ENGINEERING TRANSFER (ENGN)-SURVEYING PROGRAM Map

"I" = Introduces the concept
"R" = Reinforces or contributes additional information
"E" = Emphasis (assumes level of mastery)
The numeric refers to notes

Core

Program Student Learning Outcomes	GEN ED SLO	General Chemistry CHEM 1030	Principles of Microeconomics ECON 2030	Composition I ENGL 1010	Calculus I MATH 1910	Calculus II MATH 1920	Calculus III MATH 2910	Advanced Engineering Mathematics MATH 2990	Introduction to Engineering and Technology ENGR 1020	Introduction to Engineering Analysis ENGR 2160	Engineering Physics PHYS 1100	Humanities Elective (See page 19) GEE
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a								R	R		
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c								E	E		
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d								I	E		
4 Communicate effectively	EC-a, EC-b								I	R		
5 Function on project teams	EC-a, EC-c, EU-b								I			
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a									E		
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e								I			
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e								E	E		

Biomedical

Program Student Learning Outcomes	GEN ED SLO	Human Anatomy BIOL 1010	Human Physiology BIOL 1020	Orientation to Biotechnology BIOL 1300	Intro To Biomedical Engineering (URI Course) BME 207	Biomedical Engineering Seminar II (URI Course) BME 281	Health Sciences Chemistry II CHEM 1190	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Digital Electronics ENGR 2320	Linear Electrical Systems/Circuit Theory for Engineers ENGR 2620	Linear Electrical Systems/Circuit Theory Lab ENGR 2621
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a							R	R	R	R	R
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c							E	E	E	E	R
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d							E	E	E	E	E
4 Communicate effectively	EC-a, EC-b									R	E	R
5 Function on project teams	EC-a, EC-c, EU-b											R
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a							E	E	E	E	
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e											
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e							E	E	E	E	E

Chemical

Program Student Learning Outcomes	GEN ED SLO	Chemical Process Calculations (URI Course) CHE 212	Intro to Chemical Engrg Calculations (URI Course) CHE 272	Chemical Engrg Thermodynamics I (URI Course) CHE 313	Physical Metallurgy (URI Course) CHE 332	General Chemistry II CHEM 1100	Organic Chemistry CHEM 2270	Organic Chemistry II CHEM 2280	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a								R	R
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c								E	E
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d								E	E
4 Communicate effectively	EC-a, EC-b									
5 Function on project teams	EC-a, EC-c, EU-b									
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a								E	E
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e									
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e								E	E

Chem-Biology

Program Student Learning Outcomes	GEN ED SLO	General Biology BIOL 1002	General Microbiology BIOL 2480	Chemical Process Calculations (URI Course) CHE 212	Intro to Chemical Engrg Calculations (URI Course) CHE 272	Chemical Engrg Thermodynamics I (URI Course) CHE 313	Physical Metallurgy (URI Course) CHE 332	General Chemistry II CHEM 1100	Organic Chemistry CHEM 2270
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a								
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c								
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d								
4 Communicate effectively	EC-a, EC-b								
5 Function on project teams	EC-a, EC-c, EU-b								
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a								
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e								
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e								

Civil

Program Student Learning Outcomes	GEN ED SLO	Intro to Civil Engineering Tools CVE 205	Mechanics of Materials Lab CVE 230	Engineering Graphics ENGR 1030	Engineering Mechanics - Statics ENGR 2050	Engineering Mechanics - Dynamics ENGR 2060	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Mechanics of Material for Engineers ENGR 2540	General Geology GEOL 1010
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a			R	R	R	R	R	R	
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c			E	E	E	E	E	E	
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d			I	E	E	E	E	E	
4 Communicate effectively	EC-a, EC-b			I					R	
5 Function on project teams	EC-a, EC-c, EU-b			I					R	
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a				E		E	E	E	
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e			I						
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e			E	E	E	E	E	E	

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Computer

Program Student Learning Outcomes	GEN ED SLO	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Digital Electronics ENGR 2320	Microprocessors and Microcomputers ENGR 2520	Linear Electrical Systems/Circuit Theory for Engineers ENGR 2620	Linear Electrical Systems/Circuit Theory Lab ENGR 2621	Java Programming COMI 1510	General Education Elective (See page 19) GEE
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a	R	R	R	R	R	R		
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c	E	E	E	E	E	R		
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d	E	E	E	E	E	E		
4 Communicate effectively	EC-a, EC-b			R		E	R		
5 Function on project teams	EC-a, EC-c, EU-b						R		
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a	E	E	E		E			
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e								
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e	E	E	E	E	E	E		

Electrical

Program Student Learning Outcomes	GEN ED SLO	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Digital Electronics ENGR 2320	Microprocessors and Microcomputers ENGR 2520	Linear Electrical Systems/Circuit Theory for Engineers ENGR 2620	Linear Electrical Systems/Circuit Theory Lab ENGR 2621	Scientific Programming MATH 1510	Topics in Acoustics, Optics and Thermodynamics PHYS 2110	Introduction to Acoustics and Optics Lab PHYS 2111
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a	R	R	R	R	R	R			
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c	E	E	E	E	E	R			
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d	E	E	E	E	E	E			
4 Communicate effectively	EC-a, EC-b			R		E	R			
5 Function on project teams	EC-a, EC-c, EU-b						R			
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a	E	E	E		E				
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e									
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e	E	E	E	E	E	E			

Industrial

Program Student Learning Outcomes	GEN ED SLO	Engineering Graphics ENGR 1030	Engineering Mechanics - Statics ENGR 2050	Engineering Mechanics - Dynamics ENGR 2060	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Mechanics of Material for Engineers ENGR 2540	Linear Electrical Systems/Circuit Theory for Engineers ENGR 2620	Indust. And Sytems Engrg Seminar (URI Course) ISE 220	Mfg Processes and Systems (URI Course) ISE 240	Mfg Processes and Systems Lab (URI Course) ISE 241	Topics in Acoustics, Optics and Thermodynamics PHYS 2110	Introduction to Acoustics and Optics Lab PHYS 2111
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a	R	R	R	R	R	R	R					
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c	E	E	E	E	E	E	E					
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d	I	E	E	E	E	E	E					
4 Communicate effectively	EC-a, EC-b	I					R	E					
5 Function on project teams	EC-a, EC-c, EU-b	I					R						
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a		E		E	E	E	E					
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e	I											
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e	E	E	E	E	E	E	E					

Mechanical

Program Student Learning Outcomes	GEN ED SLO	Engineering Graphics ENGR 1030	Engineering Mechanics - Statics ENGR 2050	Engineering Mechanics - Dynamics ENGR 2060	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Mechanics of Material for Engineers ENGR 2540	Linear Electrical Systems/Circuit Theory for Engineers ENGR 2620	Indust. And Sytems Engrg Seminar (URI Course) ISE 220	Mfg Processes and Systems (URI Course) ISE 240	Mfg Processes and Systems Lab (URI Course) ISE 241	Topics in Acoustics, Optics and Thermodynamics PHYS 2110	Introduction to Acoustics and Optics Lab PHYS 2111
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a	R	R	R	R	R	R	R					
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c	E	E	E	E	E	E	E					
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d	I	E	E	E	E	E	E					
4 Communicate effectively	EC-a, EC-b	I					R	E					
5 Function on project teams	EC-a, EC-c, EU-b	I					R						
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a		E		E	E	E	E					
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e	I											
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e	E	E	E	E	E	E	E					

Ocean

Program Student Learning Outcomes	GEN ED SLO	Engineering Mechanics - Statics ENGR 2050	Engineering Mechanics - Dynamics ENGR 2060	Introduction to Electrical Engineering ENGR 2150	Introduction to Electrical Engineering Lab ENGR 2151	Mechanics of Material for Engineers ENGR 2540	Intro to Ocean Engineering (URI Course) OCE 101	Ocean Engineering Design Tools (URI Course) OCE 205	Ocean Instrumentation (URI Course) OCE 206	Topics in Acoustics, Optics and Thermodynamics PHYS 2110	Introduction to Acoustics and Optics Lab PHYS 2111
1 Complete a course of study that leads to successful transfer to a 4-yr ABET accredited program	EC-a, AE-a	R	R	R	R	R					
2 Apply knowledge of mathematics, science, and engineering	EC-a, EC-d, IA-a, IA-c	E	E	E	E	E					
3 Identify, formulate, and solve engineering problems	EC-a, IA-c, IA-d	E	E	E	E	E					
4 Communicate effectively	EC-a, EC-b					R					
5 Function on project teams	EC-a, EC-c, EU-b					R					
6 Design and conduct experiments as well as analyze and interpret data	EC-a, EC-b, AE-a	E		E	E	E					
7 Demonstrate knowledge of contemporary issues	EC-a, AE-e										
8 Recognize and understand the need to engage in life-long learning	EC-a, EC-d, AE-e	E	E	E	E	E					

Effective Communications (EC)	
a. Use Standard English	EC-a
b. Grammar and mechanics.	EC-b
c. Create work that addresses a given purpose and context and responds to the target audience.	EC-c
d. Present a central idea, supported by concrete, relevant details.	EC-d
e. Establish a clear and consistent sequence of ideas.	EC-e
Analysis and Evaulation (AE)	
a. Identify and analyze complex ideas.	AE-a
b. Determine a research focus and the nature and scope of information needed.	AE-b
c. Locate, evaluate and use information effectively.	AE-c
d. Draw logical conclusions from information.	AE-d
e. Express well-reasoned or innovative perspectives.	AE-e

Interprete and Apply (IA)	
a. Demonstrate an understanding of mathematical, quantitative, or scientific purposes.	IA-a
b. Apply a scientific approach in asking questions.	IA-b
c. Apply mathematical, quantitative or scientific principles in solving problems.	IA-c
d. Interpret numeric information in graphical form.	IA-d
Evaluation and Understanding (EU)	
a. Evaluate dimensions of decisions.	EU-a
b. Use teamwork to accomplish tasks in groups.	EU-b
c. Demonstrate an understanding of global, cultural and historical perspectives.	EU-c