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| **Assurance of Student Learning Report**  **2022-2023** | | |
| *Ogden College Of Science and Engineering* | | *School of Engineering and Applied Sciences* |
| *Architectural Science – 518* | | |
| *Program Coordinator – Shahnaz Aly* | | |
| ***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:**  Graduates will possess/ demonstrate the ability to identify, formulate strategies and solve technical problems | | | |
| **Instrument 1** | Analysis of pre-design of the capstone project (comprehensive design) | | |
| **Instrument 2** | Analysis of design development and construction documents of capstone project (Senior project) | | |
| **Instrument 3** | Appraisal of Student technical skills by employers during internship. | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 1.** | | **Met** | **Not Met** |
| **Student Learning Outcome 2:**  Graduates will demonstrate an ability to possess effective (oral/ written and/or graphic) communication skills. | | | |
| **Instrument 1** | Appraisals from industry professionals of schematic design presentations. | | |
| **Instrument 2** | Appraisals from faculty and industry professionals of capstone projects presentations. | | |
| **Instrument 3** | Appraisal of student communication skills by employers during internship | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 2.** | | **Met** | **Not Met** |
| **Program Student Learning Outcome 3: [Add the Program Student Learning Outcome from CourseLeaf here]** | | | |
| **Instrument 1** | Analysis of schematic design of capstone project | | |
| **Instrument 2** | Appraisals from industry professionals of capstone projects | | |
| **Instrument 3** | Appraisal of Students project management skills by employers during internship. | | |
| **Based on your results, check whether the program met the goal Student Learning Outcome 3.** | | **Met** | **Not Met** |
| **Assessment Cycle Plan:** | | | |
| The AS program is currently working on changing its accrediting agency. The current accrediting agency ATMAE focuses on technology management and so the courses the program offers has a heavy management component. With the change we can move away from the management focus to adding more design and technical courses into the curriculm which will help strengthen student skills. This change will be worked over the fall and spring semesters and the new curriculum will be implemented by Fall 2024.  This may also lead to a change in program learning outcomes. This is a two-year process. | | | |

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| **Program Student Learning Outcome 1** | | | | | | | |
| **Program Student Learning Outcome** | Graduates will possess/ demonstrate the ability to identify, formulate strategies and solve technical problems | | | | | | |
| **Measurement Instrument 1** | Direct: **Analysis of pre-design of capstone project (comprehensive design)**  Senior AS students work on a year-long capstone (fall and spring semesters). The students were assessed on the first phase of the capstone to evaluate their competency in pre-design tasks in a given design project. The students are evaluated through a juried presentation at the end of the Fall semester. Each student is evaluated by at least 2 jurors. | | | | | | |
| **Criteria for Student Success** | students will have a 3.0 satisfaction rating on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | | 75 % of senior students | | **Percent of Program Achieving Target** | 70% of senior students | |
| **Methods** | Students assessed 20.  Student work on their project proposal, case-study, site analysis, program and code-review were analyzed based on a rubric. The rubric was completed by faculty in the AS program as well as industry professionals.  There were 22 students in the course but due to illness 2 students did not present their pre-design and were not included in the overall evaluation. | | | | | | |
| **Measurement Instrument 2** | Analysis of design development and construction documents of capstone project (Senior project) | | | | | | |
| **Criteria for Student Success** | Direct: **Analysis of design development and construction documents of capstone project (Senior project)**  Senior AS students work on a year-long capstone (fall and spring semesters). The students were assessed on the design development drawings and the set of construction drawings at the end of the spring semester. | | | | | | |
| **Program Success Target for this Measurement** | | 75 % of senior students | | **Percent of Program Achieving Target** | | 82% of senior students | |
| **Methods** | Students assessed 22.  Student work on design development and construction drawings were analyzed based on a rubric. The rubric was completed by faculty in the AS program as well as industry professionals. | | | | | | |
| **Measurement Instrument 3** | Appraisal of Student technical skills by employers during internship. | | | | | | |
| **Criteria for Student Success** | students will have a 3.0 satisfaction rating on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | 75 % of students | | **Percent of Program Achieving Target** | | 100% of students | |
| **Methods** | 15 AS students completed 200 hours of internship during summer 2022, fall 2022, and spring 2023. The students were reviewed and responses were provided by supervisors. | | | | | | |
| **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 introduction of BIM early in the curriculum worked as we see an improvement in the percentage of students getting a 3.0 on a 4.0 scale. In the first measurement instrument, we still fall short of meeting the target but compared to the last cycle (2021-2022) we have moved from 61% to 70%. So the changes we have incorporated into our curriculum are beginning to show positive results.  **Conclusions**: Changing of course sequence worked. Most of the students in this senior group were the ones who experienced the change of course modalities during COVID which we believe has affected performance. Students struggled with keeping up with course attendance and the strict deadlines of a capstone course.  **\*\*IMPORTANT - Plans for Next Assessment Cycle**: The AS program is currently working on revising the program. We intend to add more courses that will provide students with more hands-on project-based opportunities that will help enhance their problem-solving skills. | | | | | | | |

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| **Program Student Learning Outcome 2** | | | | | | | |
| **Program Student Learning Outcome** | **Graduates will demonstrate an ability to possess effective (oral/ written and/or) graphic communication skills.** | | | | | | |
| **Measurement Instrument 1** | Direct: Appraisals from industry professionals of Schematic design presentations. | | | | | | |
| **Criteria for Student Success** | students will have a 3.0 satisfaction rating on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | | 75 % of senior students | | **Percent of Program Achieving Target** | 70 % of senior students | |
| **Methods** | Students assessed 20.  Student design work on schematic design were analyzed based on a rubric. At the completion of schematic design students create a power point and/or presentation board highlighting necessary components of the project. Students also give a verbal presentation of their projects. The rubric was completed by faculty in the AS program and industry professionals who attended student presentations. The assessments were completed during the presentation itself. | | | | | | |
| **Measurement Instrument 2** | Direct:Appraisals from industry professionals of capstone project presentations. | | | | | | |
| **Criteria for Student Success** | Students will score a minimum 3.0 satisfaction on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | 75 % of senior students | | **Percent of Program Achieving Target** | | 82 % of senior students | |
| **Methods** | Students assessed 22.  Students present their capstone work to industry professionals and faculty at the end of the spring semester. Students are assessed on their graphic and oral skills. The rubric was completed by industry professionals. | | | | | | |
| **Measurement Instrument 3** | Indirect: Appraisal of student communication skills by employers during internship | | | | | | |
| **Criteria for Student Success** | students will have a 3.0 satisfaction rating on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | 75 % of students | | **Percent of Program Achieving Target** | | 93 % of students | |
| **Methods** | Students assessed 15.  Students are assessed by their supervisors upon the completion of their internship requirements for the program. Supervisors fill out a survey. | | | | | | |
| **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**: In the first measurement instrument we fell short of the target which was unexpected. Students in the AS program have a number of opportunities to present to industry and local architects in design studios in prior years. The students achieved target ranges in the second and third measurement instruments.  **Conclusions**: In the second measurement instrument the students were above the target range. Prior to final presentations, students present at least twice in other forums which help improve their communication skills. Most of the students in this senior group were the ones who experienced the change of course modalities during COVID which we believe has affected performance.  **Plans for Next Assessment Cycle**: The AS program is currently working on revising the program. We intend to add more courses that will provide students with more hands-on project based opportunities that will help enhance their problem-solving skills and give them the opportunity to present to industry and the community. | | | | | | | |

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| **Program Student Learning Outcome 3** | | | | | | | |
| **Program Student Learning Outcome** | **Graduates will demonstrate the knowledge and capacity to manage a project through the different design phases** | | | | | | |
| **Measurement Instrument 1** | Direct: Analysis of schematic design of capstone project | | | | | | |
| **Criteria for Student Success** | Students will score a minimum 3.0 satisfaction on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | | 75 % of senior students | | **Percent of Program Achieving Target** | 70 % of senior students | |
| **Methods** | Students assessed 20.  Students presented their work to industry professionals at the completion of the schematic design. The rubric was completed by faculty in the AS program as well as industry professionals.  There were 22 students in the course but due to illness 2 students did not present their pre-design and were not included in the overall evaluation. | | | | | | |
| **Measurement Instrument 2** | Direct: Appraisals from industry professionals of capstone projects | | | | | | |
| **Criteria for Student Success** | Students will score a minimum 3.0 satisfaction on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | 75 % of senior students | | **Percent of Program Achieving Target** | | 82 % of senior students | |
| **Methods** | Students assessed 22.  Students present their capstone work to industry professionals and faculty at the end of the semester. Students are assessed on their ability to have taken a design project from concept to construction documents. The rubric was completed by industry professionals. | | | | | | |
| **Measurement Instrument 3** | Appraisal of Students’ project management skills by employers during internship. | | | | | | |
| **Criteria for Student Success** | Students will score a minimum 3.0 satisfaction on a 4 point scale | | | | | | |
| **Program Success Target for this Measurement** | | 75 % of students | | **Percent of Program Achieving Target** | | 87 % of students | |
| **Methods** | Students assessed 15.  Students are assessed by their supervisors upon the completion of their internship requirements for the program. Supervisors fill out a survey. | | | | | | |
| **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**: In the first measurement instrument, we still fall short of meeting the target but compared to the last cycle (2021-2022) we have moved from 61% to 70%. So the changes we have incorporated into our curriculum are beginning to show positive results.  **Conclusions**: Changing of course sequence worked. Many students struggled with the initial (pre-design) project data gathering. Students need to be better prepared to analyze information and create a sustainable plan prior to design. The program will need to reevaluate how to get students more exposed to pre-design assignments.  **Plans for Next Assessment Cycle**: Since the AS program is working on curriculum revisions the faculty will be looking at ways to introduce a course or modify content in courses to get students better prepared to tackle pre-design parameters in the future. | | | | | | | |

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

**Curriculum Map for Architectural Science - 518 Program**

**School of Engineering & Applied Sciences**

**Western Kentucky University**

The "Core Competencies in Architectural Science - 518 " (see table below) provide guidelines to prepare students for the B.S. degree in Architectural Science - 518

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| **Core Competency/Outcome** | **Content** | **By the completion of the MET program, the student should:** | **Courses** | **Mastery Level** |
| **Industry-Wide Technical Competency –**  ***Graduates will possess/ demonstrate the ability to identify, formulate strategies and solve technical problems.*** | * CAD drawing fundamentals * Axonometric and projections drawings * Presentation drawing * Modeling tools and materials * Presentation models * Software applications for 3D modeling * Construction material methods * Studio projects and presentations * Building codes * Architectural documentation * Building information modeling * Architectural design | * Develop a project proposal and program. * Produce a professional portfolio * Demonstrate problem-solving skills in the architectural field | AS 151 Architectural Graphics  AS 163 Arch. Drafting  AS 251 3D Modeling & Imaging  CM 261 Const. Meth/Mat  CM 262 Const. Meth/Mat. Lab  AS 263 Arch. Doc. I  AS 273 Arch. Detailing  AS 305 Building Codes  SEAS 325 Survey of Bldg. Systems  AS 351 Building Info Modeling  AS 373 Arch. Doc. II  AS 369 Arch. Des. Studio I  SEAS 398 Internship I  AS 469 Arch. Des. Studio II  AS 488 Comprehensive Design  AS 490 Senior Project | I  I  I  I  I  R  R  R  R  R  M  R  M  M  M/A  M/A |
| **Communications Skills Competency-**  ***Graduates will demonstrate an ability to communicate effectively in pertinent areas, both written and graphic*** | Communication skills (i.e., oral, graphic, and written communication, etc.) | * Demonstrate the use and practice of different levels of graphic and written communication skills. * Demonstrate the ability to make effective presentations of solutions to selected problems and projects. * Demonstrate technical writing and reporting skills as related to the proposal, progress reporting, project manual, and final deliverable product. | COMM145 Fund Speaking/Communication  AS 263 Arch. Doc. I  AS 273 Arch. Detailing  AS 373 Arch. Doc. II  AS 369 Arch. Des. Studio I  SEAS390 Project Management  SEAS 398 Internship I  MFGE430 Tech MGT/Team Building  AS 469 Arch. Des. Studio II  AS 488 Comprehensive Design  AS 490 Senior Project | I  R  R  R  R  R  M  R  M  M/A  M/A |
| **Management/Leadership Competency-**  ***Demonstrate the knowledge and capacity to apply managerial/ leadership principles and practices to appropriate situations.*** | - Interaction skills (i.e., teamwork, mentoring, leadership, interpersonal skills, etc.)  - Organizational skills (i.e., project management, planning & organizing, training skills, etc.)  - Continuous improvement  - Environmental/Health/Safety  - Problem-solving and decision making | * Understand the ASC industries as a system that integrates multiple disciplines, processes, and stakeholders. * Demonstrating the ability to work effectively with others. * Be able to develop architectural design and documentation. * Demonstrate problem-solving skills in the architectural field. * Demonstrate successful project management skills from the development of the scope of work to the final product deliverable and all associated project documentation | SEAS S390 Project Management  MFGE 430 Tech MGT/Team Building  CE 303 Construction Management  ENG 306 or 307 Business/Technical Writing  MGT 200, 210, or 301 Management Elective  AS 488 Comprehensive Design  AS 490 Senior Project | I  I  R  R  I  M/A  M/A |