

**I. 400-level courses [for graduate credit]**

**Changes**

- 1) College of Engineering  
Ocean Engineering

**OCE 408 Introduction to Engineering Wave Mechanics** – change in prerequisites to “Pre: PHY 205, MCE 354 and OCE 301, or permission of instructor of coastal area.”

**New Courses:**

- 1) College of Engineering

**EGR 450 X Nano Tools (3)** (Temporary Course Offering)

Hands-on introduction to nanotechnology and state-of-the-art instrumentation used within the field. Emphasis given to applications and implications. Intended for science or engineering majors at the undergraduate or graduate level.

**II. 500/600-level courses**

**Changes:**

- 1) College of Engineering  
Chemical Engineering

**CHE 513 Advanced Chemical Engineer Thermodynamics** – change in prerequisites to “Pre: CHE graduate standing, or CHE 313 and CHE 314 or their equivalent, or permission of instructor.”

**CHE 541 Transport Phenomena I** – change in prerequisites to proposed “Pre: CHE graduate standing, or CHE 347 and CHE 348 or their equivalent, or permission of instructor.”

**CHE 560 Chemical and Physical Processes in IC Fabrication** – change in title to “Fabrication Engineering at the Micro and Nanoscale” and change in description to “Chemical and physical processes used in the fabrication of microscale and nanoscale devices including MEMS. Particular emphasis on crystal growth, oxidation, CVD, PVD, plasma processing, lithography, diffusion, metallization and packaging.”

- 2) College of Human Science and Services  
School of Education

**EDC 522 Technology Applications in Education and Training** – change in title to “Using Technology to Teach Adult Learners” and change in description to “The use of web-based and social networking tools will be explored and used for effectively teaching and training adult learners in a variety of settings.”

Human Development and Family Studies

**HDF 536 Family Dynamics and Health** – change in prerequisites from “Graduate standing or permission of instructor” to proposed “Graduate standing in HDF or permission of instructor.”

### **New Courses**

- 1) College of Engineering  
Mechanical, Industrial and Systems Engineering

#### **MCE 534 Vibration-Based Structural Health Monitoring (3)**

Linear and nonlinear vibration signal analysis for the health monitoring of machines and structures; linear/nonlinear signal processing; damage sensitive features extraction; pattern recognition; damage detection, diagnosis and prognosis. Pre: Graduate standing, or MCE 366 and 372, or permission of instructor.

Ocean Engineering

#### **OCE 562 Modeling, Simulation and Control of Marine Vehicles (3)**

Design of control systems for surface and underwater vehicles; development of linear and nonlinear maneuvering models; heading and sea-keeping autopilots; waypoint navigation; thruster and control surface modeling. Pre: EGR 515 or permission of instructor.

### **Additional Curricular Matters**

- 1) College of Engineering  
Mechanical, Industrial and Systems Engineering

#### **Doctoral program in Mechanical, Industrial and Systems Engineering**

- a) Change in Ph.D. programs: Currently we require a candidacy review (i.e., same as Qualifying Examination for students entering the doctoral program

with only a bachelor's degree) for all students wishing to enter the doctoral program. We have voted to eliminate this requirement for all students except those having only a bachelor's degree. This makes our requirement that same as that of the Graduate School.

- b) Change ISE PhD degree and major names to "Industrial and Systems Engineering." Currently, there is a discrepancy between the degree and major names for the ISE PhD at URI: the degree name says IME, the major says ISE.