

Course Schedule - Fall 2007

Bioengineering

120 **Introduction to Bioengineering** credit: 1 hours.

Lecture and discussion of recent trends in bioengineering; topics typically include the biological interaction with ultrasound and microwave radiation, modeling, instrumentation, biomaterials, biomechanics, biological heat and mass transfer, and medical imaging techniques.

CRN	Type	Section	Time	Days	Location	Instructor
41732	lecture-discussion	1	03:00 PM - 04:50 PM	T	room 1245 Digital Computer Laboratory	McCormick, S
41732: Meets 02-Oct-07 - 04-Dec-07.						
	lecture-discussion	1	04:00 PM - 04:50 PM	R	room 1320 Digital Computer Laboratory	McCormick, S
: 1 hours This section, comprised of 2 meeting sessions, is restricted to Bioengineering freshmen only. The 3:00 p.m. Tuesday session meets 02-OCT-07 - 04-DEC-07 in 1245 DCL. The 4:00 p.m. Thursday session meets for the full semester in 1320 DCL. Meets 22-Aug-07 - 07-Dec-07.						
45137	lecture-discussion	100	04:00 PM - 04:50 PM	R	room 1320 Digital Computer Laboratory	McCormick, S
45137: BIOE 120 will only be offered in the Fall semester. This section is for non-Bioengineering majors.						

201 **Conservation Principles Bioeng** credit: 3 hours.

Introduction to material, energy, charge, and momentum balances in biological problems. Steady-state and transient conservation equations for mass, energy, charge, and momentum will be derived and applied to mathematically analyze physiological systems using basic mathematical principles, physical laws, stoichiometry, and thermodynamic properties. Prerequisite: CHEM 104, MCB 150, PHYS 212, and PHYS 213.

CRN	Type	Section	Time	Days	Location	Instructor
48270	lecture	A	10:00 AM - 11:20 AM	TR	room 1245 Digital Computer Laboratory	Bhargava, R
48270: This class is restricted to Bioengineering sophomores only.						

202 **Cell & Tissue Engineering Lab** credit: 2 hours.

A comprehensive hands-on understanding of the principles of cell biology that are inherent in tissue engineering design. Provides experience in safely and skillfully manipulating cells of the four tissue types and performing various quantitative analyses on products produced by cells that have differentiated. Lab reports written in the style accepted by scientific journals will be required. For bioengineering majors with sophomore standing.

CRN	Type	Section	Time	Days	Location	Instructor
49685	laboratory	AB1	05:00 PM - 08:50 PM	R		Manaster, J
	laboratory	AB1	ARRANGED	M		Manaster, J
: Will meet in room 3110 DCL. This class is restricted to Bioengineering majors only. Students will need to arrange for return lab time on Monday in a block of 1.5 hours between 8:30 a.m - 4:00 p.m.						
49686	lecture	AL1	04:00 PM - 04:50 PM	R		Manaster, J
49686: This class is restricted to Bioengineering majors only. Will meet in room 3110 DCL.						

297 **Individual Study** credit: 1 to 4 hours.

Special project or reading course for advanced freshman and sophomore level engineering and life science majors. May be repeated in the same or separate terms to a maximum of 12 hours. Prerequisite: Approved written application to department as specified by department or instructor.

CRN	Type	Section	Time	Days	Location	Instructor
47929	independent study		ARRANGED			
47929: Instructor Approval Required						

397 **Individual Study** credit: 1 to 4 hours.

Special project or reading activity. Prerequisite: Approved written application to department as specified by department or instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10412	independent study		ARRANGED			
10412: Instructor Approval Required						

398 **Special Topics** credit: 1 to 4 hours.

Study of selected topics in regular course format; variable content. May be repeated to a maximum of 8 hours. Prerequisite: As specified for each topic offering; see Schedule or departmental course information.

CRN	Type	Section	Time	Days	Location	Instructor
47521	lecture	PW	08:30 AM - 09:50 AM	TR	room 1245 Digital Computer Laboratory	Wang, Y

47521: 3 hours Introductory Biomechanics For Bioengineering majors only. Junior standing required.

414 **Biomedical Instrumentation** credit: 3 hours.
Same as ECE 414. See ECE 414.

CRN	Type	Section	Time	Days	Location	Instructor
40017	lecture	B	11:00 AM - 11:50 AM	MWF	room 103 Transportation Bldg	Frizzell, L
40017: 3 hours						

415 **Biomedical Instrumentation Lab** credit: 2 hours.
Same as ECE 415. See ECE 415.

CRN	Type	Section	Time	Days	Location	Instructor
43863	laboratory	AB1	01:00 PM - 03:50 PM	T	room ARR Digital Computer Laboratory	Ip, J; Gentry, K
43863: This lab meets in 3107 DCL.						
43867	laboratory	AB2	12:00 PM - 02:50 PM	F	room ARR Digital Computer Laboratory	George, S; Gentry, K
43867: This lab meets in 3107 DCL.						
43868	laboratory	AB3	01:00 PM - 03:50 PM	M	room ARR Digital Computer Laboratory	Ip, J; Gentry, K
43868: This lab meets in 3107 DCL.						
43869	laboratory	AB4	01:00 PM - 03:50 PM	W	room ARR Digital Computer Laboratory	George, S; Gentry, K
43869: This lab meets in 3107 DCL.						
43870	lecture	AL1	12:00 PM - 12:50 PM	W	room 243 Mechanical Engineering Bldg	Gentry, K

480 **Magnetic Resonance Imaging** credit: 3 or 4 hours.
Same as ECE 480. See ECE 480.

CRN	Type	Section	Time	Days	Location	Instructor
45267	lecture	S	02:30 PM - 03:50 PM	TR	room 245 Everitt Elec and Comp Engr Lab	Liang, Z

497 **Individual Study** credit: 1 to 4 hours.

Special project or reading course for senior level and graduate engineering and life science majors. May be repeated up to 8 hours in a term to a maximum of 12 total hours. Prerequisite: Approved written application to department as specified by department or instructor.

CRN	Type	Section	Time	Days	Location	Instructor
47930	independent study		ARRANGED			
47930: Instructor Approval Required						

498 **Special Topics** credit: 1 to 4 hours.

Study of selected topics in regular course format; variable content. May be repeated to a maximum of 12 hours, but no more than 8 in any one term. Prerequisite: As specified for each topic offering; see Schedule or departmental course information.

CRN	Type	Section	Time	Days	Location	Instructor
47963	lecture	RMF	03:00 PM - 04:50 PM	M	room 1245 Digital Computer Laboratory	McCormick, S
47963: 2 hours Bioengineering Professionalism						

500 **Graduate Seminar** credit: 1 hours.

Survey lecture course intended to introduce graduate students to a broad range of Bioengineering topics. Approved for S/U grading only. May be repeated to a maximum of 2 hours.

CRN	Type	Section	Time	Days	Location	Instructor
47917	lecture	A	12:00 PM - 12:50 PM	R		Wheeler, B
47917: 1 hours						

501 **Seminar Discussion** credit: 1 hours.

This course familiarizes graduate students with reading and discussing academic journals in Bioengineering. Approved for S/U grading only.

CRN	Type	Section	Time	Days	Location	Instructor
47919	lecture-discussion	A	01:00 PM - 01:50 PM	R		Wheeler, B
47919: 1 hours						

597 **Individual Study** credit: 1 to 8 hours.

Special project or reading course for graduate engineering and life science majors. Prerequisite: Approved written application to department as specified by department or instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10413	independent study		ARRANGED			
10413: Instructor Approval Required						

598 **Special Topics** credit: 1 to 4 hours.

Study of selected topics in regular course format; variable content. May be repeated up to 8 hours in a term, to a maximum of 12 total hours. Prerequisite: As specified for each topic offering; see Schedule or departmental course information.

CRN	Type	Section	Time	Days	Location	Instructor
49704	lecture	BS	12:30 PM - 01:50 PM	MW	room 1245 Digital Computer Laboratory	Sutton, B
49704: 3 hours Adv MRI Pulse Seq Programming Prerequisite: BIOE/ECE 480.						
47184	lecture	MI	09:00 AM - 10:50 AM	MW	room 1245 Digital Computer Laboratory	Insana, M
47184: 4 hours Analytical Methods in Bioeng						
47185	lecture	SZ	09:00 AM - 10:50 AM	TR	room ARR Digital Computer Laboratory	Zhong, S
47185: 4 hours Computation in Systems Biology This class will meet in 3211 DCL.						
50566	lecture	WU	12:00 PM - 12:50 PM	R	room 403B2 Engineering Hall	Wheeler, B
50566: 1 hours Current Topics in Nanomedicine This class will begin on August 30. Joint UIUC-Washington University in Saint Louis course on current topics in nanomedicine, especially for cancer applications. Video-linked lecture course. Course Sponsors: UIUC Center for Nanoscale Science and Technology, Siteman Center of Cancer Nanotechnology Excellence, and Bioengineering Dept. Course Faculty Lead(s): Bruce Wheeler, UIUC, bwheeler@uiuc.edu; Sam Wickline, WashU, wicklines@aol.com. Course Coordinator(s): Irfan Ahmad, UIUC, isahmad@uiuc.edu; Carolyn Anderson, WashU, AndersonCJ@mir.wustl.edu. For further information, go to http://www.bioen.uiuc.edu/bioe598wu.pdf .						

599 **Thesis Research** credit: 0 to 16 hours.
Bioengineering graduate thesis research. Approved for S/U grading only. May be repeated.

CRN	Type	Section	Time	Days	Location	Instructor
42809	independent study		ARRANGED			
42809: Instructor Approval Required						