Code # AG18

**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

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| --- |
| [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.)

TECH 2703

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).

Technical Graphics and AutoCAD

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.

Lecture and Lab

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.)

No

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

 Create ~~and read~~ technical drawings using basic graphics techniques. Topics ~~cover~~ include technical graphics, transition from traditional drawings to computer graphics, and fundamentals of AutoCAD. Prerequisite, MATH 1023, Fall.

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?

MATH 1023

b. Why?

This course needs ~~basic calculation skills~~ a solid foundation in Math skills.

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

Fall

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

Yifeng Ren, yren@astate.edu, 870-972-2139

11. Proposed Starting Term/Year

Fall 2014

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

If yes, what program?

Enter text...

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

If yes, what course?

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? 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)

This course will prepare students with basic graphics skills, visualization, orthographic of technical drawings. It will also train them in the fundamentals of AutoCAD and in design for manufacturing (DFM).

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.

This is not mandated by an accrediting agency. It is an introductory CADD course which will help students with all other course in the CADD emphasis area in TECH program

c. Student population served.

Students in TECH program.

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

It will be a lower-level course which will provide fundamental knowledge of technical graphics and AutoCAD. This course will prepare students for upper–level CADD courses in the program.

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. Orthographic Projection

2. Drawings in AutoCAD

3. Creating Orthographic Projections in AutoCAD

4. Dimensioning

5. Dimensioning in AutoCAD

6. Section View

7. Section View in AutoCAD

8. Tolerance

9. Tolerance in AutoCAD

10. Fasteners

11. Fasteners & Threads Drawing in AutoCAD

12. Assembly Drawings

13. Creating Assembly Drawings in AutoCAD

14. Pictorials & Creating Isometric Pictorials in AutoCAD

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

Tests and projects

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?

To be proficient in basic graphics skills of technical drawings which are required in the Computer Aided Drafting and Design emphasis area of technology.

21. Reading and writing requirements:

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

Engineering Graphics Essentials with AutoCAD 2014 Instruction, Kirstie Plantenberg, SDC Publications, 2013

b. Number of pages of reading required per week: One chapter per week

c. Number of pages of writing required over the course of the semester: Students will get four assignments in every class.

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

[x] Collaborative assignments

[x] Research with a faculty member

[ ] Diversity/Global learning experience

[ ] Service learning or community learning

[ ] Study abroad

[ ] Internship

[ ] Capstone or senior culminating experience

[ ] Other Explain:

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 read and draw engineering designs both manually and with computer.

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

 Lectures and lab activities with practical examples..

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

A final project in this course will be used to assess the proficiency of the students with reading and drawing of engineering designs. .

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

**Outcome #2:**

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Learning Activity:

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Assessment Tool:

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**Outcome #3**:

Learning Activity:

Assessment Tool:

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.

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| Page 105, Emphasis Area (Agricultural Technology):  | **Sem. Hrs**  |
| AGED 1403, Basic Agricultural Mechanics  | 3  |
| AGED 2433, Principles of Agricultural Power: Electricity and Internal Combustion Engines  | 3  |
| AGED 2453, Application of Welding Technologies to Agriculture  | 3  |
| AGED 3433, Agricultural Equipment Hydraulic Systems  | 3  |
| AGEC 4073, Agricultural Business Management  | 3  |
| MET 2003, Introduction to Metallurgy  | 3  |
| PSSC 3503, Agriculture Spatial Technologies I  | 3  |
| PSSC 3513, Agriculture Spatial Technologies II **OR** AGRI 4773, Remote Sensing  | 3  |
| TECH 2453, Solid Works I  | 3  |
| TECH 2703, Technical Graphics and AutoCAD | 3  |
| TECH 3823, Mechanics I  | 3  |

Page119, Emphasis Area (Computer Aided Drafting and Design):

Select nine of the following:

TECH 1423, Beginning Solid Modeling Key Creator II

TECH 2803, Computer Aided Drafting and Design II

TECH 3413, AutoCAD / Inventor

TECH 3403, Pro Engineer

TECH 3423, Intermediate Solid Modeling Key Creator II

TECH 3433, AutoCAD 3-D Modeling

TECH 3453, Advanced Technology Design - Solid Works II

TECH 3473, Structural Drafting

TECH 3853, Computer Aided Manufacturing (CAM)

TECH 3873, Tool Design

TECH 2703, Technical Graphics and AutoCAD

TECH 4083, Mastercam II

Page403, Emphasis Area {Technology (TECH)}:

TECH 2703. Technical Graphics and AutoCAD. Create ~~and read~~ technical drawings using basic graphics techniques. Topics ~~covers~~ include technical graphics, transition from traditional drawings to computer graphics, fundamentals of AutoCAD. Prerequisite, MATH 1023, Fall.

**TECH 4083. Mastercam II** Introduction to the concepts and practices of CAM and Machine Protocol with focus on personal application. Spring, odd.

**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 Technology majors.