**BIOCHEMISTRY (BCHE)**

**BCHE 280 Physical Models of Biological Systems**
Classic case studies of successful reductionistic models of complex phenomena, emphasizing the key steps of making estimates, using them to figure out which physical variables and phenomena will be most relevant to a given system, finding analogies to purely physical systems whose behavior is already known, and embodying those in a mathematical model, which is often implemented in computer code. Topics may include bacterial genetics, genetic switches and oscillators; systems that sense or utilize light; superresolution and other new microscopy methods; and vision and other modes of sensory transduction.
Course usually offered in fall term
Also Offered As: PHYS 280
Prerequisite: (PHYS 101 OR MATH 104) AND (MATH 114 OR MATH 104) AND (MATH 115 OR MATH 116)
Activity: Lecture
1.0 Course Unit

**BCHE 299 Undergraduate Research Projects**
Independent Research.
One-term course offered either term
Activity: Independent Study
1.0 Course Unit
Notes: 10-20 h., 1-2 c.u., admission by permission of the biochemistry undergraduate chairman.

**BCHE 300 Senior Research Projects**
One-term course offered either term
Activity: Independent Study
1.0 Course Unit
Notes: 10-20 h., 1-2 c.u., admission by permission of the biochemistry undergraduate chairman.

**BCHE 404 Biochemistry Laboratory**
Participation in research projects in the laboratories of individual faculty members. A list of possible research supervisors is available in the Biochemistry office (351 Chemistry). In addition to their laboratory projects, students will attend a weekly seminar in which their own and related work will be discussed. Year long course--initial registration must occur in Fall term, 0 c.u. for first term and 2 c.u. for second term, 15h.
Prerequisite: If course requirement not met, permission of instructor required.
Two terms. student must enter first term.
Prerequisite: CHEM 451
Activity: Seminar
1.0 Course Unit
Notes: Year long course--initial registration must occur in Fall term, 0 c.u. for first term and 2 c.u. for second term, 15h. CHEM 451 or permission of instructor required.

**BCHE 580 Biological Physics**
One-term course offered either term
Also Offered As: PHYS 580
Prerequisite: MATH 240 AND MATH 241 AND PHYS 401
Activity: Lecture
1.0 Course Unit