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| **Assurance of Student Learning Report****2023-2024** |
| *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 [x]  No | Please make sure the Program Learning Outcomes listed match those in CourseLeaf . Indicate verification here [x]  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.** | **[x]  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.** | **[x]  Met** | **[ ]  Not Met** |
| **Program Student Learning Outcome 3:** Graduates will demonstrate the knowledgeand capacity to manage a project throughthe different design phases |
| **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.** | **[x]  Met** | **[ ]  Not Met** |
| **Assessment Cycle Plan:**  |
| As part of the two year plan mentioned in the last cycle the AS program with approval from SEAS Director and Ogden Dean has moved away from ATMAE accreditation. This last academic year we also had our APR review. It was noted that we should collaborate with Interior Design and Art to introduce courses that could better align with the design aspect of the program. We are currently in discussion with interior design to add a few courses to the AS program. While we have a new curriculum plan we are not able to implement it due to the lack of additional faculty to support increased teaching needs. The current faculty cannot offer new courses due to heavy teaching loads. We also have more students not taking manufacturing classes and we should see the result of that in the coming academic year. Our students are also taking the Portfolio design class from interior design which will add to an increase in their graphic communication skills.  |

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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 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** | 71% of senior students |
| **Methods**  | 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. In 2023-2024, twenty-one AS students assessed. 71% (15 out of 21) of senior students achieved 3.0 or more in the pre-design of capstone project (comprehensive design).  |
| **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** | 76% of senior students |
| **Methods** | 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. In 2023-2024, twenty-one AS students assessed. 76% (16 out of 21) of the senior students achieved a score of 75% or higher in the design development and construction documents of their capstone project |
| **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** | 80% of students |
| **Methods** | 10 AS students completed 200 hours of internship during summer 2023, fall 2023, and spring 2024 *(N=10)*. The students were reviewed and responses were provided by supervisors. 80% (8 of 10) of students achieved 75% or more in technical skills by employers during internship. |
| **Based on your results, highlight whether the program met the goal Student Learning Outcome 1.**  | **[x]  Met** | **[ ]  Not Met** |
| **Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn’t, and plan going forward)** |
| **Results**: In the 2021-2022 we were at 70% in the first measurement instrument. So we are still showing positive results (71%), we have not met our target yet. We tried something new this year. We spent more time on data gathering and precedent studies and less time on pre-design in the fall of 2023 so that students get a depper understanding of how to structure architectural projects. We should see more improvement in the next cycle. **Conclusions**: We continue to see our students perform within the same range each year with improvements in a few places. We need more faculty support to help our students really move to the next level. With the current rate we may not see much more improvement. **\*\*IMPORTANT - Plans for Next Assessment Cycle**: We continue to work on revising the program. While we would like to add more courses that will provide students with more hands-on project-based opportunities we don’t see that happening due to limited faculty in the program.  |

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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** | 76 % of senior students |
| **Methods**  | 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.In 2023-2024, twenty-one AS students assessed. 76% (16 of 21) of senior students achieved 3.0 of 4.0 or more in the Schematic design presentations . |
| **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** | 86 % of senior students |
| **Methods** | 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. In 2023-2024, twenty-one AS students assessed. 86% (18 of 21) of senior students achieved 75% or more in capstone project presentations. |
| **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** | 70 % of students |
| **Methods** | Students assessed 10. 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.**  | **[x]  Met** | **[ ]  Not Met** |
| **Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn’t, and plan going forward)** |
| **Results**: We improved in the first measurement instrument since last year. We fell short in the internship evaluations. **Conclusions**: The internship evalautions completed by employers. Due to industry demand many students are getting internships earlier than was in the past which could be a factor in this assessment. Many are not ready to complete internships early on in their careers. **Plans for Next Assessment Cycle**: We continue to work on revising the program. While we would like to add more courses that will provide students with more hands-on project-based opportunities we don’t see that happening due to limited faculty in the program.  |

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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** | 71% of senior students |
| **Methods**  | Students presented their work to industry professionals at the completion of the schematic de1sign. The rubric was completed by faculty in the AS program as well as industry professionals. In 2023-2024, twenty-one AS students assessed. Of these, 71% (15 out of 21) of the senior students scored 3.0 or higher in the pre-design phase of their capstone project, focusing on comprehensive design. |
| **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** | 76 % of senior students |
| **Methods** | 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. In 2023-2024, twenty-one AS students assessed. Among the senior students, 76% (16 out of 21) achieved a score of 75% or higher in design development and construction documents for their capstone projects. |
| **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** | 100 % of students |
| **Methods** | Students are assessed by their supervisors upon the completion of their internship requirements for the program. Supervisors fill out a survey.10 AS students completed 200 hours of internship during summer 2023, fall 2023, and spring 2024. Eight of these students were assessed for project management skills. The remaining two were not evaluated in this area because their roles did not involve managerial tasks. Supervisors conducted the evaluations, and the results showed that all assessed students (100%, 8 out of 8) achieved a score of 75% or higher in managerial skills during their internships |
| **Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.**  | **[x]  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 (2022-2023) we have moved slightly higher. 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 so we ended up spending more time on that this fall (fall 2023). 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.   |

**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 GraphicsAS 163 Arch. DraftingAS 251 3D Modeling & ImagingCM 261 Const. Meth/MatCM 262 Const. Meth/Mat. LabAS 263 Arch. Doc. IAS 273 Arch. DetailingAS 305 Building CodesSEAS 325 Survey of Bldg. SystemsAS 351 Building Info ModelingAS 373 Arch. Doc. IIAS 369 Arch. Des. Studio ISEAS 398 Internship IAS 469 Arch. Des. Studio IIAS 488 Comprehensive DesignAS 490 Senior Project | IIIIIRRRRRMRMMM/AM/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/CommunicationAS 263 Arch. Doc. IAS 273 Arch. DetailingAS 373 Arch. Doc. IIAS 369 Arch. Des. Studio ISEAS390 Project Management SEAS 398 Internship IMFGE430 Tech MGT/Team BuildingAS 469 Arch. Des. Studio IIAS 488 Comprehensive DesignAS 490 Senior Project | IRRRRRMRMM/AM/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 BuildingCE 303 Construction ManagementENG 306 or 307 Business/Technical WritingMGT 200, 210, or 301 Management ElectiveAS 488 Comprehensive DesignAS 490 Senior Project  | IIRRIM/AM/A |

**AS -490: SENIOR RESEARCH**

Professor : Shahnaz Aly, OAA

**FINAL PRESENATATION ~ OPEN HOUSE / SPRING 2024**

Student: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** Date: 4/27/2024**\_\_\_\_**

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|  | **-EXPECTATIONS +** |
|  | **Failed** | **Weak** | **Met** | **Exceeded** |
| **COMMUNICATION SKILLS** |  |  |  |  |
| \* | Verbal / Statement of Design Concept............... | **1** | **2**  | **3** | **4** |
| \* | Graphics / Visual Consistency……..………….... [documents support verbiage] | **1** | **2** | **3** | **4** |
|  |  |  |  |  |  |
| **THEORY** |  |  |  |  |
| \* | Elements, principles, philosophy of Design ......  | **1** | **2** | **3** | **4** |
| \* | 3-D spatial composition......................................... | **1** | **2** | **3** | **4** |
|  |  |  |  |  |  |
| **FUNCTION** |  |  |  |  |
| \* | Accessibility / Circulation …………………............ | **1** | **2** | **3** | **4** |
| \* | Construction Methodology consistency..............  | **1** | **2** | **3** | **4** |
| \* | Appropriate materials, colors, finishes..............  | **1** | **2** | **3** | **4** |
| \* | Sustainability / Green Design Aspects…............  | **1** | **2** | **3** | **4** |
| \* | Code issues researched and accommodated...  | **1** | **2** | **3** | **4** |
|  |  |  |  |  |  |
| **PROBLEM SOLVING** |  |  |  |  |
| \* | Parameters of Project Addressed……..............  | **1** | **2** | **3** | **4** |
| \* | Design ideas are well developed........................... | **1** | **2** | **3** | **4** |
| \* | Overall appearance of presentation…………….. | **1** | **2** | **3** | **4** |
|  |  |  |  |  |  |
| **CONSTRUCTION DRAWINGS** |  |  |  |  |
| \* | Site Plan indicates all site details..................................(encompasses project concept) | **1** | **2** | **3** | **4** |
| \* | Floor Plans and sections adequately detailed...............(with all necessary information) | **1** | **2** | **3** | **4** |
| \* | Details demonstrate student understanding………….(with sufficient information) | **1** | **2** | **3** | **4** |

**ADDITIONAL COMMENTS**

\* Did the student meet the objectives of the capstone? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\* General Overall Comments

By:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**AS 488 : COMPREHENSIVE DESIGN**

Professor : Shahnaz Aly, O.A.A.

**PROJECT PRESENTATION**

December 02, 2023

Student**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Reviewer\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- | --- | --- |
|  |  | Failed | Weak | Met | Exceeded |
| COMMUNICATION SKILLS  |  |  |  |  |  |
| Verbal / Statement of Design Concept documents support verbiage] |  | 1 | 2 | 3 | 4 |
| Graphics / Visual Consistency documents support verbiage] |  | 1 | 2 | 3 | 4 |
|  |  |  |  |  |  |
| THEORY  |  |  |  |  |  |
| Elements, principles, philosophy of Design  |  | 1 | 2 | 3 | 4 |
| 3-D spatial composition |  | 1 | 2 | 3 | 4 |
|  |  |  |  |  |  |
| FUNCTION  |  |  |  |  |  |
| Site parameters researched and addressed.  |  | 1 | 2 | 3 | 4 |
| General Planning & Circulation |  | 1 | 2 | 3 | 4 |
| Appropriate form and 3D elements developed |  | 1 | 2 | 3 | 4 |
| Appropriate materials, colors, finishes  |  | 1 | 2 | 3 | 4 |
| Code Basics Discussed |  | 1 | 2 | 3 | 4 |
|  |  |  |  |  |  |
| PROBLEM SOLVING - SCHEMATIC DESIGN |  |  |  |  |  |
| Parameters of Project Addressed |  | 1 | 2 | 3 | 4 |
| Design ideas are well developed. |  | 1 | 2 | 3 | 4 |
| Overall appearance of presentation |  | 1 | 2 | 3 | 4 |
| Adequate development for Schematic design |  | 1 | 2 | 3 | 4 |

**ADDITIONAL COMMENTS**

\* Does the project demonstrate students grasp on the building typology selected and worked on? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\* General Overall Comments