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
Prerequisites: PHYS 101 (or higher), MATH 104-MATH 114 or MATH 104-MATH 115 or MATH 116. Recommended: previous or concurrent PHYS 102; basic background in chemistry and biology.
Activity: Lecture
1 Course Unit

BCHE 299 Undergraduate Research Projects
Independent Research.
One-term course offered either term
Activity: Independent Study
1 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 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.
Two terms. student must enter first term.
Activity: Seminar
1 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
Prerequisites: Physics 150-151 or 170-171, Math 104-114 or Math 104-115. Recommended: concurrent Physics 230 or prior Physics 250, basic background in chemistry and biology.
Activity: Lecture
1 Course Unit