

BIOMEDICAL ENGINEERING 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 134	Calculus 1	4	ACT/SAT	
CH 155H	Adv Gen Chem & Laboratory	5	ACT/SAT	
GE 101	Introduction to Engineering	1		
ENG 103	English Composition 1	3	ACT/SAT	
	Humanities/SS Elective** (3)	3		
Total		16		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
MA 164	Calculus 2	4	MA 134	
PH 224	University Physics 1 & Laboratory	4	MA 134	
CH 203/211	Organic Chemistry & Laboratory	4	CH 155H	
ENG 133	Technical Communication	3	ENG 103	
BME 2013	Intro to Biomedical Engineering	3	CH 155H/MA 134	
Total		18		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
MA 213	Calculus 3	3	MA 164	
ES 213	Statics	3	MA 164/PH 224	
BIO 254	Human Anatomy	4	BME 2013	
PH 234	University Physics 2 & Laboratory	4	MA 164/PH 224	
SP 203	Effective Speaking	3	ENG 113 or 133	
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ES 223	Dynamics	3	ES 213/MA 164/PH224	
ES 233	Engineering Materials	3	CH 155H/co PH 224	
BIO 354	Human Physiology	4	BIO 254/CH 155H	
ECE 213	Circuit Analysis	3	MA 134	
ECE 211	Circuit Analysis Lab	1	co ECE 213	
MA 233	Diff Equations	3	MA 213	
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 393	Probability & Statistics	3	MA 213	
BME 3003	Intro to Biomechanics	3	BME 2013/ES 223	
BME 3103	Biomaterials	3	CH 155/BME 2013/ES 233	
ES 313/ChE 313	Thermodynamics/ChE Thermodyn	3	(ES 213/MA 164/PH 224) or (MA 213/ChE 212)	
ECE 243	Analog Signals	3	MA 164, ECE 213	
	Concentration Elective (3)	3		
Total		18		

JUNIOR SPRING		STATUS	PREREQ	NOTES
BME 4403	Biomedical Measur/Instr	3	PH 234/ECE 213	
GE 401	Professional Practice	1	Sr standing	
BME 4603	Biomed Transport	3	ES 313 or ChE 313/MA 223	
ES 382	Engineering Economics	2	Jr Standing or Adv perm	
	Humanities/SS Elective** (3)	3		
	Concentration Elective (3)	3		
Total		15		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
BME 4503	Tissue Engineering	3	BME 2013/CH 203	
BME 4853	Biomedical Engineering Des I	3	BME 3003/3103/ES 313 or ChE 313	
BME 4613	Biomedical Transport II	3	BME 4603	
	Concentration Electives (3)	3		
	Humanities/SS Elective** (3)	3		
	Unrestricted Elective (1)	1		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
BME 4863	Biomedical Engineering Des II	3	BME 4853	
	Concentration Electives (9)	9		
	Humanities/SS Elective** (3)	3		
Total		15		

** One elective restricted to PHL 313

**BIOMEDICAL ENGINEERING - CH104 & Pre Calc
15-16 EIGHT SEMESTER PLAN**

FRESHMAN FALL		STATUS	PREREQ	NOTES
ENG 103	English Composition 1	3	ACT/SAT	
MA 124	Pre Calc	4	ACT/SAT	
CH 104	General Chemistry I	4	ACT/SAT	
GE 101	Intro to Engineering	1		
	Humanities/SS Electives** (6)	6		
Total		18		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
ENG 133	Technical Communication	3	ENG 103	
MA 134	Calculus I	4	MA 124	
CH 114	General Chemistry II	4	CH 104	
	Concentration Elective (3)	3		
	Humanities/SS Elective** (3)	3		
Total		17		

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CH 203/211	Organic Chemistry & Laboratory	4	CH 114	
ES 213	Statics	3	co(MA 164/PH 224)	
ES 233	Engineering Materials	3	CH 114/co PH 224	
MA 164	Calculus 2	4	MA 134	
PH 224	University Physics 1 & Laboratory	4	MA 134	
Total		18		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ES 223	Dynamics	3	ES 213/MA 164/PH224	
ECE 213	Circuit Analysis	3	MA 134	
ECE 211	Circuit Analysis Lab	1	co ECE 213	
PH 234	University Physics 2 & Laboratory	4	MA 164/PH 224	
BME 2013	Intro to Biomedical Engineering	3	CH 104/MA 134	
MA 213	Calculus 3	3	MA 164	
Total		17		

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 233	Diff Equations	3	MA 213	
BME 3003	Intro to Biomechanics	3	BME 2013/ES223	
BME 3103	Biomaterials	3	CH 104/BME 2013/ES 233	
ECE 243	Analog Signals	3	MA 164/ECE 213	
ES 313/ChE 313	Thermodynamics/ChE Thermodyn	3	(ES 213/MA 164/PH 224) or (MA 213 & ChE 212)	
	Concentration Elective (3)	3		
Total		18		

JUNIOR SPRING		STATUS	PREREQ	NOTES
BME 4403	Biomedical Measur/Instr	3	PH 234/ECE 213	
BME 4603	Biomed Transport	3	MA 223/ES 313 or ChE 313	
SP 203	Effective Speaking	3	ENG 113 or 133	
ES 382	Engineering Economics	2	Jr Standing or Adv perm	
	Concentration Electives (6)	6		
Total		17		

SENIOR FALL		STATUS	PREREQ	NOTES
BIO 254	Human Anatomy	4	BME 2013	
MA 393	Probability & Statistics	3	MA 213	
BME 4853	Biomedical Engineering Des I	3	BME 3003/3103, ES 313 or ChE 313	
BME 4503	Tissue Engineering	3	BME 2013/CH 203	
BME 4613	Biomedical Transport II	3	BME 4603	
GE 401	Professional Practice	1	Sr Standing	
Total		17		

SENIOR SPRING		STATUS	PREREQ	NOTES
BME 4863	Biomedical Engineering Des II	3	BME 4853	
BIO 354	Human Physiology	4	BIO 254/CH 114	
	Concentration Electives (6)	6		
	Humanities/SS Elective** (3)	3		
Total		16		

** One elective restricted to PHL 313

BIOMEDICAL ENGINEERING - CH104 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
ENG 103	English Composition 1	3	ACT/SAT	
MA 134	Calculus I	4	ACT/SAT	
CH 104	General Chemistry I	4	ACT/SAT	
GE 101	Intro to Engineering	1		
	Humanities/SS Electives** (6)	6		
Total		18		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
ENG 133	Technical Communication	3	ENG 103	
MA 164	Calculus 2	4	MA 134	
CH 114	General Chemistry II	4	CH 104	
PH 224	University Physics 1 & Laboratory	4	MA 134	
BME 2013	Intro to Biomedical Engineering	3	CH 104/MA 134	
Total		18		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CH 203/211	Organic Chemistry & Laboratory	4	CH 114	
ES 213	Statics	3	MA164/PH224	
BIO 254	Human Anatomy	4	BME 2013	
MA 213	Calculus 3	3	MA 164	
PH 234	University Physics 2 & Laboratory	4	MA 164/PH 224	
Total		18		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ES 223	Dynamics	3	ES 213/MA 164/PH 224	
BIO 354	Human Physiology	4	BIO 254/CH 114	
ES 233	Engineering Materials	3	CH 114/co PH 224	
ECE 213	Circuit Analysis	3	MA 134	
ECE 211	Circuit Analysis Lab	1	co ECE 213	
MA 233	Diff Equations	3	MA 213	
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
ECE 243	Analog Signals	3	MA 164/EC E213	
BME 3003	Intro to Biomechanics	3	BME 2013 ES 223	
BME 3103	Biomaterials	3	CH 104/BME 2013/ES 233	
ES 313/ChE 313	Thermodynamics/ChE Thermodyn	3	(ES 213/MA 164/PH 224) or (MA 213/ChE 212)	
ES 382	Engineering Economics	2	Jr Standing or Adv perm	
	Concentration Elective (3)	3		
Total		17		

JUNIOR SPRING		STATUS	PREREQ	NOTES
BME 4403	Biomedical Measur/Instr	3	PH 234/ECE 213	
BME 4603	Biomed Transport	3	MA 223/ES 313 or ChE 313	
SP 203	Effective Speaking	3	ENG 113 or 133	
MA 393	Probability & Statistics	3	MA 213	
	Concentration Elective (3)	3		
	Humanities/SS Elective** (3)	3		
Total		18		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
BME 4503	Tissue Engineering	3	BME 2013/CH 203	
BME 4853	Biomedical Engineering Des I	3	BME 3003/3103, ES 313 or ChE 313	
BME 4613	Biomedical Transport II	3	BME 4603	
GE 401	Professional Practice	1	Sr standing	
	Concentration Elective (3)	3		
	Humanities/SS Elective** (3)	3		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
BME 4863	Biomedical Engineering Des II	3	BME 4853	
	Concentration Electives (9)	9		
	Unrestricted Elective (1)	1		
Total		13		

** One elective restricted to PHL 313

BIOMEDICAL ENGINEERING - Pre Calc 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
ENG 103	English Composition 1	3	ACT/SAT	
MA 124	Pre Calc	4	ACT/SAT	
CH 155H	Advanced General Chemistry	5	ACT/SAT	
	Humanities/SS Electives** (6)	6		
Total		18		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
ENG 133	Technical Communication	3	ENG 103	
MA 134	Calculus I	4	MA 124	
CH203/211	Organic Chemistry & Laboratory	4	CH155H	
GE 101	Intro to Engineering	1		
	Humanities/SS Elective** (3)	3		
	Concentration Electives (3)	3		
Total		18		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
ES 213	Statics	3	co(MA 164/ PH 224)	
ES 233	Engineering Materials	3	CH155H / co PH 224	
MA 164	Calculus 2	4	MA 134	
PH 224	University Physics 1 & Laboratory	4	MA 134	
	Concentration Elective (3)	3		
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ES 223	Dynamics	3	ES 213/MA 164/PH 224	
ECE 213	Circuit Analysis	3	MA 134	
ECE 211	Circuit Analysis Lab	1	co ECE 213	
PH 234	University Physics 2 & Laboratory	4	MA 164/PH 224	
BME 2013	Intro to Biomedical Engineering	3	CH 155H/MA 134	
MA 213	Calculus 3	3	MA 164	
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 233	Diff Equations	3	MA 213	
BME 3003	Intro to Biomechanics	3	BME 2013/ES 223	
BME 3103	Biomaterials	3	CH 155H/BME 2013/ES 233	
ECE 243	Analog Signals	3	MA 164/ECE 213	
SP 203	Effective Speaking	3	ENG 113 or 133	
ES 313/ChE 313	Thermodynamics/ChE Thermodyn	3	(ES 213/MA 164/PH 224) or (MA 213/ChE 212)	
Total		18		

JUNIOR SPRING		STATUS	PREREQ	NOTES
BME 4403	Biomedical Measur/Instr	3	PH 234/ECE 213	
BME 4603	Biomed Transport	3	MA 223/ES 313 or ChE 313	
ES 382	Engineering Economics	2	Jr Standing or Adv perm	
	Concentration Electives (6)	6		
	Humanities/SS Elective** (3)	3		
Total		17		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
BIO 254	Human Anatomy	4	BME 2013	
BME 4613	Biomedical Transport II	3	BME 4603	
BME 4853	Biomedical Engineering Des I	3	BME 3003/3103,ES 313 or ChE 313	
BME 4503	Tissue Engineering	3	BME 2013/CH 203	
	Concentration Elective (3)	3		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
BME 4863	Biomedical Engineering Des II	3	BME 4853	
GE 401	Professional Practice	1	Sr standing	
BIO 354	Human Physiology	4	BIO 254/CH 155H	
MA 393	Probability & Statistics	3	MA 213	
	Concentration Elective (3)	3		
Total		14		

** One elective restricted to PHL 313

BIOMEDICAL ENGINEERING - ChE 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
ENG 103	English Composition 1	3	ACT/SAT	
MA 134	Calculus I	4	ACT/SAT	
CH 155H	Advanced General Chemistry	5	ACT/SAT	
GE 101	Intro to Engineering	1		
	Social Sciences Elective (3)	3		
Total		16		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
ENG 133	Technical Communication	3	ENG 103	
MA 164	Calculus 2	4	MA 134	
CH203/211	Organic Chemistry & Laboratory	4	CH 155H	
BME 2013	Intro to Biomedical Engineering	3	CH 155H/MA 134	
PH 224	University Physics 1 & Laboratory	4	MA 134	
Total		18		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CH 213/221	Organic Chemistry II & Lab	4	CH 203/211	
ChE 203	Material Balances	3	CH 155H/PH 224	
ES 213	Statics	3	MA 164/PH 224	
MA 213	Calculus 3	3	MA 164	
PH 234	University Physics 2 & Laboratory	4	MA 164/PH 224	
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ChE 212	Energy Balances	2	ChE 203	
ES 223	Dynamics	3	ES 213/MA 164/PH 224	
ECE 213/1	Circuits	4	MA 134	
MA 233	Diff Equations	3	MA 213	
ES 233	Engineering Materials	3	CH 155H	
SP 203	Effective Speaking	3	ENG 113 or 133	
Total		18		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
BME 3003	Intro to Biomechanics	3	BME 2013/ES 223	
BIO 434	Biochemistry & Lab	4	CH 213/211	
BME 3103	Biomaterials	3	CH 155H/BME 2013/ES 233	
ECE 243	Analog Signals	3	MA 164/ECE 213	
ChE 313	Thermo I	3	ChE 212/MA 213	
Total		16		

JUNIOR SPRING		STATUS	PREREQ	NOTES
MA 393	Probability & Statistics	3	MA 213	
BME 4403	Biomedical Measur/Instr	3	PH 234/ECE 213	
BME 4303	Biochemical Engineering	3	MA 233	
BME 4603	Biomed Transport I	3	ChE 313/MA 223	
ES 382	Engineering Economics	2	Jr standing	
	Social Sciences Elective (3)	3		
Total		17		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
BME 4503	Tissue Engineering	3	BME 2013/CH 203	
BME 4853	Biomedical Engineering Des I	3	BME 3003/3103/ChE 313	
BME 4613	Biomedical Transport II	3	BME 4603	
BIO 254	Human Anatomy	4	BME 2013	
GE 401	Professional Practice	1	Sr standing	
	Humanities Elective (3)**	3		
Total		17		

SENIOR SPRING		STATUS	PREREQ	NOTES
BME 4863	Biomedical Engineering Des II	3	BME 4853	
ChE 4xx3 or ChE 4x3	Chemical Engineering Elective	3		
BIO 354	Human Physiology	4		
	Humanities Elective (3)**	3	BIO 254/CH 155H	
Total		13		

** One elective restricted to PHL 313

CIVIL ENGINEERING - MA 113 & MA 123 15-16 EIGHT SEMESTER PLAN

138 TOTAL HOURS

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 113	College Algebra	3	ACT/SAT	
MA 123	Trogonometry	3	ACT/SAT	
CH 104	General Chemistry I	4	Advisor	
EGR 153	Engineering Graphics	3		
GE 101	Intro to Engineering	1		
ENG 103	English Composition 1	3	ACT/SAT	
Total		17		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CE 1021	Computer Tools for Civil Engineering	1		
MA 134	Calculus I	4	MA 124	
PH 224	University Physics I & Lab	4	MA 134	
CH 114	General Chemistry II & Lab	4	CH 104	
ENG 133	Technical Communication	3	ENG 103	
Total		16		

FRESHMAN SUMMER

MA 164	Calculus II	4
Total		4

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CE 2001/3	Surveying with Lab	4	MA 134	
MA 213	Calculus III	3	MA 164	
ES 213	Statics	3	PH 224	
PH 234	Physics II & Lab	4	PH 224/MA 164	
SP 203	Effective Speaking	3	ENG 133	
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 233	Differential Equations	3	MA 213	
ES 243	Solid Mechanics	3	ES 213	
ES 323	Fluid Mechanics	3	MA 213/ES 213	
CE 3603	Transportation Engineering	3	MA 164	
	Humanities/SS Elective (3)	3		
Total		15		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 393	Probability & Statistics	3	MA 213	
CE 3101/3	Environmental Aqueous & Lab	4	ES 323/CH 114	
CE 3201/3	CE Materials & Lab	4	ES 243	
CE 3501/03	Structural Analysis & Lab	4	ES 243	
ES 223	Dynamics	3	ES 213	
Total		18		

JUNIOR SPRING		STATUS	PREREQ	NOTES
CE 3701/3	Soil Mechanics & Lab	4	ES 243	
CE 3521/23	Introduction to Structural Design	4	CE 320/CE 3501	
CE 3301/03	Hydraulics & Lab	4	ES 323	
	Humanities/SS Elective (3)	3		
	Science Elective (3)	3		
Total		18		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ES 382	Engineering Economics	2	Jr Standing	
CE 4912	CE Design Seminar	2		
CEXX	Civil In-Depth Electives (6)	6		
	Business Elective (3)	3		
	Humanities/SS Elective (3)	3		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
CE 4914	CE Engineering Design	4	CE 4912	
GE 401	Professional Practice	1		
	Civil In-Depth Elective (3)	3		
	Humanities/SS Elective (3)	3		
	Prof Development Electives (6)	6		
Total		17		

Civil In-Depth Elective				
CE 4103	Polution Control Technologies	3		
CE 4113	Hazardous Waste Engineering	3	CE 4103 or 3103	
CE 4123	Water Treatment Principles and Design	3	CE 3103	
CE 4133	Wastewater Treatment Principles and Design	3	CE 3103	
CE 4303	Open Channel Hydraulics	3	CE 3303	
CE 4323	Engineering Hydrology	3	ES 323/CE 3033	
CE 4333	Water Distribution and Design of Sewers	3	CE 3303	

Civil In-Depth Elective				
CE 4703	Special Topics in Geotechnical Engineering	3	CE 3703	
CE 4713	Foundation Engineering	3	CE 3704	
CE 4723	Pavement Design	3	CE 3203/3703	
CE 4603	Highway Geometric Design	3	CE3603	

CIVIL ENGINEERING - MA 124 15-16 EIGHT SEMESTER PLAN

139 TOTAL HOURS

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 113	College Algebra	3	ACT/SAT	
MA 124	Trogonometry	4	ACT/SAT	
CH 104	General Chemistry I	4	Advisor	
EGR 153	Engineering Graphics	3		
GE 101	Intro to Engineering	1		
ENG 103	English Composition 1	3	ACT/SAT	
Total		18		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CE 1021	Computer Tools for Civil Engineering	1		
MA 134	Calculus I	4	MA 124	
PH 224	University Physics I & Lab	4	MA 134	
CH 114	General Chemistry II & Lab	4	CH 104	
ENG 133	Technical Communication	3	ENG 103	
Total		16		

FRESHMAN SUMMER

MA 164	Calculus II	4
Total		4

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CE 2001/3	Surveying with Lab	4	MA 134	
MA 213	Calculus III	3	MA 164	
ES 213	Statics	3	PH 224	
PH 234	Physics II & Lab	4	PH 224/MA 164	
SP 203	Effective Speaking	3	ENG 133	
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 233	Differential Equations	3	MA 213	
ES 243	Solid Mechanics	3	ES 213	
ES 323	Fluid Mechanics	3	MA 213/ES 213	
CE 3603	Transportation Engineering	3	MA 164	
	Humanities/SS Elective (3)	3		
Total		15		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 393	Probability & Statistics	3	MA 213	
CE 3101/3	Environmental Aqueous & Lab	4	ES 323/CH 114	
CE 3201/3	CE Materials & Lab	4	ES 243	
CE 3501/03	Structural Analysis & Lab	4	ES 243	
ES 223	Dynamics	3	ES 213	
Total		18		

JUNIOR SPRING		STATUS	PREREQ	NOTES
CE 3701/3	Soil Mechanics & Lab	4	ES 243	
CE 3521/23	Introduction to Structural Design	4	CE 320/CE 3501	
CE 3301/03	Hydraulics & Lab	4	ES 323	
	Humanities/SS Elective (3)	3		
	Science Elective (3)	3		
Total		18		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ES 382	Engineering Economics	2	Jr Standing	
CE 4912	CE Design Seminar	2		
CEXX	Civil In-Depth Electives (6)	6		
	Business Elective (3)	3		
	Humanities/SS Elective (3)	3		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
CE 4914	CE Engineering Design	4	CE 4912	
GE 401	Professional Practice	1		
	Civil In-Depth Elective (3)	3		
	Humanities/SS Elective (3)	3		
	Prof Development Electives (6)	6		
Total		17		

Civil In-Depth Elective				
CE 4103	Polution Control Technologies	3		
CE 4113	Hazardous Waste Engineering	3	CE 4103 or 3103	
CE 4123	Water Treatment Principles and Design	3	CE 3103	
CE 4133	Wastewater Treatment Principles and Design	3	CE 3103	
CE 4303	Open Channel Hydraulics	3	CE 3303	
CE 4323	Engineering Hydrology	3	ES 323/CE 3033	
CE 4333	Water Distribution and Design of Sewers	3	CE 3303	

Civil In-Depth Elective				
CE 4703	Special Topics in Geotechnical Engineering	3	CE 3703	
CE 4713	Foundation Engineering	3	CE 3704	
CE 4723	Pavement Design	3	CE 3203/3703	
CE 4603	Highway Geometric Design	3	CE3603	

CIVIL ENGINEERING-MA 134 15-16 EIGHT SEMESTER PLAN

132 total hours

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 134	Calculus I	4		ACT/SAT
ENG 103	English Composition 1	3		ACT/SAT
CH 104	General Chemistry I	4		ACT/SAT
EGR 153	Engineering Graphics	3		
GE 101	Intro to Engineering	1		
Total		15		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CE 1021	Computer Tools for Civil Engineering	1		
MA 164	Calculus II	4		MA 134>C
PH 224	University Physics I & Lab	4		MA 134
CH 114	General Chemistry II & Lab	4		CH 104
ENG 133	Technical Communication	3		ENG 103
Total		16		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CE 2001/3	Surveying with Lab	4		MA 134
MA 213	Calculus III	3		MA 164 > C
ES 213	Statics	3		PH 224
PH 234	Physics II & Lab	4		PH 224/MA 164
SP 203	Effective Speaking	3		ENG 133
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 233	Differential Equations	3		MA 213
ES 243	Solid Mechanics	3		ES 213 > C
ES 323	Fluid Mechanics	3		MA 213/ES 213
CE 3603	Transportation Engineering	3		
	Humanities/SS Elective (3)	3		
Total		15		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 393	Probability & Statistics	3		MA 213
CE 3101/3	Environmental Aqueous & Lab	4		ES 323/CH 114
CE 3201/3	CE Materials & Lab	4		ES 243 > C
CE 3501/03	Structural Analysis & Lab	4		ES 243
ES 223	Dynamics	3		ES 213
Total		18		

JUNIOR SPRING		STATUS	PREREQ	NOTES
CE 3701/3	Soil Mechanics & Lab	4		ES 243
CE 3521/23	Introduction to Structural Design	4		CE 3201/3501>C
CE 3301/03	Hydraulics & Lab	4		ES 323 > C
	Humanities/SS Elective (3)	3		
	Science Elective (3)	3		
Total		18		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ES 382	Engineering Economics	2		Jr Standing
CE 4912	CE Design Seminar	2		
CEXX	Civil In-Depth Electives (6)	6		
	Business Elective (3)	3		
	Humanities/SS Elective (3)	3		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
CE 4914	CE Engineering Design	4		CE 4912
GE 401	Professional Practice	1		
	Civil In-Depth Elective (3)	3		
	Humanities/SS Elective (3)	3		
	Prof Development Electives (6)	6		
Total		17		

Civil In-Depth Elective				
CE 4103	Polution Control Technologies	3		
CE 4113	Hazardous Waste Engineering	3		CE 4103 or 3103
CE 4123	Water Treatment Principles and Design	3		CE 3103
CE 4133	Wastewater Treatment Principles and Design	3		CE 3103
CE 4303	Open Channel Hydraulics	3		CE 3303
CE 4323	Engineering Hydrology	3		ES 323/CE 3033
CE 4333	Water Distribution and Design of Sewers	3		CE 3303

Civil In-Depth Elective				
CE 4603	Highway Geometric Design	3		CE3603
CE 4703	Special Topics in Geotechnical Engineering	3		CE 3703
CE 4713	Foundation Engineering	3		CE 3704
CE 4723	Pavement Design	3		CE 3203/3703

CHEMICAL ENGINEERING - MA 134 & CH 155 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
CH 155	Adv Honors Chemistry & Lab	5	ACT/SAT	
ENG 103	English Composition 1	3	ACT/SAT	
GE 101	Introduction to Engineering	1		
MA 134	Calculus I	4	ACT/SAT	
ECO 213/223	Micro or Macroeconomics	3		
Total		16		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CH 203	Organic Chemistry I	3	CH 114	
CH 211	Organic Chemistry I Lab	1		
ChE 122	Biology for ChE	2	GE 101	
ENG 133	Technical Communication	3	ENG 103	
MA 164	Calculus II	4	MA 134	
PH 224	University Physics I & Lab	4	MA 134	
Total		17		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
ChE 203	Material Balances	3	CH 104/114	
ChE 252	Stats and Comp Methods	2		
MA 213	Calculus III	3	MA 164	
PH 234	Physics II	4	PH 224/MA 164	
SP 203	Speech	3	ENG 133	
	Unrestricted Elective (3)	3		
Total		18		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 233	Differential Equations	3		
ChE 212	Energy Balances	2	ChE 203	
ChE 222	Process Meas Lab & Sustain	2		
	Chemistry Elective (4)	4	MA 213	
	Humanities/SS Electives (6)	6		
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
ChE 373	ChE Heat Transfer	3		
ChE 303	ChE Fluid Dynamics	3	ChE 203 & 212	
ChE 313	ChE Thermodynamics I	3	ChE 212/MA 213	
ES 233	Material Science	3	ChE 203/212	
	Chemistry Elective (4)	4		
Total		16		

JUNIOR SPRING		STATUS	PREREQ	NOTES
ChE 333	Unit Operations Lab I	3	ChE 222/252/303/373	
ChE 372	ChE Thermodynamics II	2	ChE 313	
ChE 383	Mass Transfer	3	ChE 313/373	
ChE 393	Stagewise Separations	3	ChE 303/373	
	ChE Elective (3)	3		
	Unrestricted Elective (3)	3		
Total		17		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ChE 433	Unit Operations Lab II	3	ChE 333/393	
ChE 453	Chemical Engineering Kinetics	3	ChE 373/383	
ChE 473	Chemical Process Design I	3	ChE 372/383/393	
ES 382	Engineering Economics	2		
GE 401	Professional Practice	1		
	ChE Elective (3)	3		
Total		15		

SENIOR SPRING		STATUS	PREREQ	NOTES
ChE 412	Numerical Methods	2	ChE 453	
ChE 463	ChE Dynamics & Control	3	MA 233	
ChE 483	Chemical Process Design II	3	Ch E453/473/ES 382	
	ChE Elective (3)	3		
	Humanities/SS Elective (3)	3		
	Unrestricted Elective (3)	3		
Total		17		

Concentration Electives Fall				
ChE 4083	Plant Management	3	Jr Standing	
ChE 4173	Bioseparation Processes	3	ChE 303/373	
CH 213/221	Organic Chemistry II & Lab	4	CH 203/211	
CH 234	Quantitative Chemical Analysis	4	CH 114	
CH 324	Chemical Instrumental Analysis	4	CH 213/234	
CH 353/351	Physical Chemistry I & Lab	4	CH 114/232/MA 213	
BIO 434	Biochemistry	4	CH 211/213	

Concentration Electives Spring				
ChE 4073	Biochemical Engineering	3	MA 233	
ChE 4193	High Polymer Processes	3	CH 203	
CH 213/221	Organic Chemistry II & Lab	4	CH 203/211	
CH 234	Quantitative Chemical Analysis	4	CH 114	
CH 324	Chemical Instrumental Analysis	4	CH 213/234	
CH 363/361	Physical Chemistry II & Lab	4	CH 353	

CHEMICAL ENGINEERING - MA 113 & MA 123 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
ENG 103	English Composition 1	3		ACT/SAT
GE 101	Introduction to Engineering	1		
MA 113	College Algebra	3		ACT/SAT
MA 123	Trigonometry	3		ACT/SAT
ECO 213/223	Micro or Macroeconomics	3		
	Humanities/SS Elective (3)	3		
Total		16		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CH 104	General Chemistry I & Lab	4		MA 113
ENG 133	Technical Communication	3		ENG 103
ChE 122	Biology for ChE	2		GE 101
MA134	Calculus I	4		MA 124
	Humanities/SS Elective (3)	3		
Total		16		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CH 114	General Chemistry II & Lab	4		CH 104
ChE 203	Material Balances	3		CH 104/114
ChE 252	Stats and Comp Methods	2		
MA164	Calculus II	4		MA 134
PH 224	Physics I	4		MA 134
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
CH 203	Organic Chemistry I	3		CH 114
CH 211	Organic Chemistry I Lab	1		CH 114
ChE 212	Energy Balances	2		ChE 203
ChE 222	Process Meas Lab & Sustain	2		
MA 213	Calculus III	3		MA 164
PH 234	Physics II	4		PH 224/MA 164
SP 203	Speech	3		ENG 133
Total		18		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
ChE 303	ChE Fluid Dynamics	3		ChE 203/212
ChE 313	ChE Thermodynamics I	3		ChE 212/MA 213
ChE 373	ChE Heat Transfer	3		ChE 203/212
MA 233	Differential Equations	3		MA 213
	Chemistry Elective (4)	4		
Total		16		

JUNIOR SPRING		STATUS	PREREQ	NOTES
ChE 333	Unit Operations Lab I	3		ChE 222/252/303/373
ChE 372	ChE Thermodynamics II	2		ChE 313
ChE 383	Mass Transfer	3		ChE 313/373
ChE 393	Stagewise Separations	3		ChE 303/373
ES 233	Material Science	3		
	Chemistry Elective (4)	4		
Total		18		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ChE 433	Unit Operations Lab II	3		ChE 333/393
ChE 453	Chemical Engineering Kinetics	3		ChE 373/383
ChE 473	Chemical Process Design I	3		ChE 373/383/393
ES 382	Engineering Economics	2		
	Chemistry Elective (4)	4		
	ChE Elective (3)	3		
Total		18		

SENIOR SPRING		STATUS	PREREQ	NOTES
ChE 412	Numerical Methods	2		ChE 453
ChE 463	ChE Dynamics & Control	3		MA 233
ChE 483	Chemical Process Design II	3		ChE453/473/ES 382
GE 401	Professional Practice	1		
	Humanities/SS Elective (3)	3		
	ChE Elective (3)	3		
Total		15		

Concentration Electives Fall				
ChE 4083	Plant Management	3		Jr Standing
ChE 4173	Bioseparation Processes	3		ChE 303/373
CH 213/221	Organic Chemistry II & Lab	4		CH 203/211
CH 234	Quantitative Chemical Analysis	4		CH 114
CH 324	Chemical Instrumental Analysis	4		CH 213/234
CH 353/351	Physical Chemistry I & Lab	4		CH 114/232/MA 213
BIO 434	Biochemistry	4		CH 211/213

Concentration Electives Spring				
ChE 4073	Biochemical Engineering	3		MA 233
ChE 4193	High Polymer Processes	3		CH 203
CH 213/221	Organic Chemistry II & Lab	4		CH 203/211
CH 234	Quantitative Chemical Analysis	4		CH 114
CH 324	Chemical Instrumental Analysis	4		CH 213/234
CH 363/361	Physical Chemistry II & Lab	4		CH 353

CHEMICAL ENGINEERING - MA 124 & CH 104 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
CH 104	General Chemistry I & Lab	4	ACT/SAT	
ENG 103	English Composition 1	3	ACT/SAT	
GE 101	Introduction to Engineering	1		
MA124	Pre-Calculus	4	ACT/SAT	
ECO 213/223	Micro or Macroeconomics	3		
Total		15		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CH 114	General Chemistry II & Lab	4	CH 104	
ENG 133	Technical Communication	3	ENG 103	
ChE 122	Biology for ChE	2	GE 101	
MA134	Calculus I	4	MA 124	
	Humanities/SS Elective (3)	3		
Total		16		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CH 203	Organic Chemistry I	3	CH 114	
CH 211	Organic Chemistry I Lab	1		
ChE 203	Material Balances	3	CH 104/114	
ChE 252	Stats and Comp Methods	2		
MA164	Calculus II	4	MA 134	
PH 224	Physics I	4	MA 134	
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ChE 212	Energy Balances	2	ChE 203	
ChE 222	Process Meas Lab & Sustain	2		
MA 213	Calculus III	3	MA 164	
PH 234	Physics II	4	PH 224/MA 164	
SP 203	Speech	3	ENG 133	
	Humanities/SS Elective (3)	3		
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
ChE 303	ChE Fluid Dynamics	3	ChE 203/212	
ChE 313	ChE Thermodynamics I	3	ChE 212/MA 213	
ChE 373	ChE Heat Transfer	3	ChE 203/212	
MA 233	Differential Equations	3	MA 213	
	Chemistry Elective (4)	4		
Total		16		

JUNIOR SPRING		STATUS	PREREQ	NOTES
ChE 333	Unit Operations Lab I	3	ChE 222/252/303/373	
ChE 372	ChE Thermodynamics II	2	ChE 313	
ChE 383	Mass Transfer	3	ChE 313/373	
ChE 393	Stagewise Separations	3	ChE 303/373	
ES 382	Engineering Economics	2		
	Chemistry Elective (4)	4		
Total		17		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ChE 433	Unit Operations Lab II	3	ChE 333/393	
ChE 453	Chemical Engineering Kinetics	3	ChE 373/383	
ChE 473	Chemical Process Design I	3	ChE 372/383/393	
GE 401	Professional Practice	1		
ES 233	Material Science	3		
	ChE Elective (3)	3		
Total		16		

SENIOR SPRING		STATUS	PREREQ	NOTES
ChE 412	Numerical Methods	2	ChE 453	
ChE 463	ChE Dynamics & Control	3	MA 233	
ChE 483	Chemical Process Design II	3	ChE 453/473/ES 382	
	Chemistry Elective (4)	4		
	Humanities/SS Elective (3)	3		
	ChE Elective (3)	3		
Total		18		

Concentration Electives Fall			
ChE 4083	Plant Management	3	Jr Standing
ChE 4173	Bioseparation Processes	3	ChE 303/373
CH 213/221	Organic Chemistry II & Lab	4	CH 203/211
CH 234	Quantitative Chemical Analysis	4	CH 114
CH 324	Chemical Instrumental Analysis	4	CH 213/234
CH 353/351	Physical Chemistry I & Lab	4	CH 114/232/MA 213
BIO 434	Biochemistry	4	CH 211/213

Concentration Electives Spring			
ChE 4073	Biochemical Engineering	3	MA 233
ChE 4193	High Polymer Processes	3	CH 203
CH 213/221	Organic Chemistry II & Lab	4	CH 203/ 211
CH 234	Quantitative Chemical Analysis	4	CH 114
CH 324	Chemical Instrumental Analysis	4	CH 213/234
CH 363/361	Physical Chemistry II & Lab	4	CH 353

CHEMICAL ENGINEERING - MA 134 & CH 104 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
CH 104	General Chemistry I & Lab	4	ACT/SAT	
ENG 103	English Composition 1	3	ACT/SAT	
GE 101	Introduction to Engineering	1		
MA134	Calculus I	4	ACT/SAT	
ECO 213/223	Micro or Macroeconomics	3		
Total		15		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
CH 114	General Chemistry II & Lab	4	CH 104	
ENG 133	Technical Communication	3	ENG 103	
ChE 122	Biology for ChE	2	GE 101	
MA164	Calculus II	4	MA 134	
PH 224	Physics I	4	MA 134	
Total		17		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
CH 203	Organic Chemistry I	3	CH 114	
CH 211	Organic Chemistry I Lab	1		
ChE 203	Material Balances	3	CH 104/114	
ChE 252	Stats and Comp Methods	2		
MA 213	Calculus III	3	MA 164	
PH 234	Physics II	2	PH 224/MA 164	
	Unrestricted Elective (3)	3		
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ChE 212	Energy Balances	2	ChE 203	
ChE 222	Process Meas Lab & Sustain	2		
MA 233	Differential Equations	3	MA 213	
SP 203	Speech	3	ENG 133	
	Humanities/SS Elective (3)	3		
	Humanities/SS Elective (3)	3		
Total		16		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
ChE 303	ChE Fluid Dynamics	3	ChE 203/212	
ChE 313	ChE Thermodynamics I	3	ChE 212/MA 213	
ChE 373	ChE Heat Transfer	3	ChE 203/212	
ES 233	Material Science	3		
	Chemistry Elective (4)	4		
Total		16		

JUNIOR SPRING		STATUS	PREREQ	NOTES
ChE 333	Unit Operations Lab I	3	ChE 222/252/303/373	
ChE 372	ChE Thermodynamics II	2	ChE 313	
ChE 383	Mass Transfer	3	ChE 313/373	
ChE 393	Stagewise Separations	3	ChE 303/373	
ES 382	Engineering Economics	2		
	Chemistry Elective (4)	4		
Total		17		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ChE 433	Unit Operations Lab II	3	ChE 333/393	
ChE 453	Chemical Engineering Kinetics	3	ChE 373/383	
ChE 473	Chemical Process Design I	3	ChE 372/383/393	
GE 401	Professional Practice	1		
	Chemistry Elective (4)	4		
	ChE Elective (3)	3		
Total		17		

SENIOR SPRING		STATUS	PREREQ	NOTES
ChE 412	Numerical Methods	2	ChE 453	
ChE 463	ChE Dynamics & Control	3	MA 233	
ChE 483	Chemical Process Design II	3	ChE453/473/ES 382	
	Chemistry Elective (4)	4		
	Humanities/SS Elective (3)	3		
	Unrestricted Elective (3)	3		
Total		18		

Concentration Electives Fall				
ChE 4083	Plant Management	3	Jr Standing	
ChE 4173	Bioseparation Processes	3	ChE 303/373	
CH 213/221	Organic Chemistry II & Lab	4	CH 203/211	
CH 234	Quantitative Chemical Analysis	4	CH 114	
CH 324	Chemical Instrumental Analysis	4	CH 213/234	
CH 353/351	Physical Chemistry I & Lab	4	CH 114/232/MA 213	
BIO 434	Biochemistry	4	CH 211/213	

Concentration Electives Spring				
ChE 4073	Biochemical Engineering	3	MA 233	
ChE 4193	High Polymer Processes	3	CH 203	
CH 213/221	Organic Chemistry II & Lab	4	CH 203/211	
CH 234	Quantitative Chemical Analysis	4	CH 114	
CH 324	Chemical Instrumental Analysis	4	CH 213/234	
CH 363/361	Physical Chemistry II & Lab	4	CH 353	

COMPUTER ENGINEERING - MA 113 & MA 123 15-16 EIGHT SEMESTER PLAN

FRESHMAN FALL			STATUS	PREREQ	NOTES
MA 113	College Algebra	3		ACT/SAT	
MA 123	Trigonometry	3		ACT/SAT	
CS 1113	Object-Oriented Java Programming	3		MA 113	
ENG 103	English Composition 1	3		ACT/SAT	
GE 101	Introduction to Engineering	1			
	Social Sciences Elective (3)	3			
Total		16			

SOPHOMORE FALL			STATUS	PREREQ	NOTES
MA 164	Calculus II	4		MA134 ≥ C	
ECE 213/1	Circuits & Lab	4		MA 134 & ECE 103	
ECE 263/1	Digital & Lab	4			
SP 203	Effective Speaking	3		ENG 133	
	Humanities Elective (3)	3			
Total		18			

JUNIOR FALL			STATUS	PREREQ	NOTES
MA 233	Differential Eq	3		MA 213	
MA 393	Prob & Stat	3		MA 213	
ECE 3373/1	Embedded Sys	4		ECE 3073 (273/1)	
ECE 3043	Analog Signals	3		MA 164, ECE 213&263 ≥C	
ECE 3051	Junior Lab	1		ECE 213, 263	
	ES Elective (2)	2			
Total		16			

SENIOR FALL			STATUS	PREREQ	NOTES
ECE 4002	Project Mgt	2		Approval	
ECE/CS	Concentration Elective	3		See below	
ECE/CS	Concentration Elective	3		See below	
GE 401	Prof Practice	1		Sr Standing	
	Compl. Elective (3)	3			
	Unrestricted Elective (3)	3			
Total		15			

Dept. Electives offered: Fall					
ECE 313	Electrical Power	3	ECE 213		
ECE 353/1	CMOS/VLSI	4	ECE 233		
ECE 463/1	Digital Sig Proc	3	ECE 3043 (243)		
ECE 483/1	Instrument. Sys	4	ECE 263		
CS 2103	Algorithms	3	CS 1123		
CS 2503	Software Engr	3	CS 1123		
CS 3883	Computer Secur.	3	CS 1123		

YEAR 1 FRESHMAN SPRING			STATUS	PREREQ	NOTES
MA 134	Calculus I	4		MA 113	
CS 1123	C++ and Object-Oriented Design	3		CS 1113	
ECE 103	Prototyping & Projects	3			
ENG 133	Technical Communication	3		ENG 103	
CH 104	General Chemistry I & Lab	4		ACT/SAT	
Total		17			

YEAR 2 SOPHOMORE SPRING			STATUS	PREREQ	NOTES
MA 213	Calculus III	3		MA 164 ≥ C	
ECE 3033	Discrete Electr	3		ECE 213	
ECE 3073/1	Microcontrollers	4		ECE 263	
PH 224(L)	Physics I	4		MA 134	
	ES Elective (3)	3			
Total		17			

YEAR 3 JUNIOR SPRING			STATUS	PREREQ	NOTES
MA 473	Graph Th. & Comb.	3		MA 213	
ECE 363/1	Logic & Comp Design	4		ECE 263	
PH 234(L)	Physics II	4		MA 164 & PH 224	
	Compl. Elective (3)	3			
	ECE/CS Elective (3)	3		See below	
Total		17			

YEAR 4 SENIOR SPRING			STATUS	PREREQ	NOTES
ECE 453	Random Proc.	3		MA 393	
ECE 4001	Cont. Issues	1		Sr Standing	
ECE 4003	Design Proj	3		ECE 3043, 3173/1, 4002	
ECE/CS	Dept. Elective	3		See below	
	Social Sciences Elective (3)	3			
	Humanities Elective (3)	3			
Total		16			

Dept. Electives offered: Spring					
ECE 303/1	Electr. Machines	4	ECE 213		
ECE 333	Analog ICs	3	ECE 213		
ECE 403	Direct Generation	3	ECE 213		
CS 3303	Net-Centric Comp	3	CS1123		
CS 3933	Software A & D	3	CS2503		

COMPUTER ENGINEERING - MA 134 15-16 EIGHT SEMESTER PLAN

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 134	Calculus I	4	ACT/SAT	
CH 104	General Chemistry I & Laboratory	4	MA 113	
CS 1113	Object-Oriented Java Programming	3	MA 113	
ENG 103	English Composition 1	3	ACT/SAT	
GE 101	Introduction to Engineering	1		
Total		15		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
ENG 133	Technical Communication	3	ENG 103/104 ≥ C	
PH 224	University Physics 1 & Laboratory	4	MA 134	
ECE 103	Prototyping & Projects	3		
CS 1123	C++ and Object-Oriented Design	3	CS 1113	
MA 164	Calculus 2	4	MA 134 > C	
Total		17		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
MA 213	Calculus 3	3	MA 164 ≥ C	
ECE 213/1	Circuit Analysis & Laboratory	4	MA 134 & ECE 103	
ECE 263/1	Digital Systems & Laboratory	4		
SP 203	Effective Speaking	3	ENG 133 (or 113)	
	Humanities/SS Elective (3)	3		
Total		17		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 233	Differential Equations	3	MA 213	
ECE 3033	Discrete Electr	3	ECE 213	
ECE 3073/1	Microcontrollers	4	ECE 263	
PH 234(L)	Physics II	4	MA 164 & PH 224	
	ES Elective (3)	3	varies	
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 393	Prob & Stat	3	MA 213	
ECE 3373/1	Embedded Sys	4	ECE 3073 (273/1)	
ECE 3043	Analog Signals	3	MA 164, ECE 213&263 ≥C	
ECE 3051	Junior Lab	1	ECE 213, 263	
	ECE/CS Elective (3)	3	See below	
	Social Sciences Elective (3)	3		
Total		17		

JUNIOR SPRING		STATUS	PREREQ	NOTES
MA 473	Graph Th. & Comb.	3	MA 213	
ECE 363/1	Logic & Comp Design	4	ECE 263	
ECE/CS	Dept. Elective	3	See below	
	Humanities Elective (3)	3		
	Compl. Elective (3)	3		
Total		16		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ECE 4002	Project Mgt	2	Sr Standing	
ECE/CS	Dept. Elective	3	Approval	
GE 401	Prof Practice	1		
	ES Elective (2)	2		
	Compl. Elective (3)	3		
	Open Electives (6)	6		
Total		17		

SENIOR SPRING		STATUS	PREREQ	NOTES
ECE 453	Random Proc.	3	MA 393	
ECE 4001	Cont. Issues	1	Sr. Standing	
ECE 4003	Design Proj	3	ECE 3043, 3173/1, 4002	
ECE/CS	Dept. Elective	3	See below	
	Social Sciences Elective (3)	3		
	Open Elective (3)	3		
Total		16		

Dept. Electives offered: Fall				
ECE 313	Electrical Power	3	ECE 213	
ECE 353/1	CMOS/VLSI	4	ECE 233	
ECE 463/1	Digital Sig Proc	3	ECE 3043 (243)	
ECE 483/1	Instrument. Sys	4	ECE 263	
CS 2103	Algorithms	3	CS 1123	
CS 2503	Software Engr	3	CS 1123	
CS 3883	Computer Secur.	3	CS 1123	

Dept. Electives offered: Spring				
ECE 303/1	Electr. Machines	4	ECE 213	
ECE 333	Analog ICs	3	ECE 213	
ECE 403	Direct Generation	3	ECE 213	
CS 3303	Net-Centric Comp	3	CS1123	
CS 3933	Software A & D	3	CS2503	

DESIGN ENGINEERING TECHNOLOGY 15-16 EIGHT SEMESTER PLAN

Total Hrs. 121

YEAR 1

FRESHMAN FALL		STATUS	PREREQ	NOTES
ETD 103	Basic Technical Drawing	3		
ETD 123	Manuf Materials & Processes	3		
MA 113	College Algebra	3	ACT/SAT	
ENG 103	Composition 1	3	ACT/SAT	
ETD 101	Intro to Engineering Technology	1		
PSY 113	Principles of Psychology	3		
Total		16		

FRESHMAN SPRING		STATUS	PREREQ	NOTES
ETD 113	Geometric Dimensioning & Tolerancing	3	ETD 103	
ETD 163	Environmental Health & Safety	3		
ETD 173	Computer-Aided 3D Modeling (Solid Works)	3	ETD 103 or EGR 143	
MA 123	Trigonometry	3	ACT/SAT	
ENG 133	Technical Communicaton	3	ENG 103	
Total		15		

YEAR 2

SOPHOMORE FALL		STATUS	PREREQ	NOTES
ETD 233	Engineering & Manufacturing Systems	3	ETD 173	
PH 154	College Physics I & Lab	4	MA 113/123	
MA 134	Calculus I	4	MA 113	
INF 103	Information Technology Applications	3		
	Approved Elective (2+)	2		
Total		16		

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ETD 203	Basic Mechanisms	3	MA 123 & PH 154	
ETD 273	Electical Fundamentals	3	PH 154	
PH 164	College Physics II & Lab	4	PH 154	
CH 144	Chemistry-Ideas & Applications & Lab	4		
SP 203	Effective Speaking	3	ENG 133	
Total		17		

YEAR 3

JUNIOR FALL		STATUS	PREREQ	NOTES
ETD 313	Design for Manufacture & Assembly	3	ETD 123 & ETD 233	
ETD 333	Statics & Strengths of Materials	3	MA 134 or Dept Appr	
COM 213	Business Communication	3	ENG 133	
ECO 213	Microeconomics	3		
	Humanities Elective (3)	3		
Total		15		

JUNIOR SPRING		STATUS	PREREQ	NOTES
MA 253	Statistics	3	MA 113	
ETD 363	Elements of Machines	3	ETD 333/PH 154	
ETD 263	Design Analysis & Prototyping	3	ETD 233	
MGT 363	Organizational Behavior	3	COM 213 or PSY 113	
ECO 223	Macroeconomics	3		
	Humanities Elective (3)	3		
Total		18		

YEAR 4

SENIOR FALL		STATUS	PREREQ	NOTES
ETD 463	Senior Design Project I	3	Senior Standing	
EGR 453	Advanced Parametric Design (NX)	3	ETD 263 or EGR 143	
ETD 433	Computer Numerical Control	3	ETD 123 & ETD 263	
MGT 353	Designing Operations	3	MA 173/Inst Appr	
Total		12		

SENIOR SPRING		STATUS	PREREQ	NOTES
ETD 473	Senior Design Project II	3	ETD 463	
MGT 413	Management of Quality	3	MGT 353	
	Elective (300/400 series)	3		
	Elective (300/400 series)	3		
Total		12		

ELECTRICAL ENGINEERING - MA 113 & MA 123 15-16 EIGHT SEMESTER PLAN

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 113	Coll. Algebra	3	ACT/SAT	
MA 123	Trigonometry	3	ACT/SAT	
CS 1113	Java	3		
ENG 103	Composition 1	3	ACT/SAT	
GE 101	Intro to Engineering	1		
	Social Sciences Elective (3)	3		
Total		16		

SOPHOMORE FALL		STATUS	PREREQ	NOTES
MA 164	Calculus II	4	MA134 ≥ C	
ECE 213/1	Circuits & Lab	4	MA 134 & ECE 103	
ECE 263/1	Digital & Lab	4		
SP 203	Effective Speaking	3	ENG 133	
	Humanities Elective (3)	3		
Total		18		

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 233	Differential Eq	3	MA 213	
MA 393	Prob & Stat	3	MA 213	
ECE 3373/1	Embedded Sys	4	ECE 3073 (273/1)	
ECE 3043	Analog Signals	3	MA 164, ECE 213&263 ≥C	
ECE 3051	Junior Lab	1	ECE 213, 263	
	ES Elective (2)	2		
Total		16		

SENIOR FALL		STATUS	PREREQ	NOTES
ECE 4002	Project Mgt	2	Approval	
GE 401	Professional Practice	1	Sr Standing	
ECE 323	Dynamic Electromagnetic Field	3	MA 233/PH 234	
	Compl. Elective (3)	3		
	ECE/CS Electives (6)	6	See below	
Total		15		

Dept. Electives offered: Fall			
ECE 313	Electrical Power	3	ECE 213
ECE 353/1	CMOS/VLSI	4	ECE 233
ECE 463/1	Digital Sig Proc	3	ECE 3043 (243)
ECE 3373/1	Embedded Sys	4	ECE 3073
CS 2103	Algorithms	3	CS 1123
CS 2503	Software Engr	3	CS 1123
CS 3883	Computer Secur.	3	CS 1123

YEAR 1 FRESHMAN SPRING		STATUS	PREREQ	NOTES
MA 134	Calculus I	4	MA 113	
CH 104	General Chemistry I & Laboratory	4	MA 113	
ECE 103	Projects and Prototypes	3		
ENG 133	Technical Communication	3	ENG 103	
	Social Sciences Elective (3)	4		
	Unrestricted Elective (3)	3		
Total		17		

YEAR 2 SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 213	Calculus III	3	MA 164 ≥ C	
ECE 3033	Discrete Electr	3	ECE 213	
ECE 3073/1	Microcontrollers	4	ECE 263	
PH 224(L)	Physics I	4	MA 134	
	ES Elective (3)	3		
Total		17		

YEAR 3 JUNIOR SPRING		STATUS	PREREQ	NOTES
MA 473	Graph Th. & Comb.	3	MA 213	
ECE 363/1	Logic & Comp Design	4	ECE 263	
ECE/CS	Dept. Elective	3	See below	
PH 234(L)	Physics II	4	MA 164 & PH 224	
	Compl. Elective (3)	3		
Total		17		

YEAR 4 SENIOR SPRING		STATUS	PREREQ	NOTES
ECE 453	Random Proc.	3	MA 393	
ECE 4001	Cont. Issues	1	Sr Standing	
ECE 4003	Design Proj	3	ECE 3043, 3173/1, 4002	
ECE/CS	Dept. Elective	3	See below	
	Humanities Elective (3)	3		
	Open Elective (3)	3		
Total		16		

Dept. Electives offered: Spring			
ECE 333	Analog ICs	3	ECE 213
ECE 363/1	Logic & Comp Design	4	ECE 263
ECE 403	Direct Generation	3	ECE 213
CS 3303	Net-Centric Comp	3	CS1123
CS 3933	Software A & D	3	CS2503

ELECTRICAL ENGINEERING - MA 134 15-16 EIGHT SEMESTER PLAN

FRESHMAN FALL		STATUS	PREREQ	NOTES
MA 134	Calculus I	4	ACT/SAT	
CH 104	General Chemistry I & Laboratory	4	MA 113	
ECE 103	Projects and Prototypes	3		
ENG 103	English Composition 1	3	ACT/SAT	
GE 101	Introduction to Engineering	1		
Total		15		

YEAR 1

FRESHMAN SPRING		STATUS	PREREQ	NOTES
MA 164	Calculus II	4	MA134 ≥ C	
CS 1113	OO Java	3		
ENG 133	Technical Com	3	ENG 103/104 ≥ C	
PH 224(L)	Physics I	4	MA 134	
	Social Sciences Elective (3)	3		
Total		17		

SOPHOMORE FALL		STATUS	PREREQ	NOTES
MA 213	Calculus III	3	MA 164 ≥ C	
ECE 213/1	Circuits & Lab	4	MA 134 & ECE 103	
ECE 263/1	Digital & Lab	4		
SP 203	Effective Speaking	3	ENG 133 (or 113)	
	Humanities Elective (3)	3		
Total		17		

YEAR 2

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
MA 233	Differential Equations	3	MA 213	
ECE 3033	Discrete Electr	3	ECE 213	
ECE 3073/1	Microcontrollers	4	ECE 263	
PH 234(L)	Physics II	4	MA 164 & PH 224	
	ES Elective (3)	3	varies	
Total		17		

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 393	Prob & Stat	3	MA 213	
ECE 313 or alter	Dept Elect. (usu. Power)	3	See below	
ECE 3043	Analog Signals	3	MA 164, ECE 213&263 ≥ C	
ECE 3051	Junior Lab	1	ECE 213, 263	
ECE 483/1	Instrument Systems & Laboratory	4	ECE 213	
	Compl. Elective (3)	3		
Total		17		

YEAR 3

JUNIOR SPRING		STATUS	PREREQ	NOTES
ECE 303/1	Electrical Machines	4	ECE 263	
	ECE/CS Elective (3)	3	See below	
	Humanities Elective (3)	3		
	Compl. Elective (3)	3		
	Advanced Mathematics Elective (3)	3	Specific	
Total		16		

SENIOR FALL		STATUS	PREREQ	NOTES
ECE 4002	Project Mgt	2	Approval	
ECE 323	EMF	3	MA 233, PH 234	
GE 401	Prof Practice	1	Sr Standing	
	ES Elective (2)	2		
	ECE/CS Elective (3)	3	See below	
	Unrestricted Electives (6)	6		
Total		17		

YEAR 4

SENIOR SPRING		STATUS	PREREQ	NOTES
ECE 453	Random Proc.	3	MA 393	
ECE 4001	Cont. Issues	1	Sr Standing	
ECE 4003	Design Proj	3	ECE 3043, 3173/1, 4002	
ECE/CS	Dept. Elective	3	See below	
	Social Sciences Elective (3)	3		
	Open Elective (3)	3		
Total		16		

Department Electives offered: Fall			
ECE 313	Electrical Power	3	ECE 213
ECE 353/1	CMOS/VLSI	4	ECE 233
ECE 3373/1	Embedded Sys	4	ECE 3073
ECE 463/1	Digital Sig Proc	3	ECE 3043 (243)
CS 2103	Algorithms	3	CS 1123
CS 2503	Software Engr	3	CS 1123
CS 3883	Computer Security	3	CS 1123

Department Electives offered: Spring			
ECE 333	Analog ICs	3	ECE 213
ECE 363/1	Logic & Comp Des	4	ECE 263
ECE 403	Direct Generation	3	ECE 213
CS 3303	Net-Centric Comp	3	CS1123
CS 3933	Software A & D	3	CS2503

Mechanical Engineering - MA 113 & MA 123

15-16 EIGHT SEMESTER PLAN

FRESHMAN FALL			YEAR 1		
		STATUS	PREREQ	NOTES	
ENG 103	English Composition 1	3	ACT/SAT		
GE 101	Introduction to Engineering	1			
ECO 213	Microeconomics	3			
EGR 143	Engineering Graphics	3			
MA 113	College Algebra	3	ACT/SAT		
MA 123	Trigonometry	3	ACT/SAT		
Total		16			

FRESHMAN SPRING			YEAR 1		
		STATUS	PREREQ	NOTES	
ENG 133	Technical Communication	3	ENG 103		
MA 134	Calculus I	4	MA 113/123		
CH 104	General Chemistry I & Lab	4	MA 113		
	Humanities/SS Elective (3)	3			
	Humanities/SS Elective (3)	3			
Total		17			

SOPHOMORE FALL			YEAR 2		
		STATUS	PREREQ	NOTES	
ES 213	Statics	3	co PH 224, co MA 164		
ES 233	Engineering Materials	3	CH 104, co PH 224		
PH 224	Physics I	4	MA 134		
MA 164	Calculus II	4	MA 134		
MAE 203	Mech Engineering Analysis	3	MA 134, co EGR 143		
Total		17			

SOPHOMORE SPRING			YEAR 2		
		STATUS	PREREQ	NOTES	
ES 223	Dynamics	3	ES 213/MA		
ES 243	Solid Mechanics	3	ES 213		
MAE 243	MFG Processes and Equip	3	ES 233, co ES		
ES 313	Thermodynamics	3	MA 164/PH		
SP 203	Effective Speaking	3	ENG 133		
MA 213	Calculus III	3	MA 164		
Total		18			

JUNIOR FALL			YEAR 3		
		STATUS	PREREQ	NOTES	
MA 313	Linear Algebra	3	MA 213		
MAE 323	Thermodynamics II	3	ES 313		
MAE 303	Mech Machinery	3	ES 223		
MA 393	Prob & Stat	3	MA 213		
MA 233	Diff Equations	3	MA 213		
MAE 353	Mach Comp Design	3	ES 233/243, co MA 313		
Total		18			

JUNIOR SPRING			YEAR 3		
		STATUS	PREREQ	NOTES	
ES 253	Electrical Science	3	MA 134/PH		
MAE 3033	Fluid Dynamics	3	ES		
ES 382	Engineering Economics	2	Jr Standing		
MA	Mech Vibs/Sys Dyn & Control	3	MA 233/MAE		
MA 373	Camd	3	ES 243/EGR		
PH 234	Physics II + Lab	4	MA 164/PH		
Total		18			

SENIOR FALL			YEAR 4		
		STATUS	PREREQ	NOTES	
MAE 4053	Mech Design I	3	MAE 303/353/373, ES 313		
ES 343	Heat Transfer	3	MA 233/ES313/MAE3033		
MAE 463	Measurement Laboratory	3	ES 253/MA 393/MAE 353		
	MAE elective*** (3)	3			
	Humanities/SS Elective (3)	3			
Total		15			

SENIOR SPRING			YEAR 4		
		STATUS	PREREQ	NOTES	
MAE 4063	Mech Design II	3	MAE 4053		
MAE 413	T/F Comp Design	3	ES 343/MAE		
GE 401	Professional Practice	1	Jr Standing		
	MAE elective*** (3)	3	ES 253/MA		
	MAE elective*** (3)	3			
Total		13			

*** May be an engineering course outside MAE department to fulfill engineering minor

Mechanical Engineering - MA 134 & CH 104 15-16 EIGHT SEMESTER PLAN

FRESHMAN FALL		STATUS	PREREQ	NOTES
CH 104	General Chemistry I & Lab	4	ACT/SAT	
ENG 103	English Composition 1	3	ACT/SAT	
GE 101	Introduction to Engineering	1		
MA 134	Calculus I	4	ACT/SAT	
EGR 143	Engineering Graphics	3		
Total		15		

YEAR 1

FRESHMAN SPRING		STATUS	PREREQ	NOTES
MAE 203	Mech Engineering Analysis	3	MA 134, co EGR 143	
ENG 133	Technical Communication	3	ENG 103	
MA 164	Calculus II	4	MA 134	
PH 224	Physics I	4	MA 134	
	Humanities/SS Elective** (3)	3		
Total		17		

SOPHOMORE FALL		STATUS	PREREQ	NOTES
ES 213	Statics	3	co PH 224, co MA 164	
ES 233	Engineering Materials	3	CH 104, co PH 224	
PH 234	Physics II + Lab	4	MA 164/PH 224	
MA 213	Calculus III	3	MA 164	
SP 203	Effective Speaking	3	ENG 133	
Total		16		

YEAR 2

SOPHOMORE SPRING		STATUS	PREREQ	NOTES
ES 223	Dynamics	3	ES 213/MA 164/PH 224	
ES 243	Solid Mechanics	3	ES 213	
MAE 243	MFG Processes and Equip	3	ES 233, co ES 243	
ES 313	Thermodynamics	3	MA 164/PH 224/ES 213	
MA 233	Diff Equations	3	MA 213	
	Humanities/SS Elective** (3)	3		
Total		18		

JUNIOR FALL		STATUS	PREREQ	NOTES
MA 313	Linear Algebra	3	MA 213	
MAE 323	Thermodynamics II	3	ES 313	
MAE 303	Mech Machinery	3	ES 223	
MAE 3033	Fluid Dynamics	3	ES 223/313/MA 233	
ES 253	Electrical Science	3	MA 134/PH 224	
MAE 353	Mach Comp Design	3	ES 233/243, co MA 313	
Total		18		

YEAR 3

JUNIOR SPRING		STATUS	PREREQ	NOTES
MA 393	Prob & Stat	3	MA 213	
ES 343	Heat Transfer	3	MA 233/ES313/MAE3033	
GE 401	Professional Practice	1	Jr Standing	
MA	Mech Vibs/Sys Dyn & Control	3	MA 233/MAE 303	
MA 373	Camd	3	ES 243/EGR 143 co MA 313	
	Humanities/SS Elective** (3)	3		
Total		16		

SENIOR FALL		STATUS	PREREQ	NOTES
MA 413	T/F Comp Design	3	ES 343/MAE 333/3033	
MAE 4053	Mech Design I	3	MAE 303/353/373, ES 313	
ES 382	Engineering Economics	2	Jr Standing	
	MAE elective*** (3)	3		
	MAE elective*** (3)	3		
	Unrestricted Elective (3)	3		
Total		17		

YEAR 4

SENIOR SPRING		STATUS	PREREQ	NOTES
MAE 4063	Mech Design II	3	MAE 4053	
MAE 463	Measurement Laboratory	3	ES 253/MA 393/MAE 353	
	MAE elective*** (3)	3		
	Unrestricted Elective (3)	3		
	Humanities/SS Elective** (3)	3		
Total		15		

** One elective restricted to ECO 213

*** May be an engineering course outside MAE department to fulfill engineering minor