### INSTRUCTIONS
Please check the items below which describe the purpose of this request:

- [x] New course with supporting documents (complete proposal form)
- [ ] Add existing course offered at another campus
- [ ] Expiration of a course
- [ ] Change in course number
- [ ] Change in course title
- [ ] Change in course credit/type
- [ ] Change in course attributes
- [ ] Change in instructional hours
- [ ] Change in course description
- [ ] Change in course requisites
- [ ] Change in semester offered
- [ ] Transfer from one department to another

### PROPOSED

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th>TECH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Number</td>
<td>56300</td>
</tr>
<tr>
<td>Long Title</td>
<td>History, trends, and limitations of technology</td>
</tr>
</tbody>
</table>

### EXISTING

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Number</td>
<td></td>
</tr>
</tbody>
</table>

### TERMS OFFERED

- [x] Summer
- [x] Fall
- [x] Spring

### CAMPUS(ES) INVOLVED

- [ ] Calumet
- [ ] N. Central
- [ ] Ft. Wayne
- [ ] Tosh Statewide
- [x] W. Lafayette

### CREDIT TYPE

1. Fixed Credit: 3 Cr. Hrs.
2. Variable Credit Range: Minimum Cr. Hrs: (Check one) To
   - [ ] Or
   - [ ] No
3. Equivalent Credit: Yes
4. Thesis Credit: Yes

### COURSE ATTRIBUTES

1. Pass/Not Pass Only
2. Satisfactory/Unsatisfactory Only
3. Repeatable
4. Credit by Examination
5. Special Fees
6. Registration Approval Type
   - [ ] Department
   - [ ] Instructor
7. Variable Title
8. Honors
9. Full Time Privilege
10. Off Campus Experience

### COURSE DESCRIPTION

Students will learn the fundamental concepts in engineering and technology education. This includes knowledge of information and communication systems, constructions, manufacturing processes, energy/power/transportation technologies, and the overall impact of individuals on the environment within the context of society. This course will develop the philosophy and nature of technology as an education discipline. The course will cover an overview of the importance of technology in history. Students will also learn the limitations and scope which impacts the field of engineering technology.
Supporting Document for a New Graduate Course

To: Purdue University Graduate Council
From: Faculty Member: Charlie Feldhaus
Department: CILT
Campus: Indianapolis
Date: 8/17/2009
Subject: Proposal for New Graduate Course-Documentation Required by the Graduate Council to Accompany Registrar's Form 40G

Contact for information if questions arise:
Name: Charlie Feldhaus
Phone Number: 317-278-1863
E-mail: cfeldhau@iupui.edu
Campus Address: ET 309F

Course Subject Abbreviation and Number: TECH 56300
Course Title: History, trends, and limitations of technology

A. Justification for the Course:

- Provide a complete and detailed explanation of the need for the course (e.g., in the preparation of students, in providing new knowledge/training in one or more topics, in meeting degree requirements, etc.), how the course contributes to existing fields of study and/or areas of specialization, and how the course relates to other graduate courses offered by the department, other departments, or interdisciplinary programs.

- Justify the level of the proposed graduate course (50000- or 60000-level) including statements on, but not limited to: (1) the target audience, including the anticipated number of undergraduate and graduate students who will enroll in the course; and (2) the rigor of the course.

B. Learning Outcomes and Method of Evaluation or Assessment:

- Describe the course objectives and student learning outcomes that address the objectives (i.e., knowledge, communication, critical thinking, ethical research, etc.).

- Describe the methods of evaluation or assessment of student learning outcomes. (Include evidence for both direct and indirect methods.)

- Grading criteria (select from dropdown box); include a statement describing the criteria that will be used to assess students and how the final grade will be determined.

Criteria: Papers and Projects
• Identify the method(s) of instruction (select from dropdown box) and describe how the methods promote the likely success of the desired student learning outcomes.

Method of Instruction: Lecture

C. Prerequisite(s):

• List prerequisite courses by subject abbreviation, number, and title.
• List other prerequisites and/or experiences/background required. If no prerequisites are indicated, provide an explanation for their absence.

D. Course Instructor(s):

• Provide the name, rank, and department/program affiliation of the instructor(s).
• Is the instructor currently a member of the Graduate Faculty? ❌ Yes ☑ No
   (If the answer is no, indicate when it is expected that a request will be submitted.)

E. Course Outline:

• Provide an outline of topics to be covered and indicate the relative amount of time or emphasis devoted to each topic. If laboratory or field experiences are used to supplement a lecture course, explain the value of the experience(s) to enhance the quality of the course and student learning. For special topics courses, include a sample outline of a course that would be offered under the proposed course.

F. Reading List (including course text):

• A primary reading list or bibliography should be limited to material the students will be required to read in order to successfully complete the course. It should not be a compilation of general reference material.
• A secondary reading list or bibliography should include material students may use as background information.

G. Library Resources

• Describe the library resources that are currently available or the resources needed to support this proposed course.

H. Example of a Course Syllabus  (While not a necessary component of this supporting document, an example of a course syllabus is available, for information, by clicking on the link below, which goes to the Graduate School’s Policies and Procedures Manual for Administering Graduate Student Programs. See Appendix K.)


(Revised and Approved by the Graduate Council 2/08)
Supporting Document
TECH 56300  History, Trends, and Limitations of Technology

Description

Students will learn the fundamental concepts in engineering and technology education. This includes knowledge of information and communication systems, construction, manufacturing processes, energy/power/transportation technologies, and the overall impact of individuals on the environment within the context of society. This course will develop the philosophy and nature of technology as an education discipline. The course will cover an overview of the importance of technology in history. Students will also learn the limitations and scope which impacts the field of engineering technology.

A. Justification for the Course:

This course contains an important breadth of topics required for all technology teachers certified by the ITEA standards. Teachers in engineering technology education need to cover many different trades and industries and understand the fundamentals of the overall discipline. Teachers are expected to teach on a wide range of topics and integrate subject matter from other disciplines such as math and science.

B. Learning Outcomes and Method of Evaluation or Assessment:

Course Objectives:

1. Discuss the characteristics and scope of technology.
2. Discuss the relationships between technology and social, cultural, political, and economic systems.
3. Discuss the importance of significant technological innovations on the history of human kind.
4. Discuss the role of society in the development and use of technology.
5. Discuss the relationship among technologies and the connections between technology and other disciplines.
6. Complete an electronic portfolio that follows the criteria of their state induction.
7. Describe the proper procedures for planning and managing a technology education laboratory.
8. Develop techniques for planning and organizing laboratory tools, supplies, and equipment for efficient and educationally sound laboratory operation.
9. Develop a realization of the importance of safety in technology education facilities and become familiar with prescribed methods of rendering facilities safe for student activities.
10. Perform a facility safety inspection, identifying hazards and noting methods of abatement.
11. Develop an awareness of government requirements and mandates, as they relate to the technology education laboratory.
12. Develop systems for inventory, purchase, and maintenance of equipment and supplies for an instructional facility.
13. Design a technology education laboratory.
14. Describe the disciplines that comprise career and technical education and their interrelationship.
15. Define terms associated with the field of technology education.
16. Identify and describe the major historical events that influenced both career and technical education, and technology education.
17. Identify professional associations and journals in the field of technology education.
18. Describe Purdue University's degree requirements for technology education.
19. Describe Indiana's certification requirements for technology education.
20. Develop and demonstrate a scene of professionalism.
21. Discuss the role of technology education in today's and tomorrow's educational systems.
22. Discuss trends and issues related to the field of technology education.
23. Compile an initial professional teaching portfolio.

These objectives meet ITEA Standards 1, 2, 3, 4, 5, 6, 7, 8, and 9.

**Evaluation**

**Grading Standards**

Letter grades will be assigned in accordance with the following scale:

- 100% to 98 = A+
- 97.99 to 93 = A
- 92.99 to 91 = A-
- 90.99 to 88 = B+
- 87.99 to 83 = B
- 82.99 to 81 = B-
- 80.99 to 78 = C+
- 77.99 to 73 = C
- 72.99 to 70 = C-
- 70 and lower = F

**Evaluation Method**

Your grade for the course will be determined by the following items:

1. Papers, Presentations, and Other Assignments (25% of Final Grade)
   - Trends and history of Technology Presentation
   - Position Paper Trends limitations and history of Technology
2. Quizzes and exams (30% of Final Grade)
3. Evaluation Materials (a notebook) (15% of Final Grade)
• Technology education Evaluation Resources

4. Technology education trends Resources Materials (organized into files) (15% of Final Grade)
   a. Trends in Construction Technology
   b. Trends in Design Technology (including parametric modeling)
   c. Trends in Manufacturing Technology (including computer-numerical-controlled machining)
   d. Trends in Power and Energy (including digital electronics)
   e. Trends in Transportation Technology

5. Literature Review (15% of Final Grade)
   • 10-15 Pages in Length

C. Prerequisite(s):

Graduate status in the School of Engineering and Technology

D. Course Instructor(s):

Charlie Feldhaus Associate Professor: Department of Organizational Leadership and Supervision
Phone: 317-278-1863
Office: ET 309F
E-mail: cfeldhau@iupui.edu

E. Course Outline:

Students will learn the fundamental concepts of the trends in Engineering and Technology Education including knowledge of information and communication, construction, manufacturing, energy/power/transportation technologies, and the impact of the areas on individuals, the environment, and society. The course will develop the philosophy and the nature of technology as an education discipline. The course will overview the importance of technology in history and describes the different limitations that impact the scope of technology. Students will investigate professional educational issues in career and technical education, and in particular technology education. Emphasis will focus on certification, employment opportunities, terminology, publications, resources, historical development, and introduction to trends, philosophies, methods, and contemporary programs. Field trips are required to educational programs.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fundamental concepts of the trends in Engineering and Technology Education</td>
</tr>
<tr>
<td>2</td>
<td>Knowledge of information and communication</td>
</tr>
<tr>
<td>3</td>
<td>Construction, manufacturing</td>
</tr>
<tr>
<td>4</td>
<td>Energy/power/transportation technologies</td>
</tr>
<tr>
<td>5</td>
<td>Impact of the areas on individuals, the environment, and society.</td>
</tr>
<tr>
<td>6</td>
<td>Different limitations that impact the scope of technology</td>
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<tr>
<td></td>
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<td>---</td>
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</tr>
<tr>
<td>7</td>
<td>Investigate professional educational issues</td>
</tr>
<tr>
<td>8</td>
<td>Peer Teaching of Databases &amp; Presentation Software</td>
</tr>
<tr>
<td>9</td>
<td>Safety in technology education</td>
</tr>
<tr>
<td>10</td>
<td>Government requirements and mandates</td>
</tr>
<tr>
<td>11</td>
<td>Inventory, purchase, and maintenance of equipment and supplies for an instructional facility</td>
</tr>
<tr>
<td>12</td>
<td>Field trip</td>
</tr>
<tr>
<td>13</td>
<td>Field trip</td>
</tr>
<tr>
<td>14</td>
<td>Sponsoring Student Organizations</td>
</tr>
<tr>
<td>15</td>
<td>Wrap-Up—Professional Issues (Getting a Job)</td>
</tr>
</tbody>
</table>

**F. Reading List (including course text):**


**G. Library Resources**

Students will be required to complete a literature review. Journal articles & other necessary media can be found at the University Library at IUPUI.

**H. Example Course Syllabus**

See attached.
I. HEADER:

Course Number: TECH 56300

Course Title: History, trends, and limitations of technology

Instructor: Charlie Feldhaus

Prerequisites: Graduate status in the School of Engineering and Technology

II. COURSE DESCRIPTION AND RATIONALE:

Description
Students will learn the fundamental concepts in engineering and technology education. This includes knowledge of information and communication systems, construction, manufacturing processes, energy/ power/ transportation technologies, and the overall impact of individuals on the environment within the context of society. This course will develop the philosophy and nature of technology as an education discipline. The course will cover an overview of the importance of technology in history. Students will also learn the limitations and scope which impacts the field of engineering technology.

Rationale
This course contains an important breadth of topics required for all technology teachers certified by the ITEA standards. Teachers in engineering technology education need to cover many different trades and industries and understand the fundamentals of the overall discipline. Teachers are expected to teach on a wide range of topics and integrate subject matter from other disciplines such as math and science.

III. EDUCATIONAL OBJECTIVES:

1. Discuss the characteristics and scope of technology.
2. Discuss the relationships between technology and social, cultural, political, and economic systems.
3. Discuss the importance of significant technological innovations on the history of human kind.
4. Discuss the role of society in the development and use of technology.
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22. Discuss trends and issues related to the field of technology education.
23. Compile an initial professional teaching portfolio.

IV. COURSE CONTENT:

Students will learn the fundamental concepts of the trends in Engineering and Technology Education including knowledge of information and communication, construction, manufacturing, energy/power/transportation technologies, and the impact of the areas on individuals, the environment, and society. The course will develop the philosophy and the nature of technology as an education discipline. The course will overview the importance of technology in history and describes the different limitations that impact the scope of technology. Students will investigate professional educational issues in career and technical education, and in particular technology education. Emphasis will focus on certification, employment opportunities, terminology, publications, resources, historical development, and introduction to trends, philosophies, methods, and contemporary programs. Field trips are required to educational programs.

V. REQUIRED AND RECOMMENDED TEXTS:

VI. EVALUATION AND GRADING:

Grading Standards
Letter grades will be assigned in accordance with the following scale:

100% to 98 = A+
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92.99 to 91 = A-
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   - Trends in Power and Energy (including digital electronics)
   - Trends in Transportation Technology
5. Literature Review (15% of Final Grade)
   - 10-15 Pages in Length

VII. BIBLIOGRAPHY

VIII. CHEATING AND PLAGIARISM

Indiana University has adopted a code that applies, with only minor differences, to students on all Indiana University campuses. The code, which is available in the Office of the Dean of Students and in all school office, spells out what constitutes unacceptable
behavior and the procedures to be followed when there are alleged cases of misconduct. The dean of students also has some very brief pamphlets on key areas of the code. What follows is not the code but rather abbreviated and paraphrased statements on key elements of the code: academic and personal misconduct as well as a section on what students should do if they believe that other students, faculty, or staff have violated their rights. The code also explains the procedures employed and how students may appeal decisions. For more information, consult the Code of Student Rights, Responsibilities, and Conduct as well as brochures located in the Office of the Dean of Students.

Indiana University Purdue University Indianapolis Code of Conduct

Cheating of any kind will be grounds for failure. You are allowed to discuss your assignments with others. However, you are expected to submit your own work for grading. You are expected to create your own assignments independent of others except when directed to work in teams. Do not cheat. The submission of false computer output is also considered to be cheating.

Cheating will not be tolerated. Cheating and/or plagiarism will be immediately punished with a grade of zero for the assignment in question, reported to the Chairman of the Department of Computer and Information Technology and a letter describing the infraction will be placed in your student file. Further disciplinary action will be pursued according to university policy as described in Part III of the Code of Student Rights, Responsibilities, and Conduct (Issued August 15, 1997).

Instructors using software to detect plagiarism are encouraged to investigate whether or not the student’s permission is needed.

IX. AMERICANS WITH DISABILITIES ACT

If you need any special accommodations due to a disability, please contact Adaptive Educational Services at (317)-274-3241. The office is located in CA 001E.
New Course Request

Check Appropriate Boxes:  Undergraduate credit [ ]  Graduate credit [ ]  Professional credit [ ]

1. School/Division  Purdue School of Engineering and Technology
2. Academic Subject Code  TECH

3. Course Number  56300 (must be cleared with University Enrollment Services)
4. Instructor  Charlie Feldhaus

5. Course Title  History, trends, and limitations of technology

Recommended Abbreviation (Optional) ____________________________ (Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year):  Spring 2010

7. Credit Hours: Fixed at _______ 3 _______ or Variable from ___________ to ___________

8. Is this course to be graded S-F (only)?  Yes [ ]  No [x]

9. Is variable title approval being requested?  Yes [ ]  No [x]

10. Course description (not to exceed 50 words) for Bulletin publication:  Participants will learn the fundamental concepts in engineering and technology education. This course will develop the philosophy and nature of technology in history. Students will also learn the limitations and scope which impacts the field of engineering technology.

11. Lecture Contact Hours: Fixed at _______ 3 _______ or Variable from ___________ to ___________

12. Non-Lecture Contact Hours: Fixed at ___________ or Variable from ___________ to ___________

13. Estimated enrollment: _______ 10 _______ of which _______ 100 _______ percent are expected to be graduate students.

14. Frequency of scheduling:  every spring  Will this course be required for majors?  Yes [x]

15. Justification for new course:  Part of Area of Concentration for Engineering Technology Education

16. Are the necessary reading materials currently available in the appropriate library?  Yes [x]

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:  [Signature]  Date 8/19/09

Department Chairman/Division Director

Approved by:  [Signature]  Date 9/8/09

Dean

[Signature]  Date

Chancellor/Vice-President

[Signature]  Date

University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.