

Program Level Outcomes Assessment Plan (PLOAP)

Program Name/College: BS Mechanical Engineering/ Kate Gleason College of Engineering

Student Learning Outcomes	Alignment to the 5 RIT Educational Goals	Data Source/ Measure	Benchmark	Timeline & Person(s) Responsible	Data Analysis & Key Findings	Use of Results Action Items & Dissemination
1. Problem Solving: An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	<input checked="" type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	1.1. Employer Co-op Rating: Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator	<i>Completed annually by program</i>	<i>Completed by program</i>
		1.2. Student Co-op Rating: Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		1.3 Course Materials. Homework, exams, lab reports, etc. across multiple courses. <ul style="list-style-type: none"> • MECE-117 Introduction to Programming for Engineers • MECE-205 Dynamics • MECE-310 Heat Transfer I • MECE-320 System Dynamics • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 	Mean \geq 70%	Biannually. All Faculty		
2. Design: 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	<input checked="" type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	2.1. Employer Co-op Rating: Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator	<i>Completed annually by program</i>	<i>Completed by program</i>
		2.2. Student Co-op Rating: Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		2.3. Course Materials. Homework, exams, lab reports, etc. across multiple courses <ul style="list-style-type: none"> • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 	Mean \geq 70%	Biannually. All Faculty		
3. Communicate: An ability to communicate effectively with a range of audiences	<input type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	3.1. Employer Co-op Rating: Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator	<i>Completed annually by program</i>	<i>Completed by program</i>
		3.2. Student Co-op Rating: Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		3.3. Course Materials. Homework, exams, lab reports, etc. across multiple courses <ul style="list-style-type: none"> • MECE-211 Engineering Measurements Lab (WI-PR) • MECE-306 Materials Science with Applications Laboratory 	Mean \geq 70% Multiple Choice \geq 70% correct response	Biannually. All Faculty		

		<ul style="list-style-type: none"> • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 				
4. Ethics: An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	<input type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input type="checkbox"/> Integrative Literacies	4.1. Employer Co-op Rating: An ability to recognize ethical and professional responsibilities in engineering situations. Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
	<input type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	4.2. Employer Co-op Rating: An ability to make informed judgments in consideration of the impact of engineering solutions in global, economic, environmental, and societal contexts. Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
	<input type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input type="checkbox"/> Integrative Literacies	4.3. Student Co-op Rating: An ability to recognize ethical and professional responsibilities in engineering situations. Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
	<input type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	4.4. Student Co-op Rating: An ability to make informed judgments in consideration of the impact of engineering solutions in global, economic, environmental, and societal contexts. Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
	<input type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	4.5. Course Materials. Homework, exams, lab reports, etc. across multiple courses <ul style="list-style-type: none"> • MECE-348 Contemporary Issues (WI-PR) • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 	Mean \geq 70% Multiple Choice \geq 70% correct response	Biannually. All Faculty		
5. Teamwork: 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	<input type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	5.1. Employer Co-op Rating: An ability to function effectively on a team. Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		5.2. Student Co-op Rating: An ability to function effectively on a team. Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		5.3. Course Materials. Homework, exams, lab reports, etc. across multiple courses <ul style="list-style-type: none"> • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 	Mean \geq 70% Multiple Choice \geq 70% correct response	Biannually. All Faculty		
6. Experimentation. An ability to develop and conduct appropriate experimentation, analyze and	<input checked="" type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input type="checkbox"/> Global Interconnectedness	6.1. Employer Co-op Rating: Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	90% of students with rating \geq 3 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		

interpret data, and use engineering judgment to draw conclusions	<input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	6.2. Student Co-op Rating: Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		6.3. Course Materials. Homework, exams, lab reports, etc. across multiple courses <ul style="list-style-type: none"> • MECE-301 Engineering Applications Laboratory • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 	Mean \geq 70% Multiple Choice \geq 70% correct response	Biannually. All Faculty		
7. Independent Learning: An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	<input type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Global Interconnectedness <input checked="" type="checkbox"/> Creative/Innovative Thinking <input checked="" type="checkbox"/> Integrative Literacies	7.1. Employer Co-op Rating: Rate the student on his/her performance in the following areas using the following scale: 5 = Excellent, 4 = Exceeds expectations, 3 = Meets expectations, 2 = Progressing toward expectations, 1 = Poor, 0 = Not applicable.	Mean value of employer assessment rating \geq 4.0 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		7.2. Student Co-op Rating: Please assess the extent to which your academic program prepared you 5 = Excellent, 3 = Average, 1 = Poor	Mean value of student assessment rating \geq 3.5 (out of 5)	Yearly in the fall, allowing for summer forms to be completed. Assessment Coordinator		
		7.3. Course Materials. Homework, exams, lab reports, etc. across multiple courses <ul style="list-style-type: none"> • MECE-348 Contemporary Issues (WI-PR) • MECE-497 Multidisciplinary Senior Design I • MECE-498 Multidisciplinary Senior Design II 	Mean \geq 70% Multiple Choice \geq 70% correct response	Biannually. All Faculty		