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.
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| **Contact Person (name, title, email)** | Barbara Yarnell, Division Head of Arts and Applied Technologies yarnell@unm.edu Don Davis, Program Coordinator of Applied Technologies, 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. |