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| For Academic Affairs and Research Use Only | |
| Proposal Number | ECS13 |
| 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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| Dr. Ilwoo Seok 3/1/2023 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Dr. Shivan Haran 3/1/2023 **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** |
| Dr. Abhijit Bhattacharyya 3/6/2023 **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)**

Ilwoo Seok

[iseok@astate.edu](mailto:iseok@astate.edu)

870-680-8589

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

Spring 2024.

**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** | **N/A** |
| **Number\*** | **4523** | **N/A** |
| **Title**  (include a short title that’s 30 characters or fewer) | **Introduction to Finite Element Analysis** | **N/A** |
| **Description\*\*** | **Theory and application of energy concepts and structural mechanics required for the development of finite element methods are presented. Applications to beams, trusses, torsion, etc.** | **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?

ME 2502

* 1. Why or why not?

This class uses three-dimensional (3D) modeling-based analysis and needs students who completed the course on 3D computer-aided design with the knowledge and experience about solid modeling.

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? 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])

Enter text...

1. **Yes** Is this course dual-listed (undergraduate/graduate)?
2. **Yes / 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. **Yes / No** Is this course in support of a new program?

a. If yes, what program?

Enter text...

1. **Yes / 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**

Enter text...

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

Enter text...

1. **Yes / 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 class uses three-dimensional (3D) modeling-based analysis and needs students who completed the course on 3D computer-aided design with the knowledge and experience about solid modeling. Therefore, this proposal aims to modify the current course by adding ME 2502 (Solid Modeling for Mechanical Engineers), one of the significant requirements in the ME program, as the pre-requisite. In addition, lab is a required part of this course and enhances the material taught in the lectures, and provides a hands-on experience for the students who will be working with computer-aided engineering for practical applications.

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

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.** |

From the bulletin page

Old

**ME 4523 - Introduction to Finite Element Analysis**

**Sem. Hrs:** **3**  
  
Theory and application of energy concepts and structural mechanics required for the development of finite element methods are presented. Applications to beams, trusses, torsion, etc. are presented. Spring.  
  
**Prerequisites:** C or better in [ENGR 2413](https://catalog.astate.edu/preview_program.php?catoid=3&poid=546&returnto=77#tt852).  
**Dual Listed/Cross Listed:** ME 5523.

Revision

**ME 4523 - Introduction to Finite Element Analysis**

**Sem. Hrs:** **3**  
  
Theory and application of energy concepts and structural mechanics required for the development of finite element methods are presented. Applications to beams, trusses, torsion, etc. are presented. Spring.  
  
**Prerequisites:** C or better in [ENGR 2413](https://catalog.astate.edu/preview_program.php?catoid=3&poid=546&returnto=77#tt852) **and ME 2502.**  
**Dual Listed/Cross Listed:** ME 5523.