Mechanical Engineering Assessment Plan Dashboard - 2019/20

SO	Description	Met Target?		
		Method 1	Method 2	Method 3
1	An ability to identify, formulate, and solve complex engineering problems by applying knowledge of engineering, science, and mathematics (old outcome: a)	Not met	Not met	Exceeded
2	Design a system to meet needs within realistic constraints (old outcome: c)	Exceeded	Not met	N/A
3	An ability to communicate effectively with a range of audiences (old outcome: g)	Exceeded	Not met	N/A
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must conisder the impact of engineering solutions in global, economic, environmental, and societal contexts (old outcome: f)	Exceeded	Exceeded	N/A
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 (old outcome: d)	Exceeded	Not met	N/A
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions (old outcome: b)	Exceeded	Met	Not met
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies (old outcome: i)	Exceeded	Exceeded	N/A
8	Christian worldview and character (old outcome: I)	Exceeded	Exceeded	N/A

Key	
n/a	not applicable, method not used
NR	not reported, no results reported
Exceeded	exceeded the target
Met	target met, no action required
Not Met	target not met
New	new measurement, results not gathered yet
IP	in process, interpretation of results is in work

Mechanical Engineering Assessment Plan Dashboard Detail - 2019/20

SO 1 - An ability to identify, formulate, and solve complex engineering problems by applying knowledge of engineering, science, and mathematics (old outcome: a)			
Method 1	Course Level Assessment (CLA) EGR3093 Machine Component Design (final exam)	80% will be ≥ 3 out of 4	Not met
Method 2	Major Field Test (MFT) (MFT test grade)	80% of students receive ≥ 50% correct	Not met
Method 3	Recent Graduate Surveys (RGS) * (Alumni surveys)	Average ranking 80% (4 on a 5-point scale)	Exceeded
SO 2 - Design a system to meet needs within realistic constraints (old outcome: c)			
Method 1	Course Level Assessment (CLA) EGR4022 Senior Design Project II (final report)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Not met
Previous method:	Previous method: CLA EGR3093 Machine Component Design (test 2, problem #5) and EGR3053 Heat Transfer (heat transfer project) (no longer being used)	80% will be ≥ 3 out of 4	N/A
SO 3 - An ability to communicate effectively with a range of audiences (old outcome: g)			
Method 1	Course Level Assessment (CLA) EGR4022 Senior Design Project II (final design review overall presentation)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Not met
Previous method:	Previous method: CLA EGR3093 Machine Component Design (Ariel Foundation Park learning station project presentation) (no longer used)	80% will be ≥ 3 out of 4	N/A

SO 4 - An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must conisder the impact of engineering solutions in global, economic, environmental, and societal contexts (old outcome: f)			
Method 1	Course Level Assessment (CLA) EGR4001 Engineering Ethics (case study presentation and final report)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Exceeded
Previous method:	Previous method: CLA EGR4012 Senior Design Project I and EGR 4022 Senior Design Project II (observations and reports/presentations) (no longer used)	80% will be ≥ 3 out of 4	N/A
SO 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 (old outcome: d)			
Method 1	Course Level Assessment (CLA) EGR4022 Senior Design II (peer review and faculty assessment)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Not met
Previous method:	Previous method: CLA EGR4012 Senior Design I (peer review and faculty assessment) (no longer used)	80% will be ≥ 3 out of 4	N/A
SO 6 - An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions (old outcome: b)			
Method 1	Course Level Assessment (CLA) EGR3044 Fluid Mechanics (ten lab reports)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Course Level Assessment (CLA) EGR3014 Mechanics fo Materials (nine lab reports)	80% will be ≥ 3 out of 4	Met
Method 3	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Not met

SO 7 - An ability to acquire and apply new knowledge as needed, using appropriate learning strategies (old outcome: i)			
Method 1	Course Level Assessment (CLA) EGR4022 Senior design project II (FDR grade)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Exceeded
Previous method:	Previous methods: CLA EGR2083 Engineering materials and processes (test 2 problem #2 & homework #5 & #13) and EGR3093 Machine Component Design (individual student teaching presentations) (no longer used)	80% will be ≥ 3 out of 4	N/A
SO8 - Christian worldview and character (old outcome: I)			
Method 1	Engineering Ethics EGR 4001 (Quiz 6)	80% will be ≥ 3 out of 4	Exceeded
Method 2	Recent Graduate Surveys (RGS)	Average of 80% (4 on a 5-point scale)	Exceeded
Previous method:	Previous method: CLA EGR3093 Machine Component Design (homework #10) and EGR2073 Thermodynamics in 2017-18 (read the paper "Engineering Through Eyes of Fath" and answer a series of questions) and EGR2083 Engineering Materials and Processes in 2018-19 (no longer used)	80% will be ≥ 3 out of 4	N/A

Notes:
Previous methods of assessment are shown on several of the SLO's.