

New Course Request

Indiana University

IUPUI

Campus

Check Appropriate Boxes:

Undergraduate credit

Graduate credit

Professional credit

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

3. Course Number 26200 (must be cleared with University Enrollment Services) 4. Instructor Brian King

5. Course Title Engineering Programming Lab

Recommended Abbreviation (Optional) Engr Prog Lab
(Limited to 32 Characters including spaces)

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

7. Credit Hours: Fixed at 1 or Variable from _____ to _____

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

9. Is variable title approval being requested? Yes No

10. Course description (not to exceed 50 words) for Bulletin publication: _____

Introduction to problem solving using software tools, in particular the C programming language.

Prerequisites: ENGR 19500 and ENGR 19600. Corequisite: ECE 26300

11. Lecture Contact Hours: Fixed at _____ or Variable from _____ to _____

12. Non-Lecture Contact Hours: Fixed at 3 or Variable from _____ to _____

13. Estimated enrollment: 30 of which 0 percent are expected to be graduate students.

14. Frequency of scheduling: Spring/Fall Will this course be required for majors? yes

15. Justification for new course: This is the one-hour lab component, to supplement the 3 credit course ECE 26300

16. Are the necessary reading materials currently available in the appropriate library? yes

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 10/19/09
Department Chairman/Division Director

Approved by:

[Signature] Date 11-16-09
Dean

Date _____
Dean of Graduate School (when required)

Date _____
Chancellor/Vice-President

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.

PURDUE SCHOOL OF ENGINEERING & TECHNOLOGY COURSE OUTCOMES AND ASSESSMENT DATA SHEET

This is an internal document to identify and record expected outcomes and anticipated assessment strategies for all courses taught within the School of Engineering and Technology. Submission of this form, as noted below, is required and must accompany all new course and course change requests. Copies of this form should also be retained within the department and kept on file with the outline or syllabus for each course.

Course Number: ECE 262 Course Title: Programming for Engineers

Procedure:

1. First, identify all instructional outcomes expected for this course, and then select all ABET outcomes which are consistent with those anticipated objectives from TABLE 1 below.

TABLE 1 - ABET OUTCOMES

ENGINEERING - EAC Criteria #3	#
An ability to apply knowledge of mathematics, science and engineering.	a
An ability to design and construct experiments as well as to analyze and interpret data.	b
An ability to design a system, component, or process to meet desired needs.	c
An ability to function on multi-disciplinary teams.	d
An ability to identify, formulate and solve engineering problems.	e
An understanding of professional and ethical responsibility.	f
An ability to communicate effectively.	g
The broad education necessary to understand the impact of engineering solutions in global societal context.	h
A recognition of the need for and an ability to engage in life-long learning.	i
A knowledge of contemporary issues.	j
An ability to use the techniques, skill and modern engineering tools necessary for engineering practice.	k

2. Subsets for each of the six IUPUI Principles of Undergraduate Learning (PUL) are given on the reverse side in TABLE 2. Using a number corresponding to each ABET outcome identified from TABLE 1 above to select a column, place a "√" or "X" mark in the applicable TABLE 2 row(s) cell for each PUL. Courses will often address multiple ABET outcomes and ABET outcomes frequently will overlap more than one PUL subset. Thus, it is expected completed data sheets may contain marks in several cells thereby indicating the course simultaneously satisfies multiple Principles of Undergraduate Learning while fulfilling its intended ABET objective(s).

3. After completing TABLE 2, briefly define or explain how the course outcomes or objectives will be evaluated within the context of the departmental assessment program in the space below:

EVERY SEMESTER STUDENTS SELF ASSESS THEIR ABILITIES FOR EACH OUTCOME IN A SURVEY. (INSTRUCTOR COMPLETES A SURVEY AS WELL). IF STUDENT AVERAGES DON'T EXCEED A THRESHOLD, INSTRUCTOR MUST COMPLETE REPORT TO ADDRESS THE DIFFERENCE

Submitted by: BRIAN KING Date: 3/4/08

ECE 26200 Engineering Programming Lab (1cr)

Co-requisite: **ECE 26300.**

Textbook: *C Primer Plus*, Fifth Edition by Stephen Prata, Sams Publishing, 2004, ISBN-10: 0-672-32696-5

Course Description: Introduction to problem solving using software tools ,in particular the C programming language

Week-to-week schedule (tentative schedule, labs and software assignments will incorporate the following topics)

Week 1: Introduction to Problem Solving using Software Tools
Review

Week 2: Applied Engineering problem. Introduction to C

Week 3: Operators, expressions and statements
Formatted input/output

Week 4: C control statements and looping,
C Functions

Week 5: Conditional statements
Random Number Generation

Week 6: Text File I/O, .
C functions (cont'd)

Week 7: Arrays and Pointers

Week 8 Pointers

Week 9: Pointer to pointer and String functions

Week 10: Memory management

Week 11: Structures and derived data types
Bit operations

Week 12: File I/O

Week 13: Preprocessor and Advanced C Tools

Week 14: Semester Project

Week 15: Semester Project (cont'd)

12. Binary I/O
13. Random number generation
14. Standard C Library

Computer usage: Students are required to use Matlab and a C compiler to do their homework and program projects.

Laboratory projects: Students complete projects that involve developing programs that requires the use of the standard C language syntax. Problems will include the use of loops, arrays, functions, pointers, structures, file read and writing and dynamic data structures.

Evaluation method: Lab assignments, programming assignments, and semester project

ABET category: Engineering science: 0.5 credit or 50%
Engineering design: 0.5 credit or 50%

Prepared by: Brian King **Date:** _

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(100-400 LEVEL)

DEPARTMENT Electrical and Comp. Engineering EFFECTIVE SESSION Fall 2010

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

- | | |
|---|---|
| <input checked="" type="checkbox"/> 1. New course with supporting documents | <input type="checkbox"/> 7. Change in course attributes (department head signature only) |
| <input type="checkbox"/> 2. Add existing course offered at another campus | <input type="checkbox"/> 8. Change in instructional hours |
| <input type="checkbox"/> 3. Expiration of a course | <input type="checkbox"/> 9. Change in course description |
| <input type="checkbox"/> 4. Change in course number | <input type="checkbox"/> 10. Change in course requisites |
| <input type="checkbox"/> 5. Change in course title | <input type="checkbox"/> 11. Change in semesters offered (department head signature only) |
| <input type="checkbox"/> 6. Change in course credit/type | <input type="checkbox"/> 12. Transfer from one department to another |

PROPOSED: Subject Abbreviation <u>ECE</u> Course Number <u>26200</u> Long Title <u>Engineering Programming Lab</u> Short Title <u>Engr Prog Lab</u> <small>Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)</small>	EXISTING: Subject Abbreviation _____ Course Number _____	TERMS OFFERED Check All That Apply: <input checked="" type="checkbox"/> Summer <input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/> Spring CAMPUS(ES) INVOLVED <input type="checkbox"/> Calumet <input type="checkbox"/> N. Central <input type="checkbox"/> Cont Ed <input type="checkbox"/> Tech Statewide <input type="checkbox"/> Ft. Wayne <input type="checkbox"/> W. Lafayette <input checked="" type="checkbox"/> Indianapolis
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CREDIT TYPE 1. Fixed Credit: Cr. Hrs. <u>1</u> 2. Variable Credit Range: _____ Minimum Cr. Hrs _____ (Check One) To <input type="checkbox"/> Or <input type="checkbox"/> Maximum Cr. Hrs _____ 3. Equivalent Credit: Yes <input type="checkbox"/> No <input type="checkbox"/> 4. Thesis Credit: Yes <input type="checkbox"/> No <input type="checkbox"/>	COURSE ATTRIBUTES: Check All That Apply 1. Pass/Not Pass Only <input type="checkbox"/> 2. Satisfactory/Unsatisfactory Only <input type="checkbox"/> 3. Repeatable <input type="checkbox"/> Maximum Repeatable Credit: _____ 4. Credit by Examination <input type="checkbox"/> 5. Designator Required <input type="checkbox"/> 6. Special Fees <input type="checkbox"/> 7. Registration Approval Type Department <input type="checkbox"/> Instructor <input type="checkbox"/> 8. Variable Title <input type="checkbox"/> 9. Remedial <input type="checkbox"/> 10. Honors <input type="checkbox"/> 11. Full Time Privilege <input type="checkbox"/> 12. Off Campus Experience <input type="checkbox"/>
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Instructional Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated	Delivery Method (Asyn. Or Syn.)	Delivery Medium (Audio, Internet, Live, Text-Based, Video)	Cross-Listed Courses
Lecture							
Recitation							
Presentation							
Laboratory	180	1		100		Live	
Lab Prep							
Studio							
Distance							
Clinic							
Experiential							
Research							
Ind. Study							
Pract/Observ							

COURSE DESCRIPTION (INCLUDE REQUISITES):
Introduction to problem solving using software tools, in particular the C programming language. Prerequisites: ENGR 19500, ENGR 19600. Corequisite: ECE 26300

Calumet Department Head _____	Date _____	Calumet School Dean _____	Date _____
Fort Wayne Department Head _____	Date _____	Fort Wayne School Dean _____	Date _____
Indianapolis Department Head _____	Date <u>10/19/09</u>	Indianapolis School Dean <u>[Signature]</u>	Date <u>11-16-09</u>
North Central Department Head _____	Date _____	North Central Chancellor _____	Date _____
West Lafayette Department Head _____	Date _____	West Lafayette College/School Dean _____	Date _____
		West Lafayette Registrar _____	Date _____