

BIOMEDICAL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 – First Year Writing I	3	Writ 102 – First Year Writing II	3
Z	Humanities	3	Social Science	3
S S	Math 261 – Calculus I	3	Math 262 - Calculus II	3
ESHMAN	Chem 105/115 – General Chemistry I	4	Chem 106/116 – General Chemistry II	4
FRES	Bisc 160/161 – Biology I	4	Phys 211/221 – Calc-based Physics I	4
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	17
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
ш	ENGR 310 – Engineering Analysis I	3	Math 353 – Differential Equations	3
0	Phys 212/222 – Calc-based Physics II	4	ENGR 360 – Electric Circuit Theory	3
Σ	BME 200 – Introduction to BME	2	ChE 308 – Energy Balance	2
PHOMOR	ChE 307 – Mass Balance	2	CSCI 251 – Programming for Engineering	3
0 C	BME 222 – Biomaterials	3	ENGR 309 – Statics	3
SO				
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	17
	Chem 221/225 – Organic Chem /Lab	4	ENGR 361 – Circuits Lab	1
	BME 333 – Transport	3	BME 314 – Biomeasures	1
~	El E 331 – Linear Systems	3	ME 325 – Dynamics	3
O N	ENGR 312 – Mechanics of Materials	3	BME 444 – Biomed Controls	3
Z	BME 313 – BME Physiology	3	Track Elective	3
J.			Track Elective	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	14
	BME 461 – Senior Design I	2	BME 462 – Senior Design I	2
	BME 301 – Bioinstrumentation	3	Track Elective	3
~	BME 311 - Biomechanics	3	BME 413 – Biosignal Processing	3
SENIOR	Engr 400 – Leadership &	1	Econ 310 – Engineering Economy	3
Z	Professionalism		Humanities or Fine Arts	3
SE	Social Science	3		
	Fine Arts	3		
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	14
			MINIMUM TOTAL CREDIT HOURS	127





CHEMICAL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS	
	Writ 101 – First Year Writing I	3	Writ 102 – First Year Writing II	3	
Z	Chem 105/115 – General Chemistry I	4	Chem 106/116 – General Chemistry II	4	
S S	Math 261 – Calculus I	3	Phys 211/221 – Calc-based Physics I	4	
ESHMA	ChE 101 – Intr. to Chem Engineering	2	Math 262 - Calculus II	3	
RES	Humanities	3	ChE 251 – Programming for Chem Engr.	3	
Ξ	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	17	
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3	
	Chem 221/225 – Organic Chemistry I	4	Math 353 – Differential Equations	3	
R E	ChE 307 – Chemical Engr. Processes I		Phys 212/222 – Calc-based Physics II	4	
9	ENGR 321 – Thermodynamics	2	ENGR 322 – Transport Phenomena		
ОМОН	Fine Arts	3	ChE 308 – Chemical Engr. Processes II	3	
PH	Fille Aits	3	Social Science	2	
SOF			Social Science	3	
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	18	
	ChE 421 – Chem. Engineering	3	ChE 345 – Engineering Economy	3	
	Thermodynamics		ChE 417 – Separation Processes	3	
	ChE 317 – Process Fluid Dynamics	3	ChE 423 – Chemical Reactor Analysis	3	
O.R.	ChE 431 – Mass & Energy Balance Lab	1	Engineering Elective	3	
JUNIOR	ENGR 310 – Engineering Analysis I	3	Tech Elective	3	
ח	Advanced Science	3			
	Humanities	3			
	TOTAL ORFRIT HOURS	1.5	TOTAL CREDIT HOURS	45	
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	15	
	ChE 411 – Chem. Engineering Seminar	1	ChE 433 – Chem. Engineering Design Lab	2	
	ChE 412 – Process Control and Safety	3	ChE 452 – Plant Design II	3	
~	ChE 432 – Unit Operations Lab	1	Engr 313 – Material Science	3	
	ChE 451 – Plant Design I	4	Tech Elective	3	
SENIO	Social Science	3	Tech Elective	3	
SE	Tech Elective	3	Social Science, Humanities or	3	
			General Education		
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	17	
MINIMUM TOTAL CREDIT HOURS 12					





CIVIL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 - First Year Writing I	3	Writ 102 - First Year Writing II	3
-	Chem 105/115 – General Chemistry I	4	Math 262 – Calculus II	3
A	Math 261 – Calculus I	3	Phys 211/221 – Calc-based physics I	4
Σ	CE 101– Intro to Civil Engineering I	1	CSCI 251 – Programming for Engineering	3
S	Social Science	3	CE 102 – Intro to Civil Engineering II	1
FRESHMAN			Humanities	3
	TOTAL CREDIT HOURS	14	TOTAL CREDIT HOURS	17
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
	Phys 212/222 – Calc-based Physics II	4	Math 353 – Differential Equations	3
S. E.	Engr 309 – Statics	3	CE 207 – Surveying	2
9	Spch 10X – Speech	3	CE 208 – Civil Engineering Graphics I	1
ΣO	Fine Arts	3	CE 310 – Intro to Structural Mechanics	3
H			ENGR 312 – Mechanics of Materials	3
SOPH			Humanities or Fine Arts	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	18
	ENGR 310 – Engineering Analysis I	3	CE 305 – Civil Engineering Lab II	1
	Engr 323 – Fluid Mechanics	3	CE 315 – Civil Engineering Materials	3
~	CE 205 – Civil Engineering Lab I	1	CE 413 – Steel Design	3
0	CE 311 – Structural Analysis	3	CE 431 – Soil Mechanics I	3
OINU	CE 481 – Transportation Engineering I	3	CE 471 – Environmental Engineering I	3
=	CE 412 – Design of Concrete Structures	3	Econ 310 – Engineering Economy	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
	CE 401 – Civil Engr. Fundamentals	1	CE 417 – Construction Engineering and	3
	CE 405 – Civil Engineering Lab III	1	Management	
	CE 433 – Foundation Engineering	3	CE 456 – Civil Engineering Design II	3
~	CE 455 – Civil Engineering Design I	2	Basic Science Elective	3
OR	CE 472 – Water Resources Engr.	3	Tech Elective	3
Z	Engr 400 – Leadership &	1	Tech Elective	3
SE	Professionalism			
	Tech Electives	3		
	Tech Electives	3		
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	15
			MINIMUM TOTAL CREDIT HOURS	129





COMPUTER ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOUR	SECOND SEMESTER	HOURS
		S		
	Writ 101 - First Year Writing I	3	Writ 102 - First Year Writing II	3
-	Chem 105/115 – General Chemistry I	4	Math 262 – Calculus II	3
A	Math 261 – Calculus I	3	Phys 211/221 – Calc-based Physics I	4
RESHMAN	El E 100 – Intro to Electrical Engr.	1	El E 235/236 – Principles of Digital	4
SH	CSCI 256 – Programming in Python	3	Systems	
FRE	Social Science	3	CSCI 356 – Data Structures in Python	3
_	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	17
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
	Phys 212/222 – Calc-based Physics II	4	Math 353 – Differential Equations	3
RE	ENGR 360 – Electric Circuit Theory	3	ENGR 310 – Engineering Analysis I	3
0	El E 385 – Advanced Digital Systems	3	ENGR 361 – Circuits Lab	1
РНОМ	El E 237 – Elec. Engr Tools and Toys	1	El E 386 – Digital Systems Lab	1
Н	Humanities	3	Fine Arts	3
SOP			Social Science	3
S				J
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	17
	El E 351 – Electronics Circuits I	3	El E 352/353 – Electronics Circuits II	4
	El E 485/486 – Microprocessor	3	El E 367 – CAD in Electrical Engineering	3
	Systems		El E 391 – Random Signals	3
O R	El E 331 – Linear Systems	3	CSCI 433 – Algor. Data Structures	3
OINUI	Math 301 – Discrete Math	3	Cp E 431 – Computer Architecture	3
חר	CSCI 423 – Intro to Operating	3		
	Systems			
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	16
	Cp E 461 – Senior Design I	1	Cp E 462 – Senior Design II	2
	El E 425 – Local Area Network	3	Econ 310 – Engineering Economy	3
OR	Technical Elective	3	Technical Elective	3
SENIOR	Technical Elective	3	Technical Elective	3
SE	Technical Elective	3	Humanities	3
	TOTAL CREDIT HOURS	13	TOTAL CREDIT HOURS	14
			MINIMUM TOTAL CREDIT HOURS	126





COMPUTER SCIENCE Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 – First Year Writing I	3	Writ 102 - First Year Writing II	3
Z	CSCI 111 – Computer Science I	3	CSCI 112 – Computer Science II	3
2	Math 261 – Calculus I	3	Math 262 – Calculus II	3
ESHMA	Social Science	3	SPCH 102 or 105 – Public Speaking	3
RES	Fine Arts	3	Humanities	3
ш	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	15
	CSCI 211 – Computer Science III	3	CSCI 223 – Comp. Org. & Assembly	3
R E	Math 301 – Discrete Math	3	Math 302 – Applied Modern Algebra	3
0	Lab Science for Science Majors I & Lab	4	Lab Science for Science Majors II & Lab	4
ОМО	Engl 22x – Sophomore Literature	3	Humanities or Fine Arts	3
PHC	Technical Elective	3	Technical Elective	3
SOF				
S	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
	CSCI 300 – Social Responsibility	1	CSCI 387 – Software Design and Dev't.	3
	CSCI 311 – Models of Computation	3	CSCI 433 – Algorithms	3
~	CSCI 423 – Operating Systems	3	CSCI 300+ – Computer Science Elective	3
0	Math 375 – Statistical Methods	3	Math 263/319 – Calculus III or Linear	3
OINO	El E 235/236 – Digital Systems Lab	4	Algebra	
=	Technical Elective	3	Social Science	3
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	15
	CSCI 450 – Programming Lang Org.	3	CSCI 487 – Senior Project	3
	Computer Science Elective	3	CSCI 3xx – Computer Science Elective	3
~	Computer Science Elective	3	CSCI 300 – Computer Science Elective	3
OR	Technical Elective	3	Technical Elective	3
0 N	Technical Elective	3	Science Elective	3
SE	Science Elective	3		
	TOTAL CREDIT HOURS	18	TOTAL CREDIT HOURS	15
			MINIMUM TOTAL CREDIT HOURS	127





ELECTRICAL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 – First Year Writing I	3	Writ 102 – First Year Writing II	3
-	Chem 105/115 – General Chemistry I	4	Math 262 – Calculus II	3
A	Math 261 – Calculus I	3	Phys 211/221 – Calc-based physics I	4
Σ	El E 100 – Intro to Electrical Engr.	1	El E 235/236 – Principles of Digital	4
RESHMAN	CSCI 251 – Programming for	3	Systems	
FRE	Engineering		CSCI 259 – Programming in C++	3
	TOTAL CREDIT HOURS	14	TOTAL CREDIT HOURS	17
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
	Phys 212/222 – Calc-based Physics II	4	Math 353 – Differential Equations	3
RE	ENGR 360 – Electric Circuit Theory	3	ENGR 310 – Engineering Analysis I	3
0	El E 385 – Advanced Digital Systems	3	ENGR 361 – Circuits Lab	1
0	El E 237 – Elec. Engr Tools and Toys	1	El E 386 – Digital Systems Lab	1
H	Fine Arts	3	Econ 310 – Engineering Economy	3
SOPHOMO			Humanities	3
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	17
	El E 351 – Electronics Circuits I	3	El E 341 – Theory of Fields	3
	El E 485/486 – Microprocessor Systems	3	El E 352/353 – Electronics Circuits II	4
O R	El E 331 – Linear Systems	3	El E 367 – CAD in Electrical Engineering	3
Z	El E 340 – Elec. Engr Analysis I	3	El E 391 – Random Signals	3
JUNIOR	ENGR 309 – Statics	3	El E 431 – Control Theory	3
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	16
	El E 461 – Senior Design I	1	El E 462 – Senior Design II	2
	El E 447 – Modulation, Noise, and	3	Tech Elective	3
	Communications		Tech Elective	3
OR	ENGR 321 – Thermodynamics	3	Tech Elective	3
SENIO	Social Science	3	Tech Elective	2
SE	Social Science	3	Humanities	3
	Tech Elective	3		
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
			MINIMUM TOTAL CREDIT HOURS	128





GENERAL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 - First Year Writing I	3	Writ 102 - First Year Writing II	3
Z	Chem 105/115 – General Chemistry I	4	Chem 106/116 – General Chemistry II	4
HMAN	Math 261 – Calculus I	3	Math 262 - Calculus II	3
Ī	ENGR 100 – Intr. to Engineering	3	CSCI 251 - Programming for Engineering	3
ESI	Humanities	3	Social Science	3
A.				
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
R E	Phys 211/221 – Calc-based Physics	4	Math 353 – Differential Equations	3
9	ENGR 309 - Statics	3	Phys 212/222 – Calc-based Physics	4
ОМО	Fine Arts	3	ENGR 321 – Thermodynamics	3
P H	Emphasis Course	3	Emphasis Course	3
SOI				
S	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
	ENGR 313 – Intro to Material Science	3	ENGR 323 – Fluid Mechanics	3
	ENGR 314 – Materials Science Lab	1	ENGR 310 – Engineering Analysis I	3
~	ENGR 360 – Electric Circuit Theory	3	ENGR 361 – Electric Circuit Theory Lab	1
O N	Emphasis Course	3	Emphasis Course	3
Z	Emphasis Course	3	Emphasis Course	3
D.L	Humanities	3	ENGR Elective (200 or higher)	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
	ENGR 330 – Engr. Systems Analysis	3	ENGR 450 – Project Design &	3
	ENGR 400 – Leadership &	1	Development	
	Professionalism		Emphasis Course	3
~	ECON 310 – Engineering Economy	3	Emphasis Course	3
0	MANF 460: Intro to Project Mgmt.	3	ENGR Elective (300 or higher)	3
ш	Emphasis Course	3	Social Science, Humanities or	3
S	ENGR Elective (300 or higher)	3	General Education	
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	15
			MINIMUM TOTAL CREDIT HOURS	127





GEOLOGICAL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 - First Year Writing I	3	Writ 102 - First Year Writing II	3
Z	Chem 105/115 – General Chemistry I	4	Chem 106/116 – General Chemistry II	4
2	Math 261 – Calculus I	3	Math 262 – Calculus II	3
I	Geol 103 – Earth Dynamics	4	Geol 106 – Earth History	2
FRESHMAN			Social Science	3
	TOTAL CREDIT HOURS	14	TOTAL CREDIT HOURS	15
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
	Phys 211/221 – Calc-based Physics I	4	Phys 212/222 – Calc-based Physics II	4
RE	Geol 225 – Mineralogy & Elementary	5	Geol 314 – Sedimentology and	4
01	Petrology		Stratigraphy	
0	ENGR 309 - Statics	3	ENGR 340 – Engineering Geology	3
рномо			ENGR 312 – Mechanics of Materials	3
SOF			GE 301 – Field Camp I (Summer)	3
S				
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	17+3
	ENGR 310 – Engineering Analysis I	3	Geol 303 – Structural and Tectonic	3
	Geol 305 – Geomorphology	3	Geology	
	GE 470 – Intro. to Geographic Info	3	GE 405 – Engineering Geophysics	4
~	System		GE 540 – Rock Mechanics	3
0	Math 353 – Differential Equations	3	ENGR 323 – Fluid Mechanics	3
OINU	CSCI 251 – Programming for	3	Engineering Science Elective	3
1	Engineering		GE 401 – Field Camp II (Summer)	3
	Fine Arts	3		
	TOTAL CREDIT HOURS	10	TOTAL CREDIT HOURS	16.2
	TOTAL CREDIT HOURS GE 450 – Hydrogeology	18 4	TOTAL CREDIT HOURS GE 421 – Geol. Engr. Design	16+3 4
	GE 420 – Subsurface Site	4	CE 431 – Soil Mechanics	3
	Characterization	4	ECON 310 – Engineering Economy	3
OR	Engineering Science Elective	3	GE Tech Elective	3
SENIO	Humanities or Fine Arts	3	Social Science	3
SE	Humanities	3	Social Science	3
	Tumumices	3		
	TOTAL CREDIT HOURS	17	TOTAL CREDIT HOURS	16
			MINIMUM TOTAL CREDIT HOURS	134





GEOLOGY Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
	Writ 101 – First Year Writing I	3	Writ 102 – First Year Writing II	3
Z	Chem 105/115 – General Chemistry I	4	Chem 106/116 – General Chemistry II	4
2	Geol 103 – Earth Dynamics	4	Math 261 – Calculus I	3
ESHMAN	Math 125 – Basic Mathematics for	3	Geol 106 – Earth History	2
RES	Science and Engineering		Social Science	3
T.				
	TOTAL CREDIT HOURS	14	TOTAL CREDIT HOURS	15
	Math 262 – Calculus II	3	Phys 214/224 – Trig-based Physics II	4
ш	Phys 213/223 – Trig-based Physics I	4	Geol 314 – Sedimentology and	4
OR	Geol 225 – Mineralogy & Elementary	5	Stratigraphy	
Σ	Petrology		Geol 105 – Environmental Geology	3
ō	Humanities	3	ENGR 340 – Engineering Geology	3
P			SPCH 102 or 105 – Public Speaking	3
SOPHOM			GE 301 – Field Camp I (Summer)	3
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	17+3
	ENGR 310 – Engineering Analysis I	3	ECON 310 – Engineering Economy	3
	Geol 305 – Geomorphology	3	Geol 303 – Structural and Tectonic	3
	Writ 250 – Advanced Composition	3	Geology	
8	Geol 309 – Invertebrate Paleontology	4	Fine Arts	3
	CSCI 251 – Programming for	3	Social Science	3
OINU	Engineering		Geol/GE Elective	3
			GE 401 – Field Camp II (Summer)	3
			, , , ,	J
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	15+3
	GE 450 – Hydrogeology	4	Geol/GE Elective	3
	GE 470 – Intro. to Geographic Info	3	Humanities	3
œ	System		General Elective 1	3
0	GE 420 – Subsurface Site	4	General Elective 2	3
ENIO	Characterization			
SE	Geol 420 or 520 – Optical Mineralogy	3		
	or Igneous & Metamorphic Petrology			
	TOTAL CREDIT HOURS	14	TOTAL CREDIT HOURS	12
			MINIMUM TOTAL CREDIT HOURS	124





MECHANICAL ENGINEERING Recommended course schedule

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS	
	Writ 101 – First Year Writing I	3	Writ 102 – First Year Writing II	3	
-	Chem 105/115 – General Chemistry I	4	Chem 106/116 – General Chemistry II	4	
HMAN	Math 261 – Calculus I	3	Math 262 - Calculus II	3	
Σ	Humanities	3	ME 101 – Intro to Mechanical Engineering	1	
ESF	Social Science	3	Humanities	3	
FRE			Social Science	3	
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	17	
	Math 263 – Calculus III	3	Math 264 – Calculus IV	3	
ш	Phys 211/221 – Calc-based Physics	4	Math 353 – Differential Equations	3	
~	CSCI 251 – Programming for	3	Phys 212/222 – Calc-based Physics	4	
ο Σ	Engineering	J	ENGR 309 – Statics	3	
НО	ME 201 – Engineering Graphics	2	ENGR 321 – Thermodynamics	3	
_	Fine Arts	3	,		
SO					
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	16	
	Engr 310 – Engineering Analysis I	3	ENGR 323 – Fluid Mechanics	3	
	Engr 312 – Mechanics of Materials	3	ME 324 – Intro. to Mechanical Design	3	
~	ENGR 313/314 – Materials Science	4	ME 325 – Intermediate Dynamics	3	
O N	ENGR 330 – Engineering Systems	3	ENGR 361 – Electric Circuit Theory Lab	1	
N O	Analysis		ENGR 420 – Engineering Analysis III	3	
=	Engr 360 – Electric Circuit Theory	3	ECON 310 – Engineering Economy	3	
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16	
	ME 401 – Thermo-Fluid Dynamics	3	ME 402 – Propulsion	3	
	ME 416 – Structures & Dynamics Lab	1	ME 419 – Energy and Fluids Lab	1	
~	ME 426 – Kinematics	3	ME 428 – Dynamics of Machinery	3	
0	Thermal/Fluid Elective	3	ME 438 – Senior Design	3	
Z	Design Elective	3	ENGR 553 – Heat Transfer	3	
SE	Social Science	3	Engineering Elective	3	
	TOTAL CREDIT HOUSE	1.0	TOTAL CREDIT HOURS	10	
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16	
MINIMUM TOTAL CREDIT HOURS 128					

