

Summary of Program Outcomes Assessment Term 062

Program Outcome	Assessment & Evaluation Methods	Performance Criteria	Evaluation	Recommendation
<p><i>(a) an ability to apply knowledge of mathematics, science, and engineering</i></p>	<ul style="list-style-type: none"> • Samples of COE 400, COE 485 and COE 351 reports • Math 101, Math 102, Math 201, Math 260, Phys. 101, Phys. 102, Chem. 101 • Exit exam • Graduate Exit Survey • Coop Employer Survey 	<ul style="list-style-type: none"> • A score ≥ 2.5 out of 4 • Average GPA ≥ 2.5 out of 4 • A score $\geq 60\%$ • A score ≥ 3 out of 5 • A score ≥ 3 out of 5 	<ul style="list-style-type: none"> • Score = 2.04 out of 4 • Average GPA ≥ 2.38 out of 4 • Score = 43.7% • Score = 4.33 out of 5 • 	<ul style="list-style-type: none"> • Needs Improvement: More emphasis needs to be given to this outcome, especially for MATH, in core COE courses.
<p><i>(b) an ability to design and conduct experiments, as well as to analyze and interpret data</i></p>	<ul style="list-style-type: none"> • Samples of COE 400, COE 344 and COE 305 lab reports • Graduate Exit Survey • Coop Employer Survey 	<ul style="list-style-type: none"> • A score ≥ 2.5 out of 4 • A score ≥ 3 out of 5 • A score ≥ 3 out of 5 	<ul style="list-style-type: none"> • Score = 3 out of 4 • Score = 4.07 out of 5 • 	<ul style="list-style-type: none"> • Achieved

<p><i>(c) an ability to design a system, component, or process to meet desired needs</i></p>	<ul style="list-style-type: none"> • Samples of COE 400, COE 485 and COE 351 reports • Graduate Exit Survey • Coop Employer Survey 	<ul style="list-style-type: none"> • A score ≥ 2.5 out of 4 • A score ≥ 3 out of 5 • A score ≥ 3 out of 5 	<ul style="list-style-type: none"> • Score = 2.38 out of 4 • A score ≥ 3.85 out of 5 • 	<ul style="list-style-type: none"> • Needs Improvement: Design aspects need to be more emphasized in COE 400, COE 485 and COE 351.
<p><i>(d) an ability to function on multi-disciplinary teams</i></p>	<ul style="list-style-type: none"> • Samples of COE 400, COE 485 and COE 351 reports • Peer & instructor evaluations in COE 400 • Graduate Exit Survey • Coop and Summer Training Employer Survey 	<ul style="list-style-type: none"> • A score ≥ 2.5 out of 4 • A score ≥ 2.5 out of 4 • A score ≥ 3 out of 5 • A score ≥ 3 out of 5 	<ul style="list-style-type: none"> • Score = 3.19 out of 4 • Score = 2.49 out of 4 • Score = 3.54 out of 5 • Score = 4.25 out of 5 	<ul style="list-style-type: none"> • Achieved
<p><i>(e) an ability to identify, formulate, and solve engineering problems</i></p>	<ul style="list-style-type: none"> • Samples of COE 400, COE 485 and COE 351 reports • Graduate Exit Survey • Coop Employer Survey 	<ul style="list-style-type: none"> • A score ≥ 2.5 out of 4 • A score ≥ 3 out of 5 • A score ≥ 3 out of 5 	<ul style="list-style-type: none"> • Score = 2.75 out of 4 • Score = 4.33 out of 5 • 	<ul style="list-style-type: none"> • Achieved
<p><i>(f) an understanding of professional and ethical</i></p>	<ul style="list-style-type: none"> • IAS 212 • COE 390 Indirect 	<ul style="list-style-type: none"> • Average GPA ≥ 2.5 out of 4 • A score ≥ 2.5 out of 4 	<ul style="list-style-type: none"> • Average GPA = 3.21 out of 4 • Score = 2.75 out of 4 	<ul style="list-style-type: none"> • Achieved

<i>responsibility</i>	<ul style="list-style-type: none"> Assessment Graduate Exit Survey Coop and Summer Training Employer Survey 	<ul style="list-style-type: none"> A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Score = 3.96 out of 5 Score = 4.5 out of 5 	
<i>(g) an ability to communicate effectively</i>	<ul style="list-style-type: none"> Samples of COE 400, COE 485, COE 399 and COE 351 reports Sample COE 485 and COE 351 presentations ENGL 214 Graduate Exit Survey Coop and summer training Employer survey 	<ul style="list-style-type: none"> A score ≥ 2.5 out of 4 A score ≥ 2.5 out of 4 Average GPA ≥ 2.5 out of 4 A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Score = 2.35 out of 4 Score = 2.84 out of 4 Average GPA = 3.12 out of 4 Score = 4.2 out of 5 Score = 3.6 out of 5 	<ul style="list-style-type: none"> Needs Improvement: <ul style="list-style-type: none"> 1. More emphasis on writing skills need to be given in English courses. 2. More emphasis needs to be given on courses that have projects on writing skills.
<i>(h) the broad education necessary to understand the impact of engineering solutions in a global and societal context</i>	<ul style="list-style-type: none"> Samples of COE 400, COE 485 and COE 351 reports Graduate Exit Survey Coop Employer Survey 	<ul style="list-style-type: none"> A score ≥ 2.5 out of 4 A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Score = 2.38 out of 4 Score = 4.19 out of 5 	<ul style="list-style-type: none"> Needs Improvement: <ul style="list-style-type: none"> This outcome needs to be more emphasize in COE 485 and COE 400.
<i>(i) a recognition of the need for, and an ability to engage in life-long</i>	<ul style="list-style-type: none"> Samples of COE 400, COE 485 and COE 351 reports Graduate Exit 	<ul style="list-style-type: none"> A score ≥ 2.5 out of 4 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Score = 2.67 out of 4 Score = 3.78 out of 5 	<ul style="list-style-type: none"> Achieved

<i>learning</i>	<ul style="list-style-type: none"> Survey Coop Employer Survey 	<ul style="list-style-type: none"> A score ≥ 3 out of 5 	<ul style="list-style-type: none"> 	
<i>(j) knowledge of contemporary issues</i>	<ul style="list-style-type: none"> Samples of COE 400, COE 485 and COE 351 reports Graduate Exit Survey Coop Employer Survey 	<ul style="list-style-type: none"> A score ≥ 2.5 out of 4 A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Score = 2.25 out of 4 Score = 4 out of 5 	<ul style="list-style-type: none"> Needs Improvement: This outcomes needs to be improved through general courses offered by the university.
<i>(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.</i>	<ul style="list-style-type: none"> Samples of COE 400, COE 485 and COE 351 reports Graduate Exit Survey Coop Employer Survey 	<ul style="list-style-type: none"> A score ≥ 2.5 out of 4 A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Score = 2.81 out of 4 Score = 3.89 out of 5 	<ul style="list-style-type: none"> Achieved
<i>(l) Knowledge of Probability and Statistics and their applications in Computer Engineering</i>	<ul style="list-style-type: none"> STAT319 Graduate Exit Survey Coop Employer Survey 	<ul style="list-style-type: none"> Average GPA ≥ 2.5 out of 4 A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Average GPA = 2.81 out of 4 Score = 4.33 out of 5 	<ul style="list-style-type: none"> Achieved
<i>(m) Knowledge of Discrete Mathematics</i>	<ul style="list-style-type: none"> ICS 251 Graduate Exit Survey Coop Employer Survey 	<ul style="list-style-type: none"> Average GPA ≥ 2.5 out of 4 A score ≥ 3 out of 5 A score ≥ 3 out of 5 	<ul style="list-style-type: none"> Average GPA = 2.81 out of 4 Score = 4.33 out of 5 	<ul style="list-style-type: none"> Achieved

<p><i>(n) The ability to design a system that involves the integration of hardware and software components</i></p>	<ul style="list-style-type: none"> • Samples of COE 400, COE 485 and COE 351 reports • Graduate Exit Survey • Coop Employer Survey 	<ul style="list-style-type: none"> • A score \geq 2.5 out of 4 • A score \geq 3 out of 5 • A score \geq 3 out of 5 	<ul style="list-style-type: none"> • Score = 2.5 out of 4 • Score = 4.33 out of 5 • 	<ul style="list-style-type: none"> • Achieved
--------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------