# MECHANICAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES (PEO's) EVALUATION RESULTS FROM

1. Kettering University Alumni Survey

For end of Calendar Year 2002

Academic Program Mission and Educational Objectives	Program Educational Objective	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement: The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals,	1. Are knowledgeable in the effective use of modern problem solving and design methodologies.	<ul> <li>1a. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education increased your knowledge/skills in the following areas: Computer-aided design."</li> <li>1b. 80% of the Mechanical Engineering alumni</li> </ul>	<ul> <li>1a. 84.7% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.</li> <li>1b. 56.5% of the Mechanical</li> </ul>	No Action Required, Continue to Monitor Possible misinterpretation of
strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities. <i>Program Educational Objectives</i> :		responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education increased your knowledge/skills in the following areas: Design of experiments."	Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	what Design of Experiments means
<ul> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design</li> </ul>		1c. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas: Education: Solve open-ended problems."	1c. 88.3% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	
<ul> <li>decisions in the engineering marketplace.</li> <li>Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>Have an appreciation and an enthusiasm for</li> </ul>		1d. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas:	1d. 73.3% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	
<ol> <li>life-long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in</li> </ol>		CO-OP: Solve open-ended problems."		
<ul> <li>engineering and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in</li> </ul>				

Academic Program Mission and Educational Objectives	Program Educational Objective	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement: The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic	2. Understand the implications of design decisions in the engineering marketplace	alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas: Education: Design Components, processes, or systems"	2a. 86.3% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	No Action Required, Continue to Monitor
performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities. <i>Program Educational Objectives</i> :		2b. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas: CO-OP: Design Components, processes, or systems"	2b. 81.8% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	No Action Required
<ol> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>Understand the implications of design decisions</li> </ol>		2c. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI increased your awareness of: Current engineering practices"	2c. 93.3% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	No Action Required
<ul> <li>in the engineering marketplace.</li> <li>1. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>2. Have an appreciation and an enthusiasm for lifelong learning.</li> </ul>		2d. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI increased your awareness of: Contemporary issues"	2d. 60.4% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	Continue to monitor with more data and input from alumni
<ol> <li>Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ol>		2e. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI increased your awareness of: The impact of engineering solutions in societal/global context"	2e. 45.4% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	Continue to monitor with more data and input from alumni

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<i>Mission Statement:</i> The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and	3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.	3a. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education increased your knowledge/skills in the following areas: Written communications skills"	3a. 65.2% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	Continue to Monitor in light of new curriculum
cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.		3b. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education increased your knowledge/skills in the following areas: Oral communications skills"	3b. 60.8% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	Continue to Monitor in light of new curriculum
<ul> <li><i>Program Educational Objectives:</i></li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design</li> </ul>		3c. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas: Education: Function on multi-disciplinary teams"	3c. 95.4% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	No Action Required
<ul> <li>methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>1. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>2. Have an appreciation and an enthusiasm for</li> </ul>		3d. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas: CO-OP: Function on multi-disciplinary teams"	3d. 70.5% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	Continue to Monitor
<ol> <li>life-long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ol>		3e. 80% of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above to the statement "Indicate the degree to which your Kettering/GMI education and Co-op experience increased your abilities in the following areas: Education: Analyze components, processes, or systems"	3e. 95.3 % of the Mechanical Engineering alumni responding to the Kettering University Alumni Survey indicate medium increase or above.	No Action Required

#### Academic Program Mission and **Program Educational Assessment Methods and Performance** Assessment Results Use of Assessment **Educational Objectives** Objective Standards Results Mission Statement: 4. Have an appreciation and an 4a. 80% of the Mechanical Engineering alumni 4a. 81.3% of the Mechanical No Action Required, enthusiasm for life-long learning. responding to the Kettering University Alumni Survey Engineering alumni responding to the Continue to Monitor indicate medium increase or above to the statement The academic mission of Mechanical Engineering Kettering University Alumni Survey is to develop and prepare applied mechanical "Indicate the degree to which your Kettering/GMI indicate medium increase or above. engineers, multi-discipline leaders, and technical education and Co-op experience increased your managers for a global and diverse market. This abilities in the following areas: Education: Engage in mission is accomplished in an academic and life-long learning" cooperative environment that promotes scholastic performance, sound engineering fundamentals, 4b. 80% of the Mechanical Engineering alumni 4b. 85.0% of the Mechanical No Action Required strong design experiences, and personal responding to the Kettering University Alumni Survey Engineering alumni responding to the professional integrity. The Department of indicate medium increase or above to the statement Kettering University Alumni Survey Mechanical Engineering encourages and fosters "Indicate the degree to which your Kettering/GMI indicate medium increase or above. team participation, creative thinking, a competitive education and Co-op experience increased your spirit, and professional activities. abilities in the following areas: CO-OP: Engage in lifelong learning" Program Educational Objectives: 4c. 80% of the Mechanical Engineering alumni The Department of Mechanical Engineering strives responding to the Kettering University Alumni Survey to produce graduates who: indicate one of the statements "Since graduating from Kettering/GMI, I have: completed a Ph.D. or other 1. Are knowledgeable in the effective use of doctoral-level degree (or I'm working on it right now) modern problem solving and design or completed a master-level degree (or I'm working on methodologies. it right now) or taken graduate-level course(s), but I'm 2. Understand the implications of design not pursuing a degree or completed a second bachelorsdecisions in the engineering marketplace. level degree (or I'm working on it right now)" 3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think 4d. 80% of the Mechanical Engineering alumni creatively, communicate effectively, responding to the Kettering University Alumni Survey synthesize indicate satisfied or above to the statement "How information, and work collaboratively. satisfied are you with the following aspects of Have an appreciation and an enthusiasm for 1. Kettering/GMI: Interactions with Library" life-long learning. Perform effectively on teams engaged in 2. continuous improvement activities in engineering and business processes. 3 Practice professionally and ethically in the field of Mechanical Engineering. 4. Are prepared for positions of Leadership in business and industry.

Mission Statement:       5. Perform effectively on tams magad in continuous improvement activities in engineering and business is to develop an pipelan addiverse methanical managers for a global and diverse methanical methanics schulattic competitive spin and point schulattic methanical methanics schulattic engineering and business processes.       The schuletter was rewritten a number of times to use so is accomplished in an academic and the pipelenentation.       Need to link this objective to use site of the human survey. In the process of implementation.       In the bing implemented with upcoming cycle of surveys.         storage design experimence, and performent for Morehanical Ingineering strateging concurrency environment that promotes schulattic process and forces and to be the site of the process of implementation.       Need to link this objective to upustion(s) on the Alumni survey. In the process of implementation.         Program Future to thinking, a competitive spin, and professional activities.       Section the time to the process of implementation.       Need to link this objective to upustion(s) on the Alumni survey. In the process of implementation.         Program Future to the competitive spin, and professional activities.       Section the time to the time	Academic Program Mission and Educational Objectives	Program Educational Objective	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
	<ul> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li><i>Program Educational Objectives:</i></li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>1. Understand the implications of design decisions in the engineering marketplace.</li> <li>2 Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for life-long learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> </ul>	engaged in continuous improvement activities in engineering and business		question(s) on the Alumni survey. In	with upcoming cycle of

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Educational ObjectivesMission Statement:The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.Program Educational Objectives: The Department of Mechanical Engineering strives to 			Assessment Results         6a. 60.0% of the Mechanical         Engineering alumni responding to the         Kettering University Alumni Survey         indicate medium increase or above.	
<ol> <li>Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>Have an appreciation and an enthusiasm for life-long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ol>				

Academic Program Mission and Educational Objectives	Program Educational Objective	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>	7. Are prepared for positions of Leadership in business and industry.	Set-up questions on the alumni survey and set standards.	Gather responses from the alumni survey in relations to situations they may have encountered in the curriculum.	Continue to monitor with more data and input from alumni, especially that the new curriculum has a course called Senior Seminar with focus on leadership, ethics, and life- long learning.

# MECHANICAL ENGINEERING PROGRAM EDUCATIONAL OUTCOMES (PO's) ASSESSMENT RESULTS FROM

- 1. Student's Evaluation of Co-op Term
- 2. Supervisor's Evaluation of Co-op Experience
  - 3. National College Student Report
  - 4. Senior Design Course Portfolio
- 5. Education Benchmarking Inc. (EBI) Survey
  - 6. Program Exit Survey
- 7. Senior Thesis Project (Employer's Evaluation)

For end of Calendar Year 2002

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>2. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>3. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>4. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>5. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>6. Are prepared for positions of Leadership in business and industry.</li> </ul>	A. An ability to apply knowledge of mathematics, science and engineering.	<ul> <li>A1. 80% of the mechanical engineering students responding to the Kettering University Student's Evaluation of CO-OP Work Term and COOP Program Survey will "Strongly Agree" or "Agree" to the statement "Kettering University prepared me in the following co-op competencies: Ability to apply knowledge of mathematics, science, and engineering."</li> <li>A2. 80% of the supervisors of mechanical engineering students responding to the Kettering University Supervisor's Evaluation of CO-OP Work Experience Survey indicate "Strongly Agree" or "Agree" to the statement "The student has demonstrated the ability to apply knowledge of mathematics, science, and engineering."</li> <li>A3. 80% of the mechanical engineering students responding to The College Student Report indicate "Very Much" or "Quite a Bit" to the question "During the current school year, to what extent has your coursework emphasized the following mental activities? Applying theories or concepts to practical problems or in new situations."</li> <li>A4. An average score of 85 will result when student portfolios in the ME Capstone classes are sampled and evaluated by a panel of faculty using the ME Capstone Evaluation Sheet with no component having an average of less than 7.0 on the 1 to 10 scale utilized.</li> </ul>	<ul> <li>94.6% of those responding to the Kettering University Supervisor's Evaluation of CO-OP Work</li> <li>Experience Survey indicated</li> <li>"Strongly Agree" or "Agree" to the statement "Demonstrated the ability to apply knowledge of mathematics, science, and/or engineering."</li> <li>100% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to apply knowledge of mathematics, science, and engineering."</li> <li>95.8% of those responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to apply knowledge of mathematics, science, and/or field of major."</li> <li>99.0% of those responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to apply knowledge of mathematics, science, and/or field of major."</li> </ul>	No Action Required, Continue to Monitor

#### Academic Program Mission and **Academic Program Outcome** Assessment Results Use of Assessment Assessment Methods and **Educational Objectives Performance Standards** Results B. An ability to design and conduct 95.7% of the Faculty Advisors Mission Statement: B1. 80% of the mechanical engineering students No Action Required, Continue responding to the Kettering University Student's experiments, as well as to analyze and responding to the Kettering to Monitor Evaluation of CO-OP Work Term and COOP University Senior Thesis Project: The academic mission of Mechanical Engineering interpret data. is to develop and prepare applied mechanical Program Survey will "Strongly Agree" or Faculty Advisor's Evaluation engineers, multi-discipline leaders, and technical "Agree" to the statement "Kettering University indicated "Strongly Agree" or managers for a global and diverse market. This prepared me in the following co-op "Agree" to the statement mission is accomplished in an academic and competencies: Ability to design and conduct "Demonstrated the ability to cooperative environment that promotes scholastic experiments, as well as to analyze and interpret conduct experiments, analyze and performance, sound engineering fundamentals, data." interpret data." strong design experiences, and personal professional integrity. The Department of 91.0% of those responding to the B2. 80% of the supervisors of mechanical Mechanical Engineering encourages and fosters engineering students responding to the EBI Engineering Student Survey indicated "moderately' and above team participation, creative thinking, a competitive Kettering University Supervisor's Evaluation of spirit, and professional activities. CO-OP Work Experience Survey indicate on the questions "To what degree "Strongly Agree" or "Agree" to the statement did your engineering education Program Educational Objectives: "The student has demonstrated the ability to enhance your ability to design design and conduct experiments, analyze and experiments" The Department of Mechanical Engineering strives interpret data." to produce graduates who: 94.8% of those responding to the EBI Engineering Student Survey 1. Are knowledgeable in the effective use of indicated "moderately" and above modern problem solving and design on the questions "To What degree methodologies. did your engineering education 2. Understand the implications of design enhance your ability to conduct decisions in the engineering marketplace. experiments" Are effective engineers, i.e. ones who are 3. able to formulate and analyze problems, think 96.1% of those responding to the creatively, communicate effectively, EBI Engineering Student Survey synthesize information, and work indicated "moderately" and above collaboratively. on the questions "To what degree 4. Have an appreciation and an enthusiasm for did your engineering education life-long learning. enhance your ability to analyze and Perform effectively on teams engaged in 5. interpret data." continuous improvement activities in engineering and business processes. B3. 80% of the mechanical engineering students 98% of those responding to the Practice professionally and ethically in the 6. responding to the EBI Engineering Student Mechanical Engineering Program field of Mechanical Engineering. Survey indicate "moderately" and above on the Exit Survey indicated "Average" or 7. Are prepared for positions of Leadership in question "To what degree did your engineering above to the statement "Reflecting business and industry. education enhance your ability to design on the ME as a whole, please rate experiments." the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: An ability to design and conduct experiments, as well as to analyze and interpret data."

	B4. 80% of the mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the question "To what degree did your engineering education enhance your ability to conduct experiments."	95.7% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to conduct experiments, analyze and interpret data."	
	B5. 80% of the mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the question "To what degree did your engineering education enhance your ability to analyze and interpret data."	97.1% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to conduct experiments, analyze and interpret data."	

#### Academic Program Mission and **Academic Program Outcome** Assessment Results Use of Assessment Assessment Methods and **Educational Objectives Performance Standards** Results C. An ability to design a system, Change MECH-230, Mission Statement: C1. 80% of the mechanical engineering students 77.3% of those resonding to the responding to the Kettering University Student's component, or process to meet desired Kettering University Supervisor's Introduction to Mechatronics Evaluation of CO-OP Work Term and COOP Evaluation of CO-OP Work Design from 8 credits to 4 The academic mission of Mechanical Engineering needs. is to develop and prepare applied mechanical Program Survey will "Strongly Agree" or Experience Survey indicated credits. Use the extra 4 credits engineers, multi-discipline leaders, and technical "Agree" to the statement "Kettering University "Strongly Agree" or "Agree" to the as an ME elective. statement "Demonstrated the ability managers for a global and diverse market. This prepared me in the following co-op mission is accomplished in an academic and competencies: Ability to design a system, to design a system, component, or Replace EE-210-211 with cooperative environment that promotes scholastic component, or process to meet desired needs." process to meet desire needs." MECH-231, Signal Analysis performance, sound engineering fundamentals, for Mechanical Systems. strong design experiences, and personal 91.0% of those responding to the professional integrity. The Department of EBI Engineering Student Survey C2. 80% of the supervisors of mechanical Mechanical Engineering encourages and fosters engineering students responding to the indicated "moderately" and above team participation, creative thinking, a competitive Kettering University Supervisor's Evaluation of on the questions "To what degree CO-OP Work Experience Survey indicate did your engineering education spirit, and professional activities. "Strongly Agree" or "Agree" to the statement enhance your ability to design experiments" Program Educational Objectives: "The student has demonstrated the ability to design a system, component, or process to meet The Department of Mechanical Engineering strives desired needs." 96.1% of those responding to the to produce graduates who: EBI Engineering Student Survey indicated "moderately" and above 1. Are knowledgeable in the effective use of on the questions "To what degree modern problem solving and design did your engineering education methodologies. enhance your ability to design a Understand the implications of design 2. system, component, or process to decisions in the engineering marketplace. meet desired needs." Are effective engineers, i.e. ones who are 3. able to formulate and analyze problems, think 98% of those responding to the creatively, communicate effectively, C3. 80% of the mechanical engineering students Mechanical Engineeering Program synthesize information, and work responding to the EBI Engineering Student Exit Survey indicated "Average" or collaboratively. Survey indicate "moderately" and above on the above to the statement "Reflecting Have an appreciation and an enthusiasm for 4. on the ME as a whole, please rate question "To what degree did your engineering life-long learning. education enhance your ability to design the contribution the WHOLE 5. Perform effectively on teams engaged in experiments." Educational Experience in helping continuous improvement activities in you achieve the following ME engineering and business processes. Program education outcome: 6. Practice professionally and ethically in the Ability to design a system, field of Mechanical Engineering. component, or process to meet 7. Are prepared for positions of Leadership in desired needs." business and industry. 100% of the Faculty Advisors C4. 80% of the mechanical engineering students responding to the Kettering responding to the EBI Engineering Student University Senior Thesis Project: Survey indicate "moderately" and above on the Faculty Advisor's Evaluation question "To what degree did your engineering indicated "Strongly Agree" or education enhance your ability to design a "Agree" to the statement system, component, or process to meet desired "Demonstrated the ability to design

	needs."	a system, component, or process to	
		meet desired needs."	
		meet debired needs.	
		100% of the Employers Advisors	
	C5. 80% of the Employers Advisors responding	responding to the Kettering	
	to the Kettering University Senior Thesis	University Senior Thesis Project:	
	Project: Employer Advisor's Evaluation indicate	Employer Advisor's Evaluation	
	"Strongly Agree" or "Agree" to the statement	indicated "Strongly Agree" or	
	"Demonstrate d the ability to design a sustain	"A man a" to the statement	
	"Demonstrated the ability to design a system,	"Agree" to the statement	
	component, or process to meet desired needs."	"Demonstrated the ability to design	
		a system, component, or process to	
		meet desired needs".	

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement:	<ul> <li>An ability to function in multidisciplinary teams.</li> </ul>	D1. 80% of the mechanical engineering students responding to the Kettering	86.9% of those responding to the Kettering University Supervisor's	No Action Required, Continue to Monitor
The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The		University Student's Evaluation of CO-OP Work Term and COOP Program Survey will "Strongly Agree" or "Agree" to the statement "Kettering University prepared me in the following co-op competencies: Ability to function on multidisciplinary teams."	Evaluation of CO-OP Work Experience Survey indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to function on multidisciplinary teams."	
Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities. <i>Program Educational Objectives:</i>		D2. 80% of the supervisors of mechanical engineering students responding to the Kettering University Supervisor's Evaluation of CO-OP Work Experience Survey indicate "Strongly Agree" or	98.7% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance	
The Department of Mechanical Engineering strives to produce graduates who:		"Agree" to the statement "The student has demonstrated the ability to function on multidisciplinary teams."	your ability to function on multidisciplinary teams."	
<ol> <li>Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>Understand the implications of design decisions in the engineering marketplace.</li> <li>Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>Have an appreciation and an enthusiasm for life- long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> </ol>		D3. 80% of the mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the question "To what degree did your engineering education enhance your ability to function on multidisciplinary teams."	99% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting" on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcomes: Ability to function in multi- disciplinary teams."	
<ol> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ol>		D4. An average score of 85 will result when student portfolios in the ME Capstone classes are sampled and evaluated by a panel of faculty using the ME Capstone Evaluation Sheet with no component having an average of less than 7.0 on the 1 to 10 scale utilized.	97.5% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the staement "Demonstrated the ability to function on multi-disciplinary teams"	
		D5. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to function on	99.0% of the Employer Advisors responding to the Kettering University Senior Thesis Project:	

	multi-disciplinary teams."	Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to function on multi-disciplinary teams."	

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>1. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>2. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>3. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>4. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>5. Are prepared for positions of Leadership in business and industry.</li> </ul>	B. An ability to function in multidisciplinary teams.	<ul> <li>E1. 80% of the mechanical engineering students responding to the Kettering University Supervisor's Evaluation of CO-OP Work Experience survey indicate "Very Satisfied" or "Satisfied" to work assignment attribute "Problem Solving: Thinks through problems, evaluates relevant facts, generates alternatives, makes sound conclusions and timely decisions.</li> <li>E2. 80% of the supervisors of mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the questions "To what degree did your engineering education enhance your ability to identify or formulate engineering problems" and "To what degree did your engineering education enhance you to solve engineering problems."</li> <li>E3 80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to identify, formulate and solve engineering problems."</li> </ul>	<ul> <li>95.9% of those responding to the Kettering University Supervisor's Evaluation of CO-OP Work Experience Survey indicated 'Very Satisfied'' or "Satisfied'' to the work assignment attribute "Problem Solving: Thinks through problems, evaluates relevant facts, generates alternatives, makes sound conclusions and timely decisions."</li> <li>95.2% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance your ability to identify or formulate our to solve engineering problems."</li> <li>97.4% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance your ability to identify or formulate our to solve engineering problems."</li> <li>97.4% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance you to solve engineering problems."</li> <li>100% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to identify formulate and solve engineering problems."</li> </ul>	No Action Required, Continue to Monitor

	E4. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to identify, formulate and solve engineering problems."	98.0% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to identify, formulate and solve engineering problems."	
	E5. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly" Agree" or "Agree" to the statement "Demonstrated the ability to identify, formulate and solve engineering problems."	100% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to identify, formulate and solve engineering problems."	

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement:The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a 	F. An understanding of professional and ethical responsibility.	<ul> <li>F1. 80% of the mechanical engineering students responding to the Kettering University Student's Evaluation of CO-OP Work Term and COOP Program Survey will "Strongly Agree" or "Agree" to the statement "Kettering University prepared me in the following co-op competencies: Understanding of professional and ethical responsibility"</li> <li>F2. 80% of the supervisors of mechanical engineering students responding to the Kettering University Supervisor's Evaluation of CO-OP Work Experience Survey indicate "Strongly Agree" or "Agree" to the statement "The student has demonstrated the understanding of professional and ethical responsibility."</li> </ul>	<ul> <li>95.1% of those responding to the Kettering University Supervisor's Evaluation of CO-OP Work Experience Survey inidicated "Strongly Agree" or "Agree" to the statement. "Demonstrated understanding of professional and ethical responsibility."</li> <li>77.9% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance your ability to understand ethical responsibilities"</li> </ul>	Continue a special noon meeting for Sophomore 1 students during Summer/Fall terms that explains Mechanical Engineering, ethics, and lifelong learning. Add a link to Code of Ethics on all courses via Blackboard and include NSPE's Creed in Students' Handbook. Make a plaque of the Creed, and display Ethics and Professionalism issues inside a display board mounted in the hallway.
<ol> <li>Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>Understand the implications of design decisions in the engineering marketplace.</li> <li>Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>Have an appreciation and an enthusiasm for life- long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in engineering</li> </ol>		F3. 80% of the mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the question "To what degree did your engineering education enhance your ability to understand ethical responsibilities."	95% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcomes: Understanding of professional and ethical responsibility."	
<ul> <li>and business processes</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ul>		F4. An average score of 85 will result when ME student portfolios in the Senior Seminar classes are sampled and evaluated by a panel of faculty using the Senior Seminar Evaluation Sheet with no component having an average of less than 7.0 on the 1 to 10 scale utilized.	97.4% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated understanding of professional and ethical responsibility."	
		F5. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly Agree or "Agree" to the statement "Demonstrated	99.0% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or	

	understanding of professional and ethical responsibility."	"Agree" to the statement "Demonstrated understanding of professional and ethical responsibility."	
		professional and ethical responsibility."	

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement:         The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.         Program Educational Objectives:         The Department of Mechanical Engineering strives to produce graduates who:         1.       Are knowledgeable in the effective use of modern problem solving and design methodologies.         2.       Understand the implications of design decisions in the engineering marketplace.         3.       Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.         4.       Have an appreciation and an enthusiasm for lifelong learning.         5.       Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.         6.       Practice professionally and ethically in the field of Mechanical Engineering.	G. An ability to communicate effectively.	<ul> <li>G1. 80% of the supervisors of mechanical engineering students responding to the Kettering University Supervisor's Evaluation of CO-OP Work experience Survey indicate "Very Satisfied" or "Satisfied" to othe work assignment attributes "Communication Verbal" and "Communication Written."</li> <li>G2. 80% of the mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the questions "To what degree did your engineering education enhance your ability to communicate using oral (written) progress reports."</li> </ul>	<ul> <li>97.3% of those responding to the Kettering University</li> <li>Supervisor's Evaluation of CO-OP Work Experience Survey indicated "Very Satisfied" or "Satisfied" to the work assignment attribute</li> <li>"Communication Verbal"</li> <li>84.3% of those responding to the Kettering University</li> <li>Supervisor's Evaluation of Co-OP Work Experience Survey indicated "Very satisfied" or "Satisfied" to the work assignment attribute</li> <li>"Communication Werbal"</li> <li>84.3% of those responding to the Kettering University</li> <li>Supervisor's Evaluation of Co-OP Work Experience Survey indicated "Very satisfied" or "Satisfied" to the work assignment attribute</li> <li>"Communication Written."</li> <li>93.5% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance your ability to communicate using oral progress reports."</li> <li>94.8% of those responding to the EBI Engineering Student Survey indicated "moderately" and above on the questions "To what degree did your engineering education enhance your ability to communicate using oral progress reports."</li> </ul>	No Action Required/Continue to Monitor
		G3. 80% of the supervisors of mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to communicate effectively".	97% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program	

	Education outcome: Ability to communicate effectively.
G4. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate: "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."	96.9% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."
G5. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through formal presentations."	92.8% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or :Agree" to the Statement "Demonstrated the ability to communicate effectively: through formal presentations."
G6. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."	97.2% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."
G7. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through formal presentations.	96.6% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through formal presentations.
	<ul> <li>to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate: "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."</li> <li>G5. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through formal presentations."</li> <li>G6. 80% of the Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."</li> <li>G7. 80% of the Employer Advisor's responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."</li> <li>G7. 80% of the Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated the ability to communicate effectively: through interpersonal skills."</li> </ul>

#### Academic Program Mission and Assessment Results Use of Assessment Academic Program Outcome Assessment Methods and **Educational Objectives Performance Standards** Results 77.8% of those responding to the Mission Statement: H. The broad education necessary to H1. 80% of the mechanical engineering Continue to Monitor understand the impact of engineering students responding to the Kettering Kettering University Supervisor's solutions in a global and societal University Student's Evaluation of CO-OP Evaluation of CO-OP work Experience The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, Work Term and COOP Program Survey Survey indicated "Strongly Agree" or environment. multi-discipline leaders, and technical managers for a will "Strongly Agree" or "Agree" to each "Agree" to the statement global and diverse market. This mission is section of the statement "Kettering "Demonstrated the broad education accomplished in an academic and cooperative University prepared me in the following necessary to understand the impact of environment that promotes scholastic performance, co-op competencies: Broad education engineering solutions in a global and sound engineering fundamentals, strong design necessary to understand the impact of societal context." experiences, and personal professional integrity. The engineering solutions in a global and Department of Mechanical Engineering encourages and societal environment." fosters team participation, creative thinking, a competitive spirit, and professional activities. H2. 80% of the supervisors of mechanical 83.7% of those responding to the EBI engineering students responding to the Engineering Student Survey indicated Kettering University Supervisor's "moderately" and above on the Program Educational Objectives: Evaluation of CO-OP Work Experience questions "To what degree did your The Department of Mechanical Engineering strives to Survey indicate "Strongly Agree" or engineering education enhance your produce graduates who: "Agree" to the statement "The student has ability to understand the impact of demonstrated the broad education engineering solutions in a 1. Are knowledgeable in the effective use of modern necessary to understand the impact of global/societal context" problem solving and design methodologies. engineering solutions in a global and 2. Understand the implications of design decisions societal context." in the engineering marketplace. Are effective engineers, i.e. ones who are able to 3. H3. 80% of the mechanical engineering 88% of those responding to the formulate and analyze problems, think creatively, students responding to the EBI Mechanical Engineering Program Exit communicate effectively, synthesize information, Engineering Student Survey indicate Survey indicated "Average" or above to and work collaboratively. "moderately" and above on the questions the statement "Reflecting on the ME as 4. Have an appreciation and an enthusiasm for life-"To what degree did your engineering a whole, please rate the contribution the long learning. education enhance your ability to WHOLE Educational Experience in 5. Perform effectively on teams engaged in understand the impact of engineering helping you achieve the following ME continuous improvement activities in engineering solutions in a global/societal context." Program education outcome: Broad and business processes. education that is necessary for Practice professionally and ethically in the field 6. understanding the impact of of Mechanical Engineering. engineering solutions in a global and Are prepared for positions of Leadership in 7. societal environment." business and industry. 97.0% of the Faculty Advisors H4. 80% of the Faculty Advisors responding to the Kettering University responding to the Kettering University Senior Thesis Project: Faculty Senior Thesis Project Faculty Advisor's Advisor's Evaluation indicated Evaluation indicate "Strongly Agree" or "Strongly Agree" or "Agree" to the "Agree" to the statement "Demonstrated statement "Demonstrated the broad the broad education necessary to education necessary to understand the understand the impact of engineering impact of engineering solutions in a solutions in a global and societal context." global and societal context."

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
<i>Mission Statement:</i> The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.	I. A recognition of the need for an ability to engage in life-long learning.	<ul> <li>I1. 80% of the mechanical engineering students responding to the Kettering University Student's Evaluation of CO-OP Work Term and COOP Program Survey will "Strongly Agree" or "Agree" to each section of the statement "Kettering University prepared me in the following co-op competencies: Recognition of the need for, and an ability to engage in life-long learning"</li> <li>I2. 80% of the supervisors of mechanical engineering students</li> </ul>	<ul> <li>99.2% of those responding to the Kettering University Supervisor's Evaluation of Co-OP Work Experience Survey indicated "Very Satisfied" or "Satisfied" to the work assignment attribute "Ability to Learn: Willingness to learn new work and retain what is learned."</li> <li>92.2% of those responding to the EBI Engineering Student Survey indicated</li> </ul>	No Action Required/Continue to Monitor
<ul> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions</li> </ul>		responding to the Kettering Students Supervisor's Evaluation of CO-OP Work Experience Survey indicate "Very Satisfied" or "Satisfied" to the performance factor "Ability to Learn: Willingness to learn new work and retain what is learned."	"moderately" and above on the questions "To what degree did your engineering education enhance your ability to recognize need to engage in lifelong learning"	
<ul> <li>in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering</li> </ul>		I3. 80% of the mechanical engineering students responding to the EBI Engineering Student Survey indicate "moderately" and above on the questions "To what degree did your engineering education enhance your ability to recognize need to engage in lifelong learning."	90% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the M E as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Recognition of the need for an ability to engage in life-long learning."	
<ul> <li>and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ul>		<ul> <li>I4. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Recognized the need for and demonstrated the ability to engage in life-long learning".</li> <li>I5 80% of the employer Advisors responding to the Kettering University Senior Thesis Project: Employers</li> </ul>	<ul> <li>94.0% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Recognized the need for and demonstrated the ability to engage in life-long learning.</li> <li>96.9% of the employer Advisors responding to the Kettering University Senior Thesis Project: Employers Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the</li> </ul>	

	Advisor's Evaluation indicate Strongly Agree" or "Agree" to the statement "Recognized the need for and demonstrated the ability to engage in life-long learning.	statement "Recognized the need for and demonstrated the ability to engage in life-long learning."	

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>	J. A knowledge of contemporary issues.	<ul> <li>J1. 80% of the mechanical engineering students responding to the Kettering University Student's Evaluation of CO-OP Work Term and COOP Program Survey will "Strongly Agree" or "Agree" to each section of the statement "Kettering University prepared me in the following co-op competencies: Knowledge of contemporary issues."</li> <li>J2. 80% of the Faculty Advisors responding to the Kettering University Senior thesis Project: Faculty Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated knowledge of contemporary issues."</li> <li>J3. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's responding to the term University Senior Thesis Project: Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly Agree" or "Agree" to the statement "Demonstrated knowledge of contemporary issues."</li> </ul>	<ul> <li>81% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Knowledge of contemporary issues."</li> <li>97.0% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated knowledge of contemporary issues."</li> <li>98.9% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Strongly Agree" or "Agree" to the statement "Demonstrated knowledge of contemporary issues."</li> </ul>	Outcome J will be revised to "A knowledge of contemporary issues."

#### Academic Program Mission and Academic Program Outcome Use of Assessment Assessment Methods and Assessment Results **Educational Objectives Performance Standards** Results K. An ability to use the techniques, skills 91.3% of those responding to the Mission Statement: K1. 80% of the mechanical engineering No Action Required/Continue to and modern engineering tools necessary students responding to the Kettering Kettering University Supervisor's Monitor. to perform effectively in an engineering University Student's Evaluation of CO-Evaluation of CO-OP Work Experience The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, OP Work Term and COOP Program Survey indicated "Strongly Agree" or setting. multi-discipline leaders, and technical managers for a Survey will "Strongly Agree" or "Agree" to the statement "The student global and diverse market. This mission is "Agree" to each section of the has demonstrated ability to use the accomplished in an academic and cooperative statement "Kettering University techniques, skills and modern environment that promotes scholastic performance, prepared me in the following co-op engineering tools necessary for sound engineering fundamentals, strong design competencies: ability to use the engineering practice." experiences, and personal professional integrity. The techniques, skills and modern Department of Mechanical Engineering encourages and engineering tools necessary for fosters team participation, creative thinking, a engineering practice." competitive spirit, and professional activities. K2. 80% of the supervisors of 99% of those responding to the mechanical engineering students Mechanical Engineering Program Exit Program Educational Objectives: Survey indicated "Average" or above to responding to the Kettering University The Department of Mechanical Engineering strives to Supervisor's Evaluation of CO-OP the statement "Reflecting on the ME as produce graduates who: Work Experience Survey indicate a whole, please rate the contribution the "Strongly Agree" or "Agree" to the WHOLE Educational Experience in 1. Are knowledgeable in the effective use of modern statement "The student has helping you achieve the following ME problem solving and design methodologies. demonstrated ability to use the Program education outcome: Ability to 2. Understand the implications of design decisions techniques, skills and modern use the techniques, skills and modern in the engineering marketplace. engineering tools necessary to perform engineering tools necessary for Are effective engineers, i.e. ones who are able to 3. engineering practice." effectively in an engineering setting." formulate and analyze problems, think creatively, communicate effectively, synthesize information, K3. An average score of 85 will result 99.0% of the Faculty Advisors and work collaboratively. when student portfolios in the ME responding to the Kettering University Have an appreciation and an enthusiasm for life-4. Capstone classes are sampled and Senior Thesis Project: Faculty long learning. evaluated by a panel of faculty using Advisor's Evaluation indicated 5. Perform effectively on teams engaged in the ME Capstone Evaluation Sheet with "Strongly Agree" or "Agree" to the continuous improvement activities in engineering no component having an average of less statement "The student has and business processes. than 7.0 on the 1 to 10 scale utilized. demonstrated ability to use the Practice professionally and ethically in the field 6. techniques, skills and modern of Mechanical Engineering. K4. 80% of the Employer Advisors engineering tools necessary for Are prepared for positions of Leadership in 7. responding to the Kettering University engineering practice." business and industry. Senior Thesis Project: Employer Advisor's Evaluation indicate "Strongly 99.1% of the Employer Advisors Agree" or "Agree" to the statement responding to the Kettering University "The student has demonstrated ability Senior Thesis Project: Employer to use the techniques, skills and modern Advisor's Evaluation indicated engineering tools necessary for "Strongly Agree" or "Agree" to the engineering practice." statement "The student has demonstrated ability to use the techniques, skills and modern engineering tools necessary for engineering practice."

Academic Program Mission and	Academic Program Outcome	Assessment Methods and	Assessment Results	Use of Assessment
Educational Objectives	8	Performance Standards		Results
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>	L. An ability to work professionally in both thermal and mechanical systems areas including the design and realization of such systems.	L1. An average score of 85% will result when student portfolios in the ME Capstone classes are sampled and evaluated by a panel of faculty using the ME Capstone Evaluation Sheet with no component having an average of less than 70%.	80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program educational outcome: Ability to work professionally in both thermal and mechanical systems areas including the design and realization f such systems."	Continue to Monitor Refine tools and/or metric

<b>KETTERING FIVE COLUMN</b>	N ASSESSMENT FORM
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Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>	M. A competence in the use of computational mathematics tools and systems analysis tools germane to the world of engineering	M1. 80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program educational outcome: Competence in the use of computational mathematics tools and systems analysis tools germane to the world of engineering".	94% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program educational outcome: Competence in the use of computational mathematics tools and systems analysis tools germane to the world of engineering."	No Action Required

Academic Program Mission and Educational Objectives	Academic Program	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Educational Objectives	Outcome	Stanuarus		
Mission Statement: The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities. Program Educational Objectives:	N. A competence in experimental design, automatic data acquisition, data analysis, data reduction, and data presentation, both orally and in the written form.	N1. 80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Competence in experimental design, automatic data acquisition, data analysis, data reduction, and data presentation, both orally and in the written form."	94% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program educational outcome: Competence in experimental design, automatic data acquisition, data analysis, data reduction, and data presentation, both orally and in the written form"	No Action Required, Continue to Monitor.
<ol> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>Understand the implications of design decisions in the engineering marketplace.</li> <li>Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>Have an appreciation and an enthusiasm for life- long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ol>		<ul> <li>N2. 80% of the supervisors of mechanical engineering students responding to the Kettering University Senior Thesis Project Faculty Advisor's Evaluation indicate "Very Satisfied" or "Satisfied" to the performance factor: "Analytical Skills, Application of data analysis."</li> <li>N3. 80% of employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Very Satisfied" or "Satisfied" to the performance factor: "Analytical Skills, Application of data analysis."</li> </ul>	<ul> <li>96.1% of the Faculty Advisors responding to the Kettering University Senior Thesis Project:</li> <li>?Faculty Advisor's Evaluation indicated "Very Satisfied" or "Satisfied" to the performance factor: "Analytical skills, application of data analysis."</li> <li>99.0% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Very Satisfied" or "Satisfied" to the performance factor: "Analytical Skills, Application of data analysis."</li> </ul>	

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement:         The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.         Program Educational Objectives:         The Department of Mechanical Engineering strives to produce graduates who:         1. Are knowledgeable in the effective use of modern problem solving and design methodologies.         2. Understand the implications of design decisions in the engineering marketplace.         3. Are effective engineers, i.e. ones who are able to	Outcome O. A competence in the use of computer graphics for design communication and visualization.	O1. 80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Competence in the use of computer graphics for design communication and visualization."	95% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Competence in the use of computer graphics for design communication and visualization."	No Action Required, Continue to Monitor
<ul><li>formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li><li>4. Have an appreciation and an enthusiasm for life-</li></ul>				
<ol> <li>long learning.</li> <li>Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>Are prepared for positions of Leadership in business and industry.</li> </ol>				

Academic Program Mission and	Academic	Assessment Methods and Performance	Assessment Results	Use of Assessment Results
Educational Objectives	Program Outcome	Standards		
<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively. synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>	P. A knowledge of chemistry and calculus based physics with a depth in at least one of them.	P1. An average score of 85% will result when student 80% of the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Knowledge of chemistry and calculus based physics and I have accomplished depth in at least one of them."	82% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Knowledge of chemistry and calculus based physics and I have accomplished depth in at least one of them"	Continue to Monitor

<b>KETTERING FIVE</b>	COLUMN ASSESSMENT FORM
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Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement:         The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.         Program Educational Objectives:         The Department of Mechanical Engineering strives to produce graduates who:         1.       Are knowledgeable in the effective use of modern problem solving and design methodologies.         2.       Understand the implications of design decisions in the engineering marketplace.         3.       Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.         4.       Have an appreciation and an enthusiasm for lifelong learning.         5.       Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.         6.       Practice professionally and ethically in the field of Mechanical Engineering.         7.       Are prepared for positions of Leadership in business and industry.	Q. An ability to manage engineering projects including the analysis of economic factors and their impact on the design.	<ul> <li>Q1. 80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to manage engineering projects including the analysis of economic factors and their impact on the design."</li> <li>Q2. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Very Satisfied" or "Satisfied" to the performance factor: "Application of Skills, Project and time management skills; including adherence to Timing Chart and Plan of Attack."</li> <li>Q3. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Very Satisfied" or "Satisfied" to the performance factor. "Application of Skills, Project and time management skills; including adherence to Timing Chart and Plan of Attack."</li> </ul>	<ul> <li>95% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement</li> <li>"Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to manage engineering projects including the analysis of economic factors and their impact on the design."</li> <li>93.2% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Very Satisfied" or "Satisfied" to the performance factor: "Application of Skills, Project and time management skills; including adherence to Timing Chart and Plan of Attack."</li> <li>93.3% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Very Satisfied" or "Satisfied" to the performance factor: "Application of Skills, Project and time management skills; including adherence to Timing Chart and Plan of Attack."</li> </ul>	No Action Required, Continue to Monitor

Academic Program Mission and Educational Objectives	Academic Program Outcome	Assessment Methods and Performance Standards	Assessment Results	Use of Assessment Results
Mission Statement: The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a	R. An ability to understand the dynamics of people both in a singular and group setting.	R1.80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education out come: Ability to understand the dynamics of people both in a singular and group setting."	93% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Ability to understand the dynamics of people both in a singular group setting."	No Action Required, Continue to Monitor
<ul> <li>competitive spirit, and professional activities.</li> <li><i>Program Educational Objectives:</i> The Department of Mechanical Engineering strives to produce graduates who: <ol> <li>Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>Understand the implications of design decisions in the engineering marketplace.</li> <li>Are effective engineers, i.e. ones who are able to</li> </ol></li></ul>		R2. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Very Satisfied" or "Satisfied" to the performance factor: "Team Work: Cooperation in working with teams (recognizes and values diverse relationships with customers, co-workers and supervisors."	98.8% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicated "Very Satisfied" or "Satisfied" to the performance factor: "Team work: Cooperation in working with teams (recognizes and values diverse relationships with customers, co-workers and supervisors".	
<ul> <li>formulate and analyze problems, think creatively, communicate effectively, synthesize information, and work collaboratively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>		R3. 80% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicate "Very Satisfied" or Satisfied" to the performance factor: "Team Work" Cooperation in working with teams (recognizes and values diverse relationships with customers, co-workers and supervisors."	99.1% of the Employer Advisors responding to the Kettering University Senior Thesis Project: Employer Advisor's Evaluation indicated "Very Satisfied" or "Satisfied" to the performance factor: "Team Work: Cooperation in working with teams (recognizes and values diverse relationships with customers, co-workers and supervisors."	
		R4. 80% of the Faculty Advisors responding to the Kettering University Senior Thesis Project: Faculty Advisor's Evaluation indicate "Very Satisfied" or "Satisfied" to the performance factor: "Resourcefulness: Effective use of appropriate services and the expertise of staff during the development of the student's Senior Thesis."	зирот и вот в.	

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<ul> <li>Mission Statement:</li> <li>The academic mission of Mechanical Engineering is to develop and prepare applied mechanical engineers, multi-discipline leaders, and technical managers for a global and diverse market. This mission is accomplished in an academic and cooperative environment that promotes scholastic performance, sound engineering fundamentals, strong design experiences, and personal professional integrity. The Department of Mechanical Engineering encourages and fosters team participation, creative thinking, a competitive spirit, and professional activities.</li> <li>Program Educational Objectives:</li> <li>The Department of Mechanical Engineering strives to produce graduates who:</li> <li>1. Are knowledgeable in the effective use of modern problem solving and design methodologies.</li> <li>2. Understand the implications of design decisions in the engineering marketplace.</li> <li>3. Are effective engineers, i.e. ones who are able to formulate and analyze problems, think creatively, communicate effectively.</li> <li>4. Have an appreciation and an enthusiasm for lifelong learning.</li> <li>5. Perform effectively on teams engaged in continuous improvement activities in engineering and business processes.</li> <li>6. Practice professionally and ethically in the field of Mechanical Engineering.</li> <li>7. Are prepared for positions of Leadership in business and industry.</li> </ul>	S. A competence in the analysis of inter- disciplinary mechanical/electrical/ hydraulic systems.	S1. 80% of the mechanical engineering students responding to the Mechanical Engineering Program Exit Survey indicate "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Competence in the analysis of inter-disciplinary mechanical/hydraulic systems."	91% of those responding to the Mechanical Engineering Program Exit Survey indicated "Average" or above to the statement "Reflecting on the ME as a whole, please rate the contribution the WHOLE Educational Experience in helping you achieve the following ME Program education outcome: Competence in the analysis of inter-disciplinary mechanical/hydraulic systems."	No Action Required, Continue to Monitor