Code # EN06

**New/Special Course Proposal-Bulletin Change Transmittal Form**

[x]  **Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

[ ]  **Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to mmcginnis@astate.edu

|  |
| --- |
| [x] **New Course or** [ ]  **Special Course (Check one box)***Please complete the following and attach a copy of the catalogue page(s) showing what changes are necessary.*  |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**COPE Chair (if applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Department Chair:**  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**General Education Committee Chair (If applicable)**   |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Vice Chancellor for Academic Affairs** |

1. Proposed Course Prefix and Number (For variable credit courses, indicate variable range.)

ME 3571

2. Course Title – if title is more than 30 characters (including spaces), provide short title to be used on transcripts. Title cannot have any symbols (e.g. slash, colon, semi-colon, apostrophe, dash, and parenthesis). Please indicate if this course will have variable titles (e.g. independent study, thesis, special topics).

Fluid Mechanics Laboratory

3. Will this course be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio problems, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

lab only

4. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental)?

standard letter

5. Is this course dual listed (undergraduate/graduate)?

no

6. Is this course cross listed? (If it is, all course entries must be identical including course descriptions. It is important to check the course description of an existing course when adding a new cross listed course.)

Enter text...

7. Brief course description (40 words or fewer) as it should appear in the bulletin.

Enter text...

8. Indicate all prerequisites and 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).

a. Are there any prerequisites?

Enter text...

b. Why?

Enter text...

9. Course frequency(e.g. Fall, Spring, Summer). Not applicable to Graduate courses.

Enter text...

10. Contact Person (Name, Email Address, Phone Number)

fall 2014

11. Proposed Starting Term/Year

Enter text...

12. Is this course in support of a new program? Yes/No

If yes, what program?

Enter text...

13. Does this course replace a course being deleted? Yes/No

If yes, what course?

Enter text...

Has this course number been used in the past? no

*Submit Course Deletion Proposal-Bulletin Change Transmittal Form.*

14. Does this course affect another program? Yes/No

If yes, provide contact information from the Dean, Department Head, and/or Program Director whose area this affects.

Enter text...

15. Justification should 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 established by the department for the curriculum? If course is mandated by an accrediting or certifying agency, include the directive.

Enter text...

c. Student population served.

mechanical engineers

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

Accompanies junior-level fluid mechanics lecture.

16. Outline (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. Fluid measurement sensors and lab safety

2. Fluid velocity measurement

3. Fluid viscosity

4. Laminar to turbulent flow transition

7. Measurement of major and minor flow losses

8.Introduction to compressible flow measurement

9. Lift and drag on bluff bodies

10. Flows in pipes and ducts

11. Introduction to turbomachinery

12. Fan specification and pump curves

13. Dimensional Analysis and uncertainty

14. Pumps in series and parallel.

17. Course requirements (e.g. research papers, projects, interviews, tests, etc.)

formal laboratory reports

18. Special features (e.g. labs, exhibits, site visitations, etc.)

labs

19. Department staffing and classroom/lab resources (Will this require additional faculty, supplies, etc.?)

no

20. What is the primary intended learning goal for students enrolled in this course?

students will learn the appropriate measurement of fluid flow properties and sensor placement

21. Reading and writing requirements:

a. Name of book, author, edition, company and year

Instructor derived laboratory handouts

b. Number of pages of reading required per week: 5-8

c. Number of pages of writing required over the course of the semester: 75

22. High-Impact Activities (Check all that apply)

[x] Collaborative assignments

[ ] Research with a faculty member

[ ] Diversity/Global learning experience

[ ] Service learning or community learning

[ ] Study abroad

[ ] Internship

[ ] Capstone or senior culminating experience

[ ] Other Explain: Enter text...

23. Considering the indicated primary goal (in Box #20), provide up to three outcomes that you expect of students after completion of this course.

**Outcome #1:** (For example, what will students who meet this goal know or be able to do as a result of this course?)

Students will be able to choose sensors to properly measure fluid properties based on fluid type, sensor placement, and frequency response of the system

Learning Activity:(For example, what instructional processes do you plan to use to help students reach this outcome?)

weekly laboratory exercises

Assessment Tool: (For example, what will students demonstrate, represent, or produce to provide evidence of their learning?)

graded laboratory reports and oral presentations

*(Repeat if needed for additional outcomes 2 and 3)*

**Outcome #2:**

Enter text...

Learning Activity:

Enter text...

Assessment Tool:

Enter text...

**Outcome #3**:

Enter text...

Learning Activity:

Enter text...

Assessment Tool:

Enter text...

24. Please indicate the extent to which this course addresses university-level student learning outcomes:

* 1. Global Awareness

[x] Minimally
[ ] Indirectly
[ ] Directly

* 1. Thinking Critically

[ ] Minimally
[ ] Indirectly
[x] Directly

* 1. Using Technology

[ ] Minimally
[ ] Indirectly
[x] Directly

**From the most current electronic version of the bulletin, copy all bulletin pages that this proposal affects and paste it to the end of this proposal.**

**To copy from the bulletin:**

1. Minimize this form.
2. Go to <http://registrar.astate.edu/bulletin.htm> and choose either undergraduate or graduate.
3. This will take you to a list of the bulletins by year, please open the most current bulletin.
4. Find the page(s) you wish to copy, click on the “select” button and highlight the pages you want to copy.
5. Right-click on the highlighted area.
6. Click on “copy”.
7. Minimize the bulletin and maximize this page.
8. Right-click immediately below this area and choose “paste”.
9. For additions to the bulletin, please change font color and make the font size larger than the surrounding text. Make it noticeable.
10. For deletions, strike through the text, change the font color, and enlarge the font size. Make it noticeable.

**Add after ME 3513 course description ME 3571 Experiments in fluid flow phenomena including measurement techniques for both laminar and turbulent flow regimes. Formal laboratory reports are required. Laboratory two hours per week. Corequisite ME 3573. Fall**



