fibers and advanced fibrous nanoparticle filled composites and smart multi-performance structures.

MEEN 475. Materials in Design.

Course description
From: The heuristics of synthesis of material properties, shape and processing in the optimization of materials selection in the design process.
To: The heuristics of synthesis of material properties, configuration and processing in the optimization of material selection in the design process; product design and development overview, failure mode effects analysis, design margin establishment; role of the generic failure modes and codes and standards; fundamental characteristics of process methods.