Systems, Imaging and Instrumentation Curriculum 25-26

Freshman	Credits
CHEM 1127Q - General Chemistry	4
CSE 1010 - Introduction to Computing for Engineers	3
ENGL 1007 Seminar & Studio in Writing and Multimodal Composition or 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
MATH 2210Q - Applied Linear Algebra	3
PHYS 1501Q - Physics for Engineers I	4
PNB 2264 - Human Physiology & Anatomy	4
	18
BME 3120 - LabVIEW Basics for Engineers	1
ECE 2001 - Electrical Circuits	4
MATH 2410Q - Elementary Differential Equations	3
MSE 2101 - Materials Science & Engineering I	3
PHYS 1502Q - Physics for Engineers II	4
STAT 3345Q Probability Models for Engineers or 3375Q Introduction to Mathematical Statistics I or MATH 3160 - Probability	3
	18
Junior	
BME 3500 - Biomedical Engineering Measurements	4
BME 3400 - Biosystem Analysis or ECE 3101 - Signals & Systems	3
ECE 3201 - Electronic Circuit Design and Analysis or CSE 2300W Digital Logic Design or CSE 2301 Principles and Practice of Digital Logic Design	4
STAT 3965 or MATH 3170 - Elementary Stochastic Processes	3
Common Curriculum TOI - 1	3
	17
BME 3900 - Junior Design	3
BME 4201 - Introduction to Medical Imaging	3
BME 4500 - Bioinstrumentation	4
ECE 3111 - Systems Analysis	3
Common Curriculum TOI - 2	3
	16
Senior	
Track Elective	3
BME 4900 - Biomedical Engineering Design I	3
BME Elective	3
Common Curriculum TOI - 3	3
Common Curriculum TOI - 4	3
	15
BME 4910W – Biomedical Engineering Design II	3
BME Elective	3
BME Elective or Track Elective	3
Common Curriculum TOI - 5	3
Common Curriculum TOI - 6	3
	15
Total Credits	**130**

Common Curriculum Requirements:
Within the above courses 2 must have a W (Writing) designation
TOI Courses may be taken in any order (https://catalog.uconn.edu/undergraduate/common-curriculum/)

Systems, Imaging and Instrumentation - BME Electives 25-26	Credits
BME 3100 - Physiological Modeling	3
BME 3320 - Biosensors and Nanodevices for Biomedical Applications	3
BME 3520 - Developing Mobile Apps for Healthcare	3
BME 3540 - Principles of Biomedical Optical Sensing: A Laboratory-Based Course	3
BME 3630 - Multiphysics Finite Element Analysis	3
BME 3640 - Human Factors Engineering	3
BME 3740 - Introduction to Microscopy and Biophotonics	3
BME 3760 - Microfluidics and Lab-on-Chip	3
BME 4120 - Neural Information Procerssing and Semsory Coding	3
BME 4130 - Neural Prostheses	3
BME 4300 - Physiological Control Systems	3
BME 4520 - Digital Imaging Processing	3
BME 4560 - Biomedical Signal Processing Laboratory	3
BME 4810 - Machine Learning Methods 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

Systems, Imaging and Instrumentation - Track Electives 25-26	Credits
CSE 2300W - Digital Logic Design*	4
CSE 2301 - Principles and Practices of Digital Logic Design*	4
ECE 3001 - Electromagnetic Fields and Waves	3
ECE 3161 - Introduction to Robotics	3
ECE 3201 - Electronic Circuit Design and Analysis*	3
ECE 3321 - Digital Integrated Circuits	3
ECE 3223 - Optical Engineering	3
ECE 3243 - Introduction to Nanotechnology	3
ECE 3401 - Digital Systems Design	3
ECE 3411 - Microproccessor Applications Laboratory	3
ECE 3431 - Numerical Methods in Scientific Computation	3
ECE 4095 - Special Topics in ECE (requires BME Departmental Approval)	1-3
ECE 4099 - Independent Study in ECE (requires BME Departmental Approval)	1-3
ECE 4111 - Communication Systems	4
ECE 4112 - Digital Communication Systems and Networks	4
ECE 4121 - Digital Control Systems	3
ECE 4131 - Introduction to Digital Signal Processing	3
ECE 4201 - Electronic Circuits and Applications	3
ECE 4211 - Semiconductor Devices and Nanostructures	3
ECE 4223 - Nanophotonics	3
ECE 4225 - Fundamentals of Electron Device Design & Char	3
ECE 4242 - Micro/Opto-Electronic Devices & Circuits Fab Lab	3
ECE 4243 - Nanoscience and Nanotechnology I	3
ECE 4244 - Nanotechnology II	3
ECE 4401 - Digital Design Lab	3
* May be used as a track elective if not used to meet a required course in the curriculum	