California State University San Marcos • COURSE CHANGE(S) • FORM C-2

ORIGINATOR'S SECTION:		
1. College: ☐ CHABSS ☐ CoBA ☐ CoEHHS ☒ CSM	Desired Term and Year of Implementation (e.g., Fall 2008): Fall 2018	
2. Current Course abbreviation and Number: CS 445		

TYPE OF CHANGE(S). Check √ all that apply.

Course Number Change	☐	Delete Prerequisite	☐	Other Prerequisite Change	☒
Course Title Change	☒	Add Corequisite	☐	Grading Method Change	☐
Unit Value Change	☐	Delete Corequisite	☐	Mode of Instruction Change (C/S Number)	☒
Description Change	☒	Add Consent for Enrollment	☐	Consider for G.E. If yes, also fill out appropriate GE form.	☐
Add Prerequisite	☐	Delete Consent for Enrollment	☐	Cross-list	☒

Information in this section– both current and new – is required only for items checked (√) above.

CURRENT INFORMATION:	NEW INFORMATION:
	Course abbreviation and Number: CS 445 / EE 406
3. Title: Reconfigurable Embedded Systems	Title: *(Titles using jargon, slang, copyrighted names, trade names, or any non-essential punctuation may not be used.)* Digital Embedded Systems Design with HDL
4. Abbreviated Title for Banner *(no more than 25 characters):* Reconfig. Embedded Sys.	Abbreviated Title for PeopleSoft: *(no more than 25 characters, including spaces)* Digital Embedded Sys.
5. Number of Units: 3	Number of Units: 3
6. Catalog Description: Concepts, technologies, and programming languages used in modern digital embedded systems. Include general-purpose computing, reconfigurable computing, and application-specific computing in digital system design. Technologies of reconfigurable computing systems such as Field Programmable Gate Arrays, design flow and implementation in reconfigurable systems. Hardware Description Languages, such as VHDL (Very high speed integrated circuits Hardware Description Language) programming. techniques to reconfigure systems over time including partitioning and placement, and on-chip communication solutions in dynamically reconfigurable systems. *Pre-requisite: CS 331*	Catalog Description: ***(Not to exceed 80 words; language should conform to catalog copy. Please consult the catalog for models of style and format; include all necessary information regarding consent for enrollment, pre- and/or corequisites, repeated enrollment, crosslisting, as detailed below. Such information does <u>not</u> count toward the 80-word limit.)*** Concepts, technologies, and programming languages used in modern digital embedded systems. Technologies of reconfigurable computing systems such as Field Programmable Gate Arrays, design flow and implementation in reconfigurable systems, Hardware Description Languages, such as VHDL (Very high speed integrated circuits Hardware Description Language) programming. Structure and syntax of VHDL and implementation of combinatorial and sequential circuits in VHDL. Complex digital operations and subsystems implemented in dedicated hardware such as FPGAs. *Two hours of lecture and two hours of activity. Pre-requisite: CS 331 or EE301 or Phys 301. Cross listed with EE 406.*

7. Mode of Instruction* *(See pages 17-23 at http://www.calstate.edu/cim/data-elem-dic/APDB-Transaction-DED-SectionV.pdf for definitions of the Course Classification Numbers)*

Type of Instruction	Number of Credit Units	Instructional Mode (Course Classification Number)
Lecture	3	C2
Activity		
Lab		

Type of Instruction	Number of Credit Units	Instructional Mode (Course Classification Number)
Lecture	2	C2
Activity	1	C13
Lab		

8. Grading Method:* ☐ Normal (N) *(Allows Letter Grade + -, and Credit/No Credit)* ☐ Normal Plus Report-in-Progress (NP) *(Allows Letter Grade*	Grading Method:* ☐ Normal (N) *(Allows Letter Grade + -, and Credit/No Credit)* ☐ Normal Plus Report-in-Progress (NP) *(Allows Letter Grade*

*If Originator is uncertain of this entry, please consult with Program Director/Chair.

CURRENT INFORMATION:	NEW INFORMATION:
+/-, *Credit/No Credit, and Report-in-Progress)* ☐ Credit/No Credit Only (C) ☐ Credit/No Credit or Report-in-Progress Only (CP))	+/-, *Credit/No Credit, and Report-in-Progress)* ☐ Credit/No Credit Only (C) ☐ Credit/No Credit or Report-in-Progress Only (CP))
9. If the NP or CP grading system was selected, please explain the need for this grade option.	
10. Course Requires Consent for Enrollment? ☐ Yes ☒ No ☐ Faculty ☐ Credential Analyst ☐ Dean ☐ Program/Department/Director/Chair	**Course Requires Consent for Enrollment?** ☐ Yes ☒ No ☐ Faculty ☐ Credential Analyst ☐ Dean ☐ Program/Department/Director/Chair
11. Course Can be Taken for Credit More than Once? ☐ Yes ☒ No If yes, how many times (including first offering)	**Course Can be Taken for Credit More than Once?** ☐ Yes ☒ No If yes, how many times (including first offering)
12. Is Course Cross Listed: ☐ Yes ☒ No If yes, indicate which course -	**Is Course Cross-listed?** ☒ Yes ☐ No If yes, indicate which course EE 406 and check "yes" in item #17 below.
13. Prerequisite(s): CS 331	**Prerequisite(s):** CS 331 or PHYS 301 or EE 301
14. Corequisite(s):	**Corequisite(s):**
15. Documentation attached: ☐ Syllabus ☐ Detailed Course Outline	

PROGRAM DIRECTOR/CHAIR - COLLEGE CURRICULUM COMMITTEE SECTION:
(Mandatory information – all items in this section must be completed.)

16. Does this course fulfill a requirement for any major (i.e. core course or elective for a major, majors in other departments, minors in other departments? ☒ **Yes** ☐ **No**
If yes, please specify:
CS 445/EE 406 is an elective course for Computer Science and Electrical Engineering majors

17. Does this course change impact other discipline(s)? ***(If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.)*** Check "yes" if the course is cross-listed. ☒ **Yes** ☐ **No**
If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

Physics Discipline [signature] 4/4/18 ✓ Support ____ Oppose
Signature Date

____ Discipline _____ _____ ____ Support ____ Oppose
Signature Date

18. Reason(s) for changing this course:
Required for the Electrical Engineering major.

SIGNATURES : (COLLEGE LEVEL) : **(UNIVERSITY LEVEL)**

Ali Ahmadinia 04/04/18
1. Originator (Please Print) Date

[signature] 4/5/18
2. Program Director/Chair Date

[signature] 4/6/18
3. College Curriculum Committee Date

[signature] 4/6/2018
4. College Dean (or Designee) Date

5. UCC Committee Chair Date

6. Vice President for Academic Affairs (or Designee) Date

7. President (or Designee) Date

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BY: