

Degree Requirements	Credit Hours	
University Core Curriculum Requirements		39
Foundation Skills	13	
CMST 101	3	
ENGL 101, ENGL 102	6	
MATH 150 (4)	3	
UNIV 101	1	
Disciplinary Studies	23	
Fine Arts	3	
BIO 211(4)	2	
Humanities <sup>5</sup>	6	
PHYS 205A	3	
PHYS 205B	3	
Social Science <sup>6</sup>	6	
Integrative Studies (Multicultural/Diversity)	3	
Requirements for BME Major with specialization in preMedical		87
Basic Science		
PHYS 205A,B, 255A,B	(6)+2	2
BIO 211(4)	(2)	2
CHEM 200, 201		4
Mathematics		
MATH 150,240, 251, 305	(3)+11	11
BME Required Courses		52
BME 101-3, BME 337-3, BME 338-2, BME 338L-2, BME 435-3, BME 495A-3, BME 495B-3	19	
ECE 222-3, ECE 235-3, ECE 235L-1, ECE 296-2, ECE 296L-2,B ECE 355-3, ECE 355L-1,PHSL 301-4 <sup>3</sup> , CHEM 210,211 - 4, CHEM 340,341 -5, CHEM 350,351-5	33	
BME Technical Electives <sup>2,3,4</sup>		10
General Technical Electives <sup>5</sup>		6
TOTAL <sup>4</sup>		126

<sup>1</sup> For technical electives choose from: BME 417, BME 418, ECE 356, ECE 356L, ECE 438, ECE 467, ECE 475, ECE 494, ECE 498, BME 485, BME 521, BME 531, BME 540.

<sup>2</sup> Department approved ECE, Mathematics, Physics, Physiology, or Computer Science Courses.

<sup>3</sup> May be substituted by PHSL 310-5

<sup>4</sup> CHEM 442,443-5 are recommended for MCAT preparation

<sup>5</sup> Recommended courses: PHIL 105-3, PHIL 104-3

<sup>6</sup> Recommended courses: PSYC 102-3, PSYC 302-3, ECON 240-3, ECON 241-3

## B.S BIOMEDICAL ENGINEERING, PRE-MEDICAL Specialization

Semester 1		Semester 2	
BME 101 Intro to BME	3	ECE 222 Intro to Digital Computation	3
ENGL 101 Composition 1	3	ENGL 102 Composition II	3
MATH 150 Calculus I	4	PHYS 205A/255A Univ Physics/Lab	4
UNIV 101U Saluki Success	1	MATH 250 Calculus II	4
BIOL 211a	4	CHEM 200,201 (Science Elective)	4
	<b>15</b>		<b>18</b>
Semester 3		Semester 4	
ECE 235/235L, Electric Circuits I/Lab	4	BME 337, Bioelectricity	3
PHYS 205B/255B, University Physics/Lab	4	PHSL 201/208	4*
MATH 251, Calculus III	3	CHEM 340,341	5
CHEM 210,211	4	BIOL 212	4
	<b>15</b>		<b>16</b>
Semester 5		Semester 6	
BME 338 Biomedical Measurements	4	ECE 296/296L, Intro to Software Tools/Lab	4
BME 435 Computational Methods in BME	3	ECE 355/355L, Signals & Systems/Lab	4
MATH 305, Intro Differential Equations	3	CHEM 350,351	5
UCC Humanities <sup>3</sup>	3	CMST 101 Intro Oral Communication	3
UCC Social Science <sup>2</sup>	3		
	<b>16</b>		<b>16</b>
Semester 7		Semester 8	
BME 495A Senior Design I	3	BME 495B Senior Design II	3
BME Technical Elective <sup>1</sup>	3	UCC Social Science <sup>2</sup>	3
BME Technical Elective <sup>1</sup>	3	BME Technical Elective <sup>1</sup>	3
UCC Humanities <sup>3</sup>	3	BME Technical Elective <sup>1</sup>	3
UCC Multicultural <sup>5</sup>	3	UCC Fine Arts <sup>4</sup>	3
	<b>15</b>		<b>15</b>

**TOTAL HOURS: 126\*\***

Academic policies as well as degree and major-specific requirements can be found at [catalog.siu.edu](http://catalog.siu.edu). All students are encouraged to meet with the academic advisor on a regular basis to ensure timely progress to degree.

University Core Curriculum (UCC) is satisfied with the transfer of an Associate of Art or Sciences (AA or AS) degree or the completion of the Illinois Articulation Initiative-General Education Core Curriculum (IAI-GECC) from an Illinois community college.

\*May be substituted by PHSL 310-5

\*\* CHEM 442,443 (5 credit hours) are recommended for MCAT preparation

<sup>1</sup>BME Technical Electives: choose from: BME 417-3 Neuroengineering, BME 418-3 Biomedical Electronics and Biosensors, BME 485-3 Cellular and Molecular Biomechanics, ECE 438-3 Medical Instrumentation, ECE 467-4 Modern Biomedical Imaging, ECE 475-3 Digital Health Cyber Systems, ECE 494-3 Biomedical Ultrasound, ECE498-3 Biomedical Signal Analysis, BME 521-3 Neuromodulation, BME 531-3 Biophotonics, BME 540-3 Tissue Mechanics, 3-credits of Department approved ECE, Mathematics, Physics, or Computer Science Courses.

<sup>2</sup>UCC Social Science: recommended courses - PSYC 102-3 Intro to Psychology, PSYC 302-3 Intro to Neuroscience, ECON 240-3 Intro to Microeconomics, ECON 241-3 Intro to Macroeconomics

<sup>3</sup>UCC Humanities: recommend courses - PHIL 105-3 Elementary Logic, PHIL 104-3 Ethics

<sup>4</sup>UCC Fine Arts: select from: <https://corecurriculum.siu.edu/program-overview/disciplinary/finearts.php>

<sup>5</sup>UCC Multicultural: recommended course - ENGR 304i-3 History of American Tech