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| For Academic Affairs and Research Use Only | |
| Proposal Number | ECS08 |
| 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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| Rajesh Sharma 2/25/2022 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Rajesh Sharma 2/25/2022 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| Jason Stewart 2/25/2022  **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 2/25/2022 **College Dean** | Alan Utter 3/14/2022  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

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

Rajesh Sharma, [rsharma@astate.edu](mailto:rsharma@astate.edu), 870-972-2270

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

Fall 2022

**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** | **TECH** | **N/A** |
| **Number\*** | **3873** | **N/A** |
| **Title**  (include a short title that’s 30 characters or fewer) | **Tool Design** | **N/A** |
| **Description\*\*** | Application of the theory developed in the fundamental technology courses to the design and fabrication of jigs, fixtures, and dies. | **N/A** |

***\**** 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? Yes]**

(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. **Yes** Are there any prerequisites?
   1. If yes, which ones?

TECH 3413 or TECH 3453

* 1. Why or why not?

Students can use either AutoCAD or Solid works to create Engineering drawing or design in this course

1. **No** Is this course restricted to a specific major?
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested? No]**

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

Enter text...

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

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.

Enter text...

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])

Enter text...

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.)

Enter text...

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

(e.g. labs, exhibits, site visitations, etc.)

Enter text...

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

Enter text...

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

Enter text...

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

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

Students can use either AutoCAD or Solid works to create Engineering drawing or design in this course Tech 3413 was already a pre-requisite for this course. TECH 3453 Solid Works is being added as students can use this for course.

**New Course Justification (New Courses Only) N/A**

1. Justification for course. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Enter text...

b. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.

Enter text...

c. Student population served.

Enter text...

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

Enter text...

**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?

Enter text...

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.*

|  |  |
| --- | --- |
| **Program-Level Outcome 1 (from question #19)** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Assessment Measure | Please include direct and indirect assessment measure for outcome. |
| Assessment  Timetable | What semesters, and how often, is the outcome assessed? |
| Who is responsible for assessing and reporting on the results? | Who (person, position title, or internal committee) is responsible for assessing, evaluating, and analyzing results, and developing action plans? |

*(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** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Which learning activities are responsible for this outcome? | List learning activities. |
| Assessment Measure | What will be your assessment measure for this outcome? |

*(Repeat if needed for additional outcomes)*

**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...

**Before Changes**

**TECH 3853. Computer Aided Manufacturing CAM** A study of 3D CAM software package that prepares NC programs for complex shapes and surfaces, basic contouring, drilling pocket- ing and geometric creations, including splines, ellipses, and lettering. Prerequisite, Keycreator experience. Spring, even.

**TECH 3863. Industrial Safety** An introduction of the basic concepts of safety and health. Topics include the role of the safety professional, social, legislative, and regulatory requirements as well as the concepts of hazard recognition, evaluation, and control. Fall.

**TECH 3873. Tool Design** Application of the theory developed in the fundamental technology courses to the design and fabrication of jigs, fixtures, and dies. Prerequisite or corequisite, TECH 3413. Spring.

**TECH 389V. Occupational Internship** This course provides the student with an opportunity to obtain additional experience in their emphasis area. Course may be repeated. Maximum degree credit for this course is three hours. Advisors approval is required. 1 to 3 hours. Fall, Spring, Summer.

**TECH 4703. Experiential Learning Practicum** This capstone course provides students with experiential learning related to their emphasis area, as an on the job position within a company or other approved location. Each Practicum will involve 10 to 12 specific learning experience objectives. Prerequisites, Approval of faculty supervisor. Restricted to majors in the Engineering Technology majors. Fall, Spring, Summer.

**TECH 4743. Computer Numeric Control** Basic terminology for computer aided manufacturing, interpretation of mechanical drawings in manufacturing, and learn manual G Code programming. Prerequisite, MATH 1033. Spring.

**TECH 4783. Manufacturing** Concepts and philosophies of manufacturing technology and their roles in factories. Prerequisite, Senior Standing in Engineering Technology. Fall, even.

**TECH 480V. Current Topics in Technology** This course is designed to address specific needs of technology or industry. May be repeated for credit. 1 to 3 hours. Summer.

**TECH 4813. Operations Systems Research** Quantitative techniques for decision making, break even analysis, economic models, gaussian distributions, inventory control, production models, and mathematical programming. Prerequisite, MATH 1023. Fall.

**TECH 4823. Quality Assurance** The principles and practices of quality in manufactured products. Familiarization with industrial methods and equipment used in quality assessment. Basic topics include histograms, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams, reliability, visual inspection, and the relationship between quality and cost. Prerequisite, TECH 3773 or STAT 3233. Spring.

**TECH 4853 Lean 6 Sigma for Manufacturing** Principles of Lean Manufacturing including strategies to eliminate waste and reduce costs, and continuous quality improvement using the principle of Six Sigma; advanced quality assurance terminology and application of statistical practices in manufacturing management. Prerequisite, TECH 3773 or STAT 3233. Corequisite, TECH 4823. Spring.

**TECH 4873. Motion and Time Study** Principles and practices of motion and time study

including process charts, operation charts, motion summary, and time standards. Spring.

**TECH 4883. Work Center Management** A survey course that addresses the problems of managing a small working unit, such as a department, within a larger unit, such as a company. Topics to be addressed include, goal identification, staffing needs, monitoring of work process re- porting, work center communications, and interpersonal relations within the work center. Spring.

**TECH 489V. Special Problems in Technology** Individually directed problems in technology for juniors and seniors. Must be arranged in consultation with an Engineering Technology faculty member and approved by the department chair. Fall, Spring, Summer.

*The bulletin can be accessed at* [*https://www.astate.edu/a/registrar/students/bulletins/*](http://www.astate.edu/a/registrar/students/bulletins/)

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**After Changes**

**TECH 3853. Computer Aided Manufacturing CAM** A study of 3D CAM software package that prepares NC programs for complex shapes and surfaces, basic contouring, drilling pocket- ing and geometric creations, including splines, ellipses, and lettering. Prerequisite, Keycreator experience. Spring, even.

**TECH 3863. Industrial Safety** An introduction of the basic concepts of safety and health. Topics include the role of the safety professional, social, legislative, and regulatory requirements as well as the concepts of hazard recognition, evaluation, and control. Fall.

**TECH 3873. Tool Design** Application of the theory developed in the fundamental technology courses to the design and fabrication of jigs, fixtures, and dies. Prerequisite or corequisite, TECH 3413 OR TECH 3453. Spring.

**TECH 389V. Occupational Internship** This course provides the student with an opportunity to obtain additional experience in their emphasis area. Course may be repeated. Maximum degree credit for this course is three hours. Advisors approval is required. 1 to 3 hours. Fall, Spring, Summer.

**TECH 4703. Experiential Learning Practicum** This capstone course provides students with experiential learning related to their emphasis area, as an on the job position within a company or other approved location. Each Practicum will involve 10 to 12 specific learning experience objectives. Prerequisites, Approval of faculty supervisor. Restricted to majors in the Engineering Technology majors. Fall, Spring, Summer.

**TECH 4743. Computer Numeric Control** Basic terminology for computer aided manufacturing, interpretation of mechanical drawings in manufacturing, and learn manual G Code programming. Prerequisite, MATH 1033. Spring.

**TECH 4783. Manufacturing** Concepts and philosophies of manufacturing technology and their roles in factories. Prerequisite, Senior Standing in Engineering Technology. Fall, even.

**TECH 480V. Current Topics in Technology** This course is designed to address specific needs of technology or industry. May be repeated for credit. 1 to 3 hours. Summer.

**TECH 4813. Operations Systems Research** Quantitative techniques for decision making, break even analysis, economic models, gaussian distributions, inventory control, production models, and mathematical programming. Prerequisite, MATH 1023. Fall.

**TECH 4823. Quality Assurance** The principles and practices of quality in manufactured products. Familiarization with industrial methods and equipment used in quality assessment. Basic topics include histograms, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams, reliability, visual inspection, and the relationship between quality and cost. Prerequisite, TECH 3773 or STAT 3233. Spring.

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