Academic Program Assessment Plan– AAS ROBOTICS

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| **Division/**  **Department** | **ARTS AND APPLIED TECHNOLOLGIES/**  **Dept of Applied Technologies** | | | | **Degree/Type** | | **AAS in Robotics** | **Date Submitted** | | June 5, 2017 | | | |
| **UNM Essential Learning Goals** | | | | | | | | | | | | |
| UNM has established the following essential learning goals for all UNM students: University of New Mexico students will develop the following aptitudes and habits of mind in the course of their general and major study at UNM   * KNOWLEDGE of human cultures and the natural world, gained through study in the sciences and mathematics, social sciences, humanities, histories, languages and the arts. * SKILLS, both intellectual and applied, demonstrated in written and oral communication, inquiry and analysis, critical and creative thinking, quantitative literacy, information literacy, performance, teamwork and problem solving. * RESPONSIBILITY, both personal and social, that will be manifested in civic knowledge and engagement, multicultural knowledge and competence, ethical reasoning and action, and foundations and skills for lifelong learning. | | | | | | | | | | | | |
| **Contact Person (name, title, email)** | | Barbara Yarnell, Division Head of Arts and Applied Technologies [yarnell@unm.edu](mailto:yarnell@unm.edu)  Don Davis, Program Coordinator of Applied Technologies, [ddavis48@unm.edu](mailto:ddavis48@unm.edu) | | | | | | | Date reviewed by CARC | | June 21, 2017 | |
| **Assessment Cycle (1-year/2-year/3-year)** | | 2 yr degree/ assessed yearly | | | | | | | | | | |
| **Program Goal #1** | | Students will be able to integrate electromechanical skills into the design of robotic platforms. | | | | | | | | | | |
| **Student Learning Outcomes**  **(In each row enter an SLO targeted at this Program Goal)** | | | **Year of cycle in which this outcome will be assessed.** | **UNM Essential Learning Goal (Knowledge, Skills, Responsibility)** | | **Assessment Measure including Direct/ Indirect (Provide a description of the assessment instrument used; include the course AND if it was direct or indirect)** | | | | | | **Performance Benchmark (State the ‘criteria for success’ or performance target for meeting the SLO, i.e., at least 70% of students will perform with score of 70 or better)** |
| **Student Learning Outcome** | | | **Year of Cycle** | **UNM Essential Learning Goal** | | **Assessment Measure** | | | | | | **Performance Benchmark** |
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| Students will be able to program their robots to perform specific linear motions accurately. | | | Year 1, fall | Knowledge | | Course: **ELCT 163: Advanced Robotics**  Direct Assessment:   1. SLOs will be assessed using a rubric from final project. 2. Instructor will report results to Dept. Chair. | | | | | | 70% of the students will score 70% or better on assessment tool. |
| Students will operate different types of pumps, valves, fluids, plumbing components, and actuators used in hydraulic systems | | | Year 1 fall | Skill | | Course: **ELCT 103: Mechanical Systems**  Direct Assessment:   1. SLOs will be assessed using a rubric from final project. 2. Instructor will report results to Dept. Chair. | | | | | | 70% of the students will score 70% or better on assessment tool. |
| **Program Goal #2** | | | Students will be able to safely operate an industrial robot arm (jog, access programs, set-up End of Arm Of Tooling (EAOT). | | | | | | | | | |
| **Student Learning Outcome** | | | **Year of Cycle** | **UNM Essential Learning Goal** | | **Assessment Measure** | | | | | | **Performance Benchmark** |
| Students will be able to complete Advanced programming procedures | | | Year 2, fall | Skill | | Course: **ROBO 201: Industrial Robotics Operations**  Direct Assessment:   1. SLOs will be assessed using a rubric from final project. 2. Instructor will report results to Dept. Chair. | | | | | | 70% of the students will score 70% or better on assessment tool. |
| Students will design and fabricate EAOT (end of arm tooling) and fixtures | | | Year 2 Spring | Skill | | Course: **ROBO 202: Advanced Industrial Robotics**  Direct Assessment:   1. SLOs will be assessed using a rubric from final project. 2. Instructor will report results to Dept. Chair. | | | | | | 70% of the students will score 70% or better on assessment tool. |