• **CHEG 330 Process Control** (Professor William King) 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). *full course*

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 445 Experiments- Polymer Science & Tech** (Professor William Snyder) Laboratory investigation into problems involving the synthesis, characterization, and processing of polymeric materials. Prerequisite: ENGR 240 or ENGR 242. *half course*

• **CHEG 450 Polymer Science** (Professor Jeffrey Csernica) Structure, characterization and properties of polymeric materials. Chemistry and kinetics of polymerization. Processing and application of polymers. *full course*

• **CHEG 460 Biomaterial – Materials in Medicine** (Professors Erin Jablonski & Brandon Vogel) Classes of biomaterials, their applications, and current trends in biomaterials research and technology. Medical/ethical implications of biomaterials development and research. *full course*

• **CHEG 472 Food Science & Technology** (Professors Jordi Comas & Margot Vigeant) This course will use your engineering fundamentals in the context of mass production of food. We will also explore the chemistry of food, the functions of ingredients, and why and how small and large scale recipes differ. Applied Food Science and Engineering will include several projects, field trips, and homework will likely require cooking. Preparation and consumption of samples of relevant food products and ingredients will be an expected part of the course. While the course is open to all, we ask that students with food allergies or other dietary restrictions disclose them at the time of pre-registration for planning purposes. Permission only, limited seating to allow us to fit in campus kitchens for “lab”. Chemical Engineering Seniors given first preference, then other seniors and graduate students, then juniors. *full course*

• **CHEG 485 Topics in Transport Theory** (Professor Brandon Vogel) Students thinking of pursuing graduate study in chemical engineering are particularly encouraged to consider this course. Mass, energy, and momentum transfer in continuous media. General equations of transfer developed and used to analyze physical systems. Development and application of mathematical techniques appropriate to the topic. *full course*

Note that this is only a small sample of potential electives outside of the Chemical Engineering Department and that there are many other courses which could meet various requirements. Courses labeled as CEEG, ENGR, ECEG, MECH, and UNIV should also be reviewed and considered, amongst others. We encourage you to explore all of your course options before meeting with your advisor to finalize your schedule for next Spring. Also note that not all classes will be available to all students and that the above classes are not guaranteed to meet again beyond the coming semester.