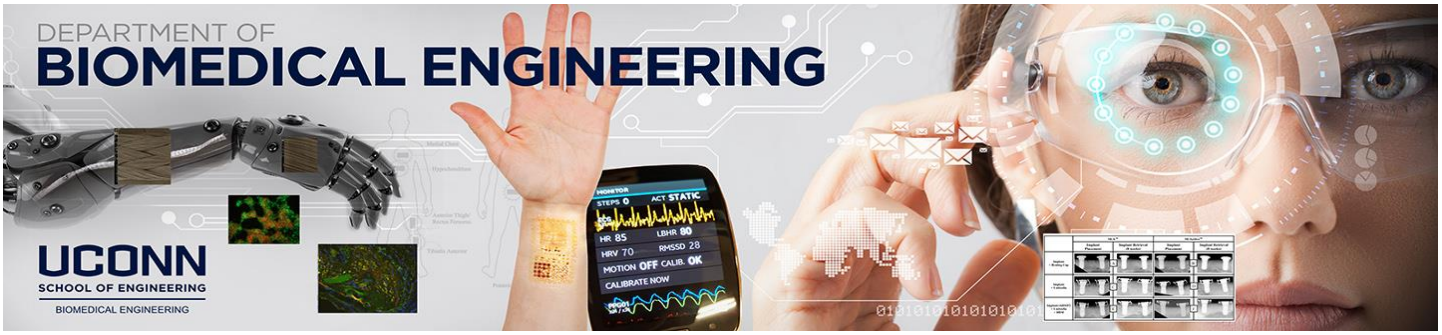

Computational and Systems Biology Curriculum 21-22

Freshman	Credits
CHEM 1127Q - General Chemistry	4
CSE 1010 - Introduction to Computing for Engineers	3
ENGL 1010 -Seminar in Academic Writing or ENGL 1011 Seminar in Writing Through Literature	4
ENGR 1000 - Orientation to Engineering	1
MATH 1131Q - Calculus I	4
	16
BIOL 1107 - Principles of Biology	4
CHEM 1128Q - General Chemistry	4
ENGR 1166 - Foundations of Engineering	3
MATH 1132Q - Calculus II	4
	15
Sophomore	
CE 2110 - Applied Mechanics I	3
MATH 2110Q - Multivariable Calculus	4
PHYS 1501Q - Physics for Engineers I	4
PNB 2264 - Human Physiology & Anatomy	4
STAT 3025Q - Statistical Methods (Calculus Level)	3
	18
BME 3120 - LabVIEW Basics for Engineers	1
ECE 2001 - Electrical Circuits	4
MATH 2210Q - Applied Linear Algebra	3
MATH 2410Q - Elementary Differential Equations	3
MSE 2101 - Materials Science & Engineering I	3
PHYS 1502Q - Physics for Engineers II	4
	18
Junior	
CSE 1729 - Introduction to Principles of Programming	3
BME 3401 - Introduction to Computational and Systems Biology or CSE 3810 - Computational Genomics	3
ECE 3101 - Signals and Systems	3
MCB 2210 - Cell Biology	3
STAT 3965 or MATH 3170 - Elementary Stochastic Processes	3
Content Area 1 (Arts and Humanities, not PHIL)	3
	18
BME 3900 - Junior Design	3
BME Elective	3
MCB 2400 - Human Genetics or MCB 2410 Genetics	3
Track Elective	3
Content Area 2 (Social Sciences)	3
	15
Senior	
BME 4400 - Dynamical Modeling of Biochemical Networks or BME 3100 Physiological Modeling	3
BME 4900 - Biomedical Engineering Design I	3
BME Elective	3
PHIL 1104 - Philosophy and Ethics	3
Content Area 2 (Social Sciences, not the same department as Junior year)	3
	15
BME 4401 - Computational Foundations of Systems Biology or BME 4810 - Machine Learning Methods for Biomedical Signal Analysis	3
BME 4910W - Biomedical Engineering Design II	3
Track Elective	3
Content Area 4 (Diversity and Multiculturalism)	3
Content Area 4 (Diversity and Multiculturalism - International)	3
	15
Total Credits	130

Computational and Systems Biology - BME Electives 21-22	Credits
BME 3100 - Physiological Modeling*	3
BME 3401 - Introduction to Computational and System Biology*	3
BME 4300 - Physiological Control Systems	3
BME 3520 - Developing Mobile Apps for Healthcare	3
BME 3630 - Multiphysics Finite Element Analysis	3
BME 4400 - Dynamical Modeling of Biochemical Networks*	3
BME 4401 - Computational Foundations of Systems Biology*	3
BME 4800 - Bioinformatics	3
BME 4810 - Machine Learning Methods for Biomedical Signal Analysis*	3
BME 4985 - Special Topics in BME (requires BME Departmental Approval)	1-3
BME 4999 - Independent Study (requires BME Departmental Approval)	1-3
BME 5000-6000 Graduate Courses (requires BME Departmental Approval)	3

* May be used as a BME elective if not used to meet a required course in the curriculum

Computational and Systems Biology - Track Electives 21-22	Credits
CHEG 2103 - Introduction to Chemical Engineering	3
CHEG 3145 - Chemical Engineering Analysis	3
CSE 2050 - Data Structures and Intro to Algorithms	3
CSE 2300W - Digital Logic Design	4
CSE 2301 - Principles and Practice of Digital Design Logic	3
CSE 2500 - Introduction to Discrete Systems	3
CSE 3500 - Algorithms and Complexity	3
CSE 3802 - Numerical Methods in Scientific Computation	3
CSE 4095 - Special Topics in CSE (requires BME Departmental Approval)	V
CSE 4099 - Independent Study in CSE (requires BME Departmental Approval)	V
ECE 3111 - Systems Analysis and Design	3