Eastern Illinois University
New Course Proposal
AET 4000, Undergraduate Research

1. Catalog Description

(a) Course number: AET 4000
(b) Title: Undergraduate Research
(c) Meeting times and Credit: Arr. Arr. 1-6
(d) Term(s) to be offered: On demand
(e) Short title: Research Undergd
(f) Course description: This course provides the opportunity for undergraduate students to perform individualized applied laboratory and/or theoretical research under the supervision of a faculty member. A written report is required.

(g) Prerequisite: Cumulative GPA of 2.50; at least junior status, permission of instructor and department chair permission. May be repeated for a maximum of 6 credits.

(h) Initial term of course offering: Fall 2006

2. Student Learning Objectives and Evaluation

(a) Learning Objectives: The learning objectives for this course will be determined in collaboration with the supervising faculty member and selected from the following depending on credit hours.
Undergraduate: Upon completion of this course students will be able to:
1. identify the process and methods of research and approved testing methods
2. conduct a literature review within the selected research area
3. design a research project in collaboration with the faculty member
4. collect and analyze data in collaboration with the faculty member
5. disseminate research results in a research paper and/or poster presentation

(b) Student Evaluation: Undergraduate achievement of the stated objectives will be assessed and grades will be earned, based on activities such as individual and team projects, examinations and final projects evaluations.
• Objective 1: (identify the process and methods of research and approved testing methods) 10% gathering of data and references
• Objective 2: (conduct a literature review within the selected research area) 10% gathering of data and references
• Objective 3: (design a research project in collaboration with the faculty member) 40% laboratory and/or theoretical research and 50% research paper/poster presentation
• Objective 4: (collect and analyze data in collaboration with the faculty member) 50% research paper/poster presentation
• Objective 5: (disseminate research results in a research paper and/or poster presentation) 50% research paper and/or poster presentation

Students will be evaluated using the below categories as assigned above for each course objective.
- Gathering of data and references 10%
- Applied laboratory research and/or theoretical research 40%
- Research paper/poster presentation 50%

(c) This course will be delivered traditionally including consultation with the supervising faculty member(s).
(d) Course number is 4000 for undergraduates.
(e) This course will be writing active with a variety of assignments determined by the collaborating faculty member including the written literature review, documenting results and preparing the final report.

3. Outline of the Course
(a) Specify units of time: The course will be offered in Arr. Arr. 1-6 format. Laboratory research will be conducted under the supervision of the collaborating faculty member and will be arranged.

Course outline is as follows:
I. review of research and testing methods 1 week
II. identifying research problems 1 week
III. conduct a literature review 2 weeks
IV. review research data and findings with faculty member
   perform laboratory research and data collection 5-7 weeks
V. analyze research data 2-3 weeks
VI. prepare a final research paper and/or poster presentation 2-3 weeks

(b) Not applicable.
4. Rationale
   (a) Purpose and Need:
       This course will encourage undergraduate students to engage in research and
       collaborate with a faculty member in a specific area of study. There is no
designated course for School of Technology’s Applied Engineering &
Technology undergraduates outside the Honors College.
   (b) Justification of the level of the course prerequisites: To enroll in AET 4000
       student must have meet the following: Cumulative GPA of 2.50; junior status,
permission of collaborating faculty member and department chair.
       Undergraduate research level is appropriate because of the complexities of
research and the requirement to select a focus area for continued study.
   (c) Similarity to existing courses:
       1. This course is structured similar to other undergraduate research courses.
       2. This fills the gap in applied research in the Applied Engineering &
Technology program to encourage and foster undergraduate research and
work closely with a faculty member’s research initiative. This course has a
clearly defined research component working under the supervision of a
faculty member(s) that is not included in AET 3920.
   (d) Impact on Program:
       (1) This course will be offered as an elective course in the undergraduate
           Applied Engineering & Technology degree in the School of
Technology.
       (2) N/A

5. Implementation
   (a) Implementation: this course will be assigned to School of Technology
       Applied Engineering & Technology tenure or tenure track faculty member
whose research interests match those of the students.
   (b) Additional Costs to Students: no additional costs to students
   (c) Texts: Assigned by research instructor
       Reference Texts: Publication Manual of the American Psychological
       Association, Fifth Edition, Copyright 2001
       and other textbooks as assigned by the collaborating faculty
member

6. Community College Transfer
       There is no community college course that is equivalent.

7. Date approved by the School of Technology Curriculum Committee: 10/6/05
8. Date approved by the Lumpkin College of Business & Applied Sciences
       Curriculum Committee 1/20/06
9. Date approved by CAA 2/2/06