BIOMEDICAL ENGINEERING (FLAGSHIP TRACK A) - CLASS OF 2021

*Flagship students see http://web.uri.edu/chineseflagship/academics/ for curriculum requirements***

Freshman Year Fall Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chemistry I Lab	1	
ECN 201	Principles of Microeconomics (A2)	3	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141	Intro Calculus with Analytical Geometry (A1, B3)	4	
CHN 111	Intensive Beginning Chinese I	4	
		16	

Freshman Year Spring Semester

Course Code	Description	Cr	
BME 181	Biomedical Engineering Seminar I	1	
CHM 124	Intro to Organic Chemistry	3	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142	Intermed Calc with Analytic Geom (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
CHN 112	Intensive Beginning Chinese II	4	
		18	

Summer Semester

Course Code	Description	Cr	
CHN 113	Intensive Intermediate Chinese I	4	
CHN 114	Intensive Intermediate Chinese II	4	
		8	

Sophomore Year Fall Semester

Course Code	Description	Cr	
BIO 121	Human Anatomy	4	
BME 281	Biomedical Engineering Seminar II	1	
ELE 201	Digital Circuits Design	3	
ELE 202	Digital Circuits Design Lab	1	
MTH 362	Advanced Engineering Matematics I	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
CHN 215	Intensive Conversation and Composition I	4	
		20	

Sophomore Year Spring Semester

Course Code	Description	Cr	
BIO 242	Intro Human Physiology	3	
BIO 244	Intro Human Physiology Lab	1	
BME 207	Intro to Biomedical Engineering	3	
ELE 212	Linear Circuit Theory	4	
ELE 215	Linear Circuits Lab	1	
MTH 243	Calculus for Funcs. of Sev. Vars. (A1, B3)	3	
CHN 216	Intensive Conversation and Composition II	4	
		19	

Junior Year Fall Semester

Course Code	Description	Cr	
BIO 341	Principles of Cell Biology	3	
BIO 307	Bioelectricity	3	
ELE 313	Linear Systems	3	
BME 360	Biomeasurement	3	
BME 361	Biomeasurement Lab	1	
CHN 315	Intensive Adv.CHN for the Chinese Flag. I	4	
		17	

Junior Year Spring Semester

Course Code	Description	Cr	
BME 362	Biomedical Instrumentation Design	3	
BME 363	Biomedical Instrumentation Design Lab	1	
ELE 314	Linear Systems and Signals	3	
ISE 311 *or* STA 409	Probability and Statistics for Engineers *or* Statistical Methods in Research I	3	
	General Education Outcome(s)*	3	
CHN 316	Intensive Adv.CHN for the Chinese Flag. II	4	
		17	

Semester Abroad

Course Code	Description	Cr	
CHN 4XX		8	
	Approved Professional Elective**	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		17	

International Internship Semester

Course Code	Description	Cr	
CHN 497/498	Language Study Abroad	3-6	
		3-6	

Senior Year Fall Semester

Course Code	Description	Cr	
BME 461	Physiological Modeling and Control	3	
BME 464	Medical Imaging	3	
BME 465	Medical Imaging Processing Lab	1	
BME 484	BME Capstone Design I (D1)	3	
ELE 400	Intro to Professional Practice	1	
	General Education Outcome(s)*	3	
EGR 413	Advanced Technical Chinese	4	
		18	

Senior Year Spring Semester

Course Code	Description	Cr	
BME 466	Biomaterials	3	
BME 468	Neural Engineering	3	
BME 485	BME Capstone Design II (D1)	2	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
CHN 4XX or EGR	Chinese Lit/Civilization or Approved professional elective**	3-4	
		18-19	

Specified Math, Science, and Engineering Courses

Introductory Engineering

Sem	Course	Cr	Grade	QP	Note
	EGR 105 (A4)	1			
	EGR 106 (A4)	2			
		3			

Supporting Engineering

	ELE 201	3			
	ELE 202	1			
	ELE 212	4			
	ELE 215	1			
	ELE 313	3			
	ELE 314	3			
	ELE 400	1			
		16			

Natural Sciences

	BIO 121	4			
	BIO 242	3			
	BIO 244	1			
	BIO 341	3			
	CHM 101 (A1)	3			
	CHM 102	1			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
		23			

Engineering Science and Design (Major)

Sem	Course	Cr	Grade	QP	Note
	BME 181	1			
	BME 207	3			
	BME 281	1			
	BME 307	3			
	BME 360	3			
	BME 361	1			
	BME 362	3			
	BME 363	1			
	BME 461	3			
	BME 464	3			
	BME 465	1			
	BME 466	3			
	BME 468	3			
	BME 484 [capstone] (D1)	3			
	BME 485 [capstone] (D1)	2			
		34			

**Professional Elective

		3-4			

Mathematics

	MTH 142 (B3)	4			
	MTH 243 (A1 & B3)	3			
	MTH 362	3			
	STA 409 or ISE 311	3			
		13			

* **General Education Outcomes**: at least 40 credits must be completed. (A1-D1) must be met by at least three credits. A single course may satisfy one or two outcomes, and at least one course must be a "Grand Challenge". No more than twelve credits can be from the same course code except HPR. General education courses may also by used to meet requirements of your major(s) or minor(s) when appropriate.
Professional elective - One (1) course from the following: CHE 333, 347, 574; CSC 522; ELE 322, 338/339, 343/344, 435/436, 437, 438, 444/445, 447/448, 458/459, 470, 501, 506; ISE 304, 312; MCE 341, 354, 372; MTH 442, 451, 462, 471; with prior approval of the ECBE department chairperson any other 300-, 400-, or 500- level COE course not required by the BME major.

Chinese Language Requirements

Sem	Course	Cr	Gr	QP
Six (6) credits in Chinese Literature and Civilization. At least 3 of these credits must be at the 400-level. Students in the Chinese Language Flagship Program may take CHN 315 and 316 or CHN 315H and 316H in lieu of the 6 credits at the 400-level and 6 credits in literature and civilization requirement.				
	CHN ___	3		
	CHN 4___	3		
18 Credits of CHN electives to reach 30 major credits				
	CHN ___	3		
	CHN ___	3		
	CHN ___	3		
	CHN ___	3		
	CHN ___	3		
	CHN ___	3		
Choose six (6) credits in Chinese/Asian History, Politics, Philosophy, or Arts from: HIS 171, 374; PHL 331; PSC 116*, 377; RLS 131; THE 382				
		3 or 4		
		3 or 4		
CHN 101, 102, and 111 will not count toward major requirements. At least 6 CHN credits must be at the 400-level.				
* PSC 116 approved for general education credit				

General Education Outcome Audit

	Course	Credit
Knowledge		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences	ECN 201	3
A3. Humanities	CHN 205/206 (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
Competences		
B1. Write Effectively		3
B2. Communicate Effectively		--
B3. Mathematical, statistical, or computational stagies	MTH (see above)	11
B4. Information literacy		3
Responsibilities		
C1. Civic knowledge & responsibi		
C2. Global responsibilities	CHN 205/206 (suggested)	3
C3. Diversity and Inclusion		
Inegrate & Apply		
D1. Ability to synthesize	BME 485	3
Grand Challenge		
G. Check that at least one course of your 40 credits is an approved "G" course		
Total General Education Outcome Credits		40