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| **Assurance of Student Learning Report**  **2022-2023** | | |
| *Ogden College of Science and Engineering* | | *School of Engineering and Applied Sciences* |
| *Engineeering Technology Management (5007)* | | |
| *Greg Arbuckle* | | |
| ***Is this an online program***?  Yes  No | Please make sure the Program Learning Outcomes listed match those in CourseLeaf . Indicate verification here  Yes, they match! (If they don’t match, explain on this page under **Assessment Cycle)** | |

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| ***Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages. Add more Outcomes as needed.*** | | | |
| **Program Student Learning Outcome 1:** Demonstrate the ability to identify, formulate strategies and solve technical problems. | | | |
| **Instrument 1** | Results of ATMAE Certified Technology Management certification exam (process and operations sections). | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 1.** | | **Met** | **Not Met** |
| **Program Student Learning Outcome 2:** Demonstrate an ability to communicate effectively in pertinent areas, both written and graphic. | | | |
| **Instrument 1** | Assessment of reports from the capstone course | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 2.** | | **Met** | **Not Met** |
| **Program Student Learning Outcome 3:** Demonstrate the knowledge and capacity to apply managerial/ leadership principles and practices to appropriate situations. | | | |
| **Instrument 1** | Results of ATMAE Certified Technology Management certification exam (leadership and management sections). | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 3.** | | **Met** | **Not Met** |
| **Assessment Cycle Plan:** | | | |
| The faculty are trying to make as many changes as possible to assist with the learning outcomes. However, the issue remains that the material cannot be covered with the faculty workloads. We will continue to observe and measure with the Certification Examination and try to increase student learning in the course topics. | | | |

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| **Program Student Learning Outcome 1** | | | | | |
| **Program Student Learning Outcome** | Demonstrate the ability to identify, formulate strategies and solve technical problems. | | | | |
| **Measurement Instrument 1** | Results of ATMAE Certified Technology Management certification exam. | | | | |
| **Criteria for Student Success** | All students graduating from the ETM program will achieve at least 59.38% on the systems and processes sections of the ATMAE CTM exam. | | | | |
| **Program Success Target for this Measurement** | | Students will score and average of 59.38% on the systems and processes section of the examination. | **Percent of Program Achieving Target**  **100%** | The students averaged a 64.06% (Passing) in Systems and a 65.24% (Passing) in Processes. Thus the students passed in 2 out of the 2 criteria and did meet the standard. | |
| **Methods** | All students regeistered for MFGE 490B complete the ATMAE CTM Examination as part of their course. The scores are then provided by ATMAE to the faculty which are compiled and averaged for each section. If a given section average is above 59.38% than that section is considered successful. The successful sections are counted to measure if the students met the overall target goal. | | | | |
| **Based on your results, highlight whether the program met the goal Student Learning Outcome 1.** | | | | **Met** | **Not Met** |
| **Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn’t, and plan going forward)** | | | | | |
| **Results**:  The program faculty are not surprised by the results. Many of the current students had to take courses outside of the discipline because of a lack of faculty to teach required courses. While changes have been made to fix this area there are still courses that have been combined into one course because of lack of faculty.  **Conclusions**: Changes were put forth in in AY 22-23 (removal of courses selections outside of the discipline) will not take effect until the fall of 2023, thus these changes will take a couple of years before those students are accessed in 490.  **\*\*IMPORTANT - Plans for Next Assessment Cycle**:   1. We will evaluate all of the courses to ensure that the course learning outcomes match our assessment tool. 2. We will identify a matrix that shows the learning objectives for each class and record this as a Introductory, Reinforcement, Matery, or Assessment per course. 3. We will identify key learning objectives for a couple of classes for AY23/24 and measure the objectives and put in corrective actions if abjectives not met. 4. We will continue to ask for additional faculty to allow the currently faculty to not have to teach overloads and be able to focus on their classes and in addition be able to split courses that were combined because of lack of faculty. | | | | | |

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| **Program Student Learning Outcome 2** | | | | | |
| **Program Student Learning Outcome** | Demonstrate an ability to communicate effectively in pertinent areas, both written and graphic. | | | | |
| **Measurement Instrument 1** | Assessment of reports from the capstone course | | | | |
| **Criteria for Student Success** | A rubric was developed for assessing four components of the written evaluation of laboratory reports for MFGE 490B Senior Research. Students should receive a 3 or better (0-4 Likert Scale) on each component to be considered successful. | | | | |
| **Program Success Target for this Measurement** | | 75% of reports reviewed received a 3 or better on each criterion. | **Percent of Program Achieving Target**  **92%** | 92% of the reviewed reports eraned a minimum of 3/5 on the reports rubrics. | |
| **Methods** | A random selection of all laboratory reports will be blind reviewed by two program faculty using the rubric. | | | | |
| **Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.** | | | | **Met** | **Not Met** |
| **Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn’t, and plan going forward)** | | | | | |
| **Results**: 92% of the reports earned 3/5 on the rubric which exceeds the 75% success target.  **Conclusions**: The results exceeded the expected success target.  **Plans for Next Assessment Cycle**: Students should complete an oral presentation to allow for a measure of oral communication. | | | | | |

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| **Program Student Learning Outcome 3** | | | | | |
| **Program Student Learning Outcome** | Demonstrate the knowledge and capacity to apply managerial/ leadership principles and practices to appropriate situations. | | | | |
| **Measurement Instrument 1** | Results of ATMAE Certified Technology Management certification exam. | | | | |
| **Criteria for Student Success** | All students graduating from the ETM program will achieve at least 59.38% on the leadership and self-management sections of the ATMAE CTM exam. | | | | |
| **Program Success Target for this Measurement** | | Students will score and average of 59.38% on the leadership and self-management sections of the examination. | **Percent of Program Achieving Target**  **50%** | The students averaged a 49.22% (Not-Passing) in Leadership and a 61.00% (Passing) in Self-Management. Thus the students passed in 1 out of the 2 criteria and did not meet the standard. | |
| **Methods** | All students regeistered for MFGE 490B complete the ATMAE CTM Examination as part of their course. The scores are then provided by ATMAE to the faculty which are compiled and averaged for each section. If a given section average is above 59.38% than that section is considered successful. The successful sections are counted to measure if the students met the overall target goal. | | | | |
| **Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.** | | | | **Met** | **Not Met** |
| **Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn’t, and plan going forward)** | | | | | |
| **Results**:  The program faculty are not surprised by the results. Many of the current students had to take courses outside of the discipline because of a lack of faculty to teach required courses. While changes have been made to fix this area there are still courses that have been combined into one course because of lack of faculty.  **Conclusions**: Changes were put forth in in AY 22-23 (removal of courses selections outside of the discipline) will not take effect until the fall of 2023, thus these changes will take a couple of years before those students are accessed in 490.  **\*\*IMPORTANT - Plans for Next Assessment Cycle**:   1. We will evaluate all of the courses to ensure that the course learning outcomes match our assessment tool. 2. We will identify a matrix that shows the learning objectives for each class and record this as a Introductory, Reinforcement, Matery, or Assessment per course. 3. We will identify key learning objectives for a couple of classes for AY23/24 and measure the objectives and put in corrective actions if abjectives not met. 4. We will continue to ask for additional faculty to allow the currently faculty to not have to teach overloads and be able to focus on their classes and in addition be able to split courses that were combined because of lack of faculty. | | | | | |

**\*\*\* Please include Curriculum Map (below/next page) as part of this document**

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| **Program name:** | Engineering Technology Management | | |  |  |
| **Department:** | SEAS | | |  |  |
| **College:** | OCSE | | |  |  |
| **Contact person:** | Greg Arbuckle | | |  |  |
| **Email:** | [greg.arbuckle@wku.edu](mailto:greg.arbuckle@wku.edu) | | |  |  |
| **KEY:** | |  |  |  |  |
| **I = Introduced** | |  |  |  |  |
| **R = Reinforced/Developed** | |  |  |  |  |
| **M = Mastered** | |  |  |  |  |
| **A = Assessed** | |  |  |  |  |
|  |  |  | **Learning Outcomes** |  |  |
|  |  |  | **LO1:** | **LO2:** | **LO3:** |
|  |  |  | Demonstrate the ability to identify, formulate strategies and solve technical problems. | Demonstrate an ability to communicate effectively in pertinent areas, both written and graphic. | Demonstrate the knowledge and capacity to apply managerial/ leadership principles and practices to appropriate situations. |
| **Course Subject** | **Number** | **Course Title** |  |  |  |
| MFGE | 271 | Industrial Statistics | I |  | I |
| MFGE | 310 | Safety in Industry |  |  | I |
| MFGE | 342 | Manufacturing Operations | R |  | R |
| MFGE | 356 | Systems Design and Operation | R | R | M |
| MFGE | 371 | Quality Assurance | R | R | R |
| MFGE | 390 | Project Management |  | M | M |
| MFGE | 394 | Lean Systems |  | R | M |
| MFGE | 430 | Technology Management/Supervision |  | M | M |
| MFGE | 490B | Senior Research | A | A | A |