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| For Academic Affairs and Research Use Only | |
| Proposal Number | ECS12 |
| CIP Code: |  |
| Degree Code: |  |

**New or Modified Course Proposal Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| **[ ]New Course, [ ]Experimental Course (1-time offering), or [X]Modified Course (Check one box)** |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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| Ilwoo Seok 3/16/2022 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Shivan Haran 3/16/2022 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| Jason Stewart 3/6/2023  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Director of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Abhijit Bhattacharyya 3/15/2023 **College Dean** | Len Frey 4/20/2023  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

1. **Contact Person (Name, Email Address, Phone Number)**

**Shivan Haran; sharan@astate.edu; (870) 972-3413**

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

**Fall 2023**

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

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|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** | **ME** |  |
| **Number\*** | **3523** |  |
| **Title**  (include a short title that’s 30 characters or fewer) | **Introduction to Robotics Laboratory** |  |
| **Description\*\*** | **Design and building of a robot for an engineering application based on standard sensors, controllers, motors and other components, including selection, design, and assembly of various components and programming for successful functioning of the robot.** |  |

***\**** Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*.

\*\*Forty words or fewer (excepting prerequisites and other restrictions) as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested? No]**

(Indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. Are there any prerequisites?

* 1. Why or why not?

1. Is this course restricted to a specific major?
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested? Yes]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

**Irregular**

1. **Proposed course type [Modification requested? Yes]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

**Lecture and Lab**

1. **Proposed grade type [Modification requested? No]**

What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

1. **No** Is this course dual-listed (undergraduate/graduate)?
2. **No** Is this course cross-listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross-listed course.)*

**a.** – If yes, please list the prefix and course number of the cross-listed course.

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

1. **No** Is this course in support of a new program?

a. If yes, what program?

Enter text...

1. **No** Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)?

a. If yes, which course?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested? No]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

1. **Proposed special features** **[Modification requested? No]**

1. **Department staffing and classroom/lab resources**

Class can be offered as part of the existing faculty teaching load; sufficient classroom space is available.

1. Will this require additional faculty, supplies, etc.?

**No**

1. **No** Does this course require course fees?

*If yes: please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

This course is a Junior level course offered as an elective in the BSME degree program. Based on past instances, this course is now being changed to “Irregular,” based on the demand from students wanting to take this course. As a result, juniors and Seniors taking this course will be better prepared and have an improved understanding of the course material, in addition to being able to do the lab exercises. In addition, the lab is a required part of this course, enhances the material taught in the lectures, and provides a hands-on experience for the students working with robotics.

**New Course Justification (New Courses Only)**

1. Justification of course. Must include:
2. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)
3. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.
4. Student population served.

1. Rationale for the level of the course (lower, upper, or graduate).

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. **No** Do the proposed modifications result in a change to the assessment plan?

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

1. Considering the indicated program-level learning outcome/s (from question #19), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

1. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| --- | --- |
| **Outcome 1** | Upon completion of the course, students would have learnt fundamental concepts in Robotics and design of basic robotics systems and the dynamics behind such design. |
| Which learning activities are responsible for this outcome? | In-class discussion and problem solving using mathematical modeling  Demonstration of results and workings from the models and application to basic mechanical systems |
| Assessment Measure | HW, Exams |

*(Repeat if needed for additional outcomes)*

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| **Outcome 2** | Upon completion of the course, students would have understood basics of control systems and their role in design for practical applications using PLCs and/or microcontrollers in Robotics |
| Which learning activities are responsible for this outcome? | Design of an experiment for a robotic/automated system and use of PLC or microcontroller to program and demonstrate different actions; use of ladder logic; Demonstration of the experiment; presentation of a final report |
| Assessment Measure | Project, lab report and demonstration |

**Bulletin Changes**

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| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.** |

Paste bulletin pages here...

**Bulletin**

**Before:**

### ME 3523 - Introduction to Robotics Laboratory

**Sem. Hrs:** **3**  
  
Design and building of a robot for an engineering application based on standard sensors, controllers, motors and other components, including selection, design, and assembly of various components and programming for successful functioning of the robot. Fall.   
  
**Prerequisites:** C or better in [MATH 4403](https://catalog.astate.edu/preview_program.php?catoid=3&poid=546&returnto=77#tt9703) and [ENGR 3423](https://catalog.astate.edu/preview_program.php?catoid=3&poid=546&returnto=77#tt4164).

**After:**

### ME 3523 - Introduction to Robotics Laboratory

**Sem. Hrs:** **3**  
  
Design and building of a robot for an engineering application based on standard sensors, controllers, motors and other components, including selection, design, and assembly of various components and programming for successful functioning of the robot.Irregular.  
**Prerequisites:** C or better in [MATH 4403](https://catalog.astate.edu/preview_program.php?catoid=3&poid=546&returnto=77#tt9703) and [ENGR 3423](https://catalog.astate.edu/preview_program.php?catoid=3&poid=546&returnto=77#tt4164).