

Department of Chemical Engineering Electives Spring 2011

- **(CHEG 330 Process Control)** (Professor Ryan Snyder) This required course is listed in the senior year of the standard curriculum, but students can elect to take this course in the junior year (pending available space).

This course studies the automated control of chemical systems and processes (a heater thermostat in a room is a very simple example of automated control). Reasons to consider this as a junior include: you think it will be interesting; it will give you some expertise that could be utilized for example in an independent study, senior design project, or an internship, or; you want to free up space for an additional elective in your senior year.

- **CHEG 431 Chemical Engineering Project** (check with individual faculty for availability) *half course*
- **CHEG 441 Chemical Engineering Research** (check with individual faculty for availability) *full course*
- **CHEG 450 Polymer Science** (Professor William Snyder) *open to juniors and seniors-reg preference to juniors*
- **CHEG 460 Biomaterials – Materials in Medicine** (Professor Jablonksi) *open to seniors, others by permission.*
- **CHEG 470 Advanced Materials Science & Engineering** (Professor Wakabayashi)
Description below (not in catalog):

Advanced, in-depth exploration of processing-structure-property-performance relationships of materials through real-world examples and case studies. First part of the course focuses on advanced materials science theory, while the second part deals with materials selection, design and processing.

- **CHEG 472 Special Topics: Pharmaceutical Engineering** (Professor Ryan Snyder) *open to seniors, possibly others by permission. Description below (not in catalog):*

Introductory course in pharmaceutical engineering. Introduction to concepts unique to solids processing including particle technology and crystallization. Emphasis on the design of pharmaceutical production process utilizing fundamental principles of kinetics, thermodynamics and heat, mass and momentum transfer. As time allows other topics considered may include pharmaceutical economics, public policy, drug development, drug formulation and drug delivery.

- **CHEG 485 Topics in Transport Theory** (Professor Maneval) Students thinking of pursuing graduate study in chemical engineering are particularly encouraged to consider this course.
- **BMEG 421 Light-Activated Therapy** (Professor King)