

# Colorado State University - Biomedical Engineering Program Certificate

## Engineering Graduate Program - Curriculum Checklist

Name \_\_\_\_\_ SSN \_\_\_\_\_ Major \_\_\_\_\_

Adviser for Major \_\_\_\_\_ Intended Graduation \_\_\_\_\_ Area of Interest: B MC MD A U

Core Requirements: 11 credits									
Course #	Course Description	B, MC, MD, A	Credits	Prerequisites	Semester Taught	Semester	Grade	Credit	
BE/ME 570	Bioengineering	A	3	ME 307, ME 324	F				
BS 500	Mammalian Physiology I	A	4	six credits of biological science	F				
ST 511	Design and Data Analysis for Researchers I	A	4	ST/STCC 301 or ST/STCC 307 or EH/EHCC 307 or ST/STCC 309, ST/STCC 311 or written consent of instructor.	F				

Core Requirement Total Completed \_\_\_\_\_

Elective Requirements: 10 credits									
Course #	Course Description	B, MC, MD, A	Credits	Prerequisites	Semester Taught	Semester	Grade	Credit	
AN 565 *	Interpreting Animal Science Research	B, MC	3	AN 101; ST/STCC 301 or ST/STCC 307 or EH/EHCC 307	S				
BC 565	Molecular Regulation of Cell Function	MC	4	LS 210; BC 403 or concurrent registration or BC 351	S				
BC 663	Gene Expression	MC	3	BC 563	S				
BC 701 *	Grant Proposal Writing and Review	A	1	BC 403 and (BC 563 or concurrent registration) and (BC 511 or concurrent registration)	F				
BE 586 A/B	Biomedical Clinical Practicum	A	2 / 4	<b>See Below</b> BE/ME 570 and BS 300 or BS 500 or written consent of instructor.	F, S, SS				
BE / BH 306	Bioprocess Engineering	MC	4	C/C CC 107 or C/C CC 111; PH/PHCC 121 or PH/PHCC 141	S				
BE / CH 522	Bioseparation Processes	MD	3	CH 331	S				
BE / CH 525	Cell and Tissue Engineering	B, MC	3	BC 351 or BY 310 or BS 300 or BS 500 / NB 501.	S				
BE / ME 571	Biomechanics	B	3	BE470 or BE/ME 570	S				
BE / ME 573	Structure and Function of Biomaterials	B, MC	3	ME 331	S				
BS 501	Mammalian Physiology II	A	5	Six credits of biological science	S				
BS 502	Histology	B, MC	4	BS 500 or concurrent registration	F				
BS 550	Electron Microscopy- TEM, SEM and X-Ray	A	3	PH/PHCC 110	S				
BS 560	Theory and Practice of Animal Biotechnology	A	3	One semester of biochemistry or written consent of instructor	S / E				
BS 575	Human Anatomy Dissection	A	4	BS 301 and written consent of instructor	F				
BS 610 *	Managing a Career in Science	A	1		F				
BS 620	Cardiovascular Physiology	B, MC	3	BS 500	S / O				
BS 631	Mechanisms of Hormone Action	MC, MD	2	BS 430 or BS 501	S / O				
CH 504	Fundamentals of Biochemical Engineering	A	3	MB 300; M/M CC 255 or M 340; BH 306 or CH 420 or concurrent registration.	F (alternating even years)				
CM 501	Advanced Cell Biology	MC	4	BY 310 or written consent of instructor	F				
CM 520	Proteolytic Regulation of Cellular Processes	MC	3	CM 501	F / E				
MB / BI 576	Bioinformatics	MD	3	BC 463 or BY 310 or CM 501 or MB 450	F, S				
MB 651	Immunobiology	B, MC	3	MB 342	F / E				
NB 505	Neuronal Circuits, Systems, and Behavior	B, MC	3	BS 325 or NB 501 or BS 500	S				
PL 547 *	Seminar in Ethical Theory	A	3	PL 447	S				
PL 564 *	Seminar in Animal Rights	A	3	Written consent of instructor required	S / E				
ST 512	Design and Data Analysis for Researchers II	A	4	ST 511 or written consent of instructor	S				

Electives Sub-total Completed \_\_\_\_\_

Minimum of 12 Credits must be 500 level or greater. Minimum Total of 21 Credits Required - Overall Total Completed \_\_\_\_\_

\* Only three credits of non-technical courses may count towards minimum requirement.

**BE 586 A/B** If you plan to do the practicum, you **must notify** the BEP office within the first two weeks of the semester prior to the semester you intend to enroll for the practicum. (example: if you intend to do the practicum during the summer semester, then notification is required within the first two weeks of the spring semester) Credit for BE 586 A/B cannot be applied toward your degree.

**Notice:** You **must notify** the BEP office of your intent to complete the program within the first two weeks of your last semester in the program.

F = Fall S = Spring SS = Summer E = Even Years O = Odd Years B = Biomechanics and Biomaterials MC = Molecular, Cellular, and Tissue Engineering MD = Medical Diagnostics, Devices and Imaging A = All U = Undecided