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

**New Course Proposal Form**

**[✔] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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

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

Email completed proposals to [curriculum@astate.edu](mailto:curriculum@astate.edu) for inclusion in curriculum committee agenda.

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| Jason Stewart 3/26/2019 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Jason Stewart 3/26/2019 **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (If applicable)** |
| Jason Stewart 3/26/2019 **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Yeonsang Hwang 3/26/2019 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (If applicable)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

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

Jason Stewart, [jstewart@astate.edu](mailto:jstewart@astate.edu), 972-2088

2. Proposed Starting Term and Bulletin Year

Fall 2019

3. Proposed Course Prefix and Number (Confirm that number chosen has not been used before. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

SUR 3003

4. 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).

Route and Construction Surveying (Route and Const. Surveying)

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

Horizontal and vertical curve construction, construction survey parameters for buildings and roads, subdivision design and layout, and location guidelines for cuts and fills along with volume determination.

6. Prerequisites and major restrictions. (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?

CE 2202

* 1. Why or why not?

Student knowledge of and mastery of basic surveying fundamentals and drafting techniques are needed to successfully complete the course.

1. No Is this course restricted to a specific major?
   1. If yes, which major? Enter text...

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

Fall

8. 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, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

Lecture and lab

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

Standard letter

10. No Is this course dual listed (undergraduate/graduate)?

11. 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.)*

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

Enter text...

**11.2** – **Yes / No** Are these courses offered for equivalent credit?

Please explain. Enter text...

12. Yes Is this course in support of a new program?

a. If yes, what program?

Minor in Surveying

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

a. If yes, what course?

Enter text...

14. No Will this course be equivalent to a deleted course?

a. If yes, which course?

Enter text...

15. Yes Has it been confirmed that this course number is available for use?

*If no: Contact Registrar’s Office for assistance.*

16. Yes Does this course affect another program?

If yes, provide confirmation of acceptance/approval of changes from the Dean, Department Head, and/or Program Director whose area this affects.

This course affects the BSCE (Civil Engineering) program by adding an option for students who ultimately desire licensure as a Professional Surveyor. The Director of Civil Engineering (Jason Stewart) is in favor of this program.

**Course Details**

17. 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.)

Week No. Class Topic

1 Lecture Horizontal curve design and layout

2 Lecture Vertical curve design and layout, DOT guidelines

3 Lecture Complete road construction layout parameters

4 Lecture Building stake-out parameters

5 Lecture Construction surveys – tools and methodology

6 Lecture Horizontal and vertical control, Project benchmark

establishment, control

7 Lecture Subdivision design parameters

8 Lecture Subdivision layout fundamentals

9 Lecture Utility layout and design considerations

10 Lecture Route and construction surveying equipment and methods

11 Lecture Methods of volume determination in earthwork

Cut and fill calculations and errors

12 Lecture As-Built and Final Survey

13 Lecture Construction Contracts and Scheduling Software

14 Lecture Photogrammetry, LIDAR, UAVS, Drone, 3D Scanning

15 Lecture 3D Modeling for Machine Control

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

Laboratory exercises will be utilized to develop student knowledge and comprehension

19. Department staffing and classroom/lab resources

Required lab resources already in place

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

Yes – this course will be taught initially by adjunct faculty.

20. Yes Does this course require course fees?

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

**Course Justification**

21. Justification for course being included in program. Must include:

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

Course content reflects one of the required areas of competence which students are expected to attain prior to surveying licensure.

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.

Arkansas code (Articles 8.D.3.a and 8.E.1.c) provides 2 paths to ultimate licensure as a Professional Surveyor, and both of them could be partially fulfilled with this course when taken with the other required courses specified. The mission to serve students who wish to be licensed Professional Surveyors is partially fulfilled by offering this course.

c. Student population served.

BSCE students

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

Course builds upon knowledge learned at the lower level through mathematics and basic plane surveying.

**Assessment**

**Relationship with Current Program-Level Assessment Process**

22. 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?

The new minor and its courses in professional surveying will be cognate embedded and complementary to the BSCE. Program-level assessment of minors which are part of an already assessed program is not required at this time. However, the BSCE faculty will monitor Professional Surveyor exam pass rates closely to determine if the curriculum is producing qualified and prepared graduates.

23. Considering the indicated program-level learning outcome/s (from question #23), 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.*

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| **Program-Level Outcome 1 (from question #23)** | N/A |
| 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**

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

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| **Outcome 1** | Understanding of building construction layout needs |
| Which learning activities are responsible for this outcome? | Lectures and classroom discussions, lab activities |
| Assessment Measure | Examinations and lab reports |

*(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. Follow the following guidelines for indicating necessary changes.**  **\*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.**  - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)  - New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font).  - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)  *You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.*  *Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

**CE 4893. Sustainability and Water Resources** Fundamental concepts of sustainability, the interconnection of the water system with other systems, the environmental and socio-economic aspects of water systems, and case studies for sustainable strategies. Lecture three hours per week. Dual listed as CE 5293. Prerequisite, C or better in CE 3253 and CE 3263. Fall, even.

***Surveying (SUR)***

***SUR 3003. Route and Construction Surveying*** *Horizontal and vertical curve construction, construction survey parameters for buildings and roads, subdivision design and layout, and location guidelines for cuts and fills along with volume determination. Lecture two hours, laboratory 3 hours per week. Prerequisite, C or better in CE 2202. Fall.*

**ELECTRICAL ENGINEERING PROGRAM**