

Program Learning Outcomes

I= Introduced
 R= Reinforced
 M= Mastered

Program Name: Engineering

Date: 6/4/20

Program Learning Outcomes Knowledge, skill, or behavior students can demonstrate upon program completion		Courses Mapped to Outcomes										
		ENGS 100- Intro to Eng	ENGS 122- Intro to Eng Matr	ENGS 140- Intro to Electric Circuits	ENGS 170- CAD	ENGS 220- Statics	ENGS 210- Eng. Computing	ENGS 331- Dynamic Systems	ENGS 333- Dynamic Systems Lab	ENGS 3XX- Elective	ENGS 451- Intro to Eng. Design	ENGS 452- Eng. Design
1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	I	I	I	I	R	R	M		M		
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	I								R	M	M
3	An ability to communicate effectively with a wide range of audiences	I	I	I		R			R	(R)	M	M
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts										M	
5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive	I	I			R					M	M

	environment, establish goals, plan tasks, and meet objectives											
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions			I				R	R		M	
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies		I		I			R			M	

Program Learning Outcomes: Assessment Tools

Program Name: Engineering

Date: 6/4/20

Program Learning Outcomes Knowledge, skill, or behavior students can demonstrate upon program completion		Measurement Tool	Timeline/Frequency of Assessment	Target	Review
1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	Analytic rubric applied on ENGS 331 assignment	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at August pre-academic year meeting
		Fundamentals of Engineering Exam style questions in ENGS 346	Annually	75% of students obtain 75% or higher on the provided questions	Results reviewed annually by faculty at September department meeting
		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed every three years by faculty at August pre-academic year meeting
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Analytic rubric applied to ENGS 452 capstone project	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at August pre-academic year meeting
		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed annually by faculty at September department meeting
3	An ability to communicate effectively with a wide range of audiences	Analytic rubric applied to ENGS 451 oral presentation	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at August pre-academic year meeting
		Analytic rubric applied to ENGS 451 oral presentation	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at August pre-academic year meeting

		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed annually by faculty at September department meeting
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	Analytic rubric applied to activity in ENGS 080	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at September department meeting
		Fundamentals of Engineering Exam style questions in ENGS 451	3 years	75% of students obtain 75% or higher on the provided questions	Results reviewed every three years by faculty at September department meeting
		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed annually by faculty at September department meeting
5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	Analytic rubric based on demonstrated teamwork in capstone project as evaluated by instructor in ENGS 452	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at September department meeting
		Analytic rubric based on perceived teamwork in capstone project as evaluated by team members in ENGS 452	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at September department meeting
		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed annually by faculty at September department meeting
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions	Analytic rubric applied to exam questions in ENGS 333	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at September department meeting
		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed annually by faculty at September department meeting
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	Analytic rubric applied to exam questions in ENGS 331	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at September department meeting

		Analytic rubric applied to exam questions in ENGS 346	3 years	75% of students achieve proficient or exemplary on the rubric	Results reviewed every three years by faculty at September department meeting
		Senior and Alumni Surveys	Annually / 6 years	80% of respondents indicate their ability as Good or Excellent	Results reviewed annually by faculty at September department meeting