**Course Proposal**

Course Name:Real-Time Embedded Systems
Course Prefix: EE
Course Number: 4710
             Submitted by (Name & E-Mail):  Fon Brown, fonbrown@weber.edu

Current Date:  11/12/2013
College: Applied Science & Technology
Department:   Engineering
From Term: Fall  2014

Substantive

|  |  |
| --- | --- |
| new   | Current Course Subject N/ACurrent Course Number  |

N/A

**New/Revised Course Information:**

|  |  |
| --- | --- |
| Subject:  EE             Course Number: 4710 | Check all that apply: *This is for courses already approved for gen ed.    Use a* [*different form*](http://documents.weber.edu/catalog/forms.htm) *for proposing a new gen ed designation.*DV  CA  HU  LS  PS  SS EN  AI  QL  TA  TB  TC  TD  TE |

Course Title: Real-Time Embedded Systems

Abbreviated Course Title: Real-Time Systems

|  |  |
| --- | --- |
| Course Type:  | LEL |

Credit Hours:  4  **or** if variable hours:    to

Contact Hours: Lecture 3  Lab 3   Other

Repeat Information:  Limit 0   Max Hrs 0

Grading Mode:  standard

|  |  |
| --- | --- |
| This course is/will be: | a required course in a major programa required course in a minor programa required course in a 1- or 2- year programelective |

Prerequisites/Co-requisites:

Prerequisite: EE 3710.

Course description (exactly as it will appear in the catalog, including prerequisites):

An advanced course on real-time embedded system design. Topics include task concurrency, scheduling paradigms, synchronization, resource access control, and inter-process communication. Lecture and Lab combination. Prerequisite: EE 3710.

**Justification** for the new course or for changes to an existing course. (Note: Justification should emphasize academic rationale for the change or new course. This is particularly important for courses requesting upper-division status.)

The Electrical Engineering Program requires 2 electives for graduation. There are currently three electives offered by the Engineering Department in the catalog, but there is no elective that addresses advanced real-time operating system design and implementation. The faculty has the expertise to teach such a course and believe it would be advantageous for students in their efforts to gain employment. This courses was offered Fall 2012 under the course number EE 4900 (special topics). The faculty would like to establish this course as a regular elective and give it a course number and description for the catalog.

**INFORMATION PAGE**for substantive proposals only

1. Did this course receive unanimous approval within the Department?

true

If not, what are the major concerns raised by the opponents?

N/A

2. If this is a new course proposal, could you achieve the desired results by revising an existing course within your department or by requiring an existing course in another department?

No other elective course covers material related to this course and there is not enough time in the precursor course (EE 3710) to cover this material. (Besides, the faculty feels that this material should be elective, not required.)

3. How will the proposed course differ from similar offerings by other departments? Comment on any subject overlap between this course and topics generally taught by other departments, even if no similar courses are currently offered by the other departments. Explain any effects that this proposal will have on program requirements or enrollments in other department. Please forward letters (email communication is sufficient) from all departments that you have identified above stating their support or opposition to the proposed course.

CS Teaches an operating systems class (CS 3100), but it does not consider the nature of real-time constraints nor the fundamental difference that implies for the operating system. EET offers a real-time embedded controllers course (EET 3060), but this course focuses on using real-time operating systems rather than understanding the principals upon which they work.

4. Is this course required for certification/accreditation of a program?

no

If so, a statement to that effect should appear in the justification and supporting documents should accompany this form.

5. **For course proposals**, e-mail a syllabus to Faculty Senate which should be sufficiently detailed that the committees can determine that the course is at the appropriate level and matches the description. **There should be an indication of the amount and type of outside activity required in the course (projects, research papers, homework, etc.)**.