California State University Chico
Office of the President

Executive Memorandum 23-028

November 6, 2023

From: Stephen Perez, President

Subject: Approval of Blended BS + MS Computer Science

In accordance with EM 23-005, with the concurrence of the Provost, and with the approval of the Chancellor's Office, I approve the blended BS and MS Computer Science program within the Department of Computer Science, College of Engineering, Computer Science, and Construction Management. The blended program will allow 12 units to double count towards both the bachelor's and master's degrees, will use CSU code 07011 with an associated CIP code of 11.0701, and will be effective fall 2024.

Policy Title:	EM 23-028 Blended BS + MS Computer Science
Contact:	Department of Computer Science, College of Engineering, Computer Science, and Construction Management
Supersedes:	
Revision:	
Enabling Legislation or Executive Order:	

The California State University
ACADEMIC & STUDENT AFFAIRS

Academic Programs, Innovations and Faculty Development
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Assistant Vice Chancellor and State University Dean
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November 2, 2023

Dr. Sharon Barrios
Dean of Graduate Studies
California State University, Chico
400 West First Street
Chico, California 95929

Dear Sharon,

Thank you for notifying us that California State University, Chico has approved the new blended programs as shown below:

Degree	**Degree/ CIP Code**	**Concentration**	**Concentration / CIP Code**
Computer Science, BS	07011/11.0701	Computer Science BS + MS	07011/11.0701
Computer Science, MS	07011/11.0701	Computer Science BS + MS	07011/11.0701

The campus is responsible for updating the CSU Degrees Database prior to implementation. If you have questions, please contact me at bfoster@calstate.edu.

Sincerely,

Brent M. Foster, Ph.D.
Assistant Vice Chancellor & State University Dean of Academic Programs

c: Dr. Kate McCarthy, Dean of Undergraduate Education

Blended Program Proposal

Section One: Program Name, Principles, and Description

1. Which department/college will maintain/oversee the program?*
   Computer Science
2. What will be the full title of the blended program (e.g, BS Environmental Engineering + MS Engineering Management)?*
   Blended BS + MS (BMS) in Computer Science
3. Date of Proposed Implementation (e.g., fall 2024)*:
   Fall 2024
4. Who has been consulted about this proposed blended program (include related correspondence, if pertinent)? **CSCI department, Vice Provost Dan Grassian, Dean of the Graduate School Sharon Barrios**
5. Existing undergraduate program to be blended*:
   a. State- or Self-Support?* **State**
6. Existing graduate program to be blended*:
   a. State- or Self-Support?* **State**
7. If either program is self-support, how will the tuition and fees be clearly defined and distinguished for each program and appropriately assessed?*
   N/A
8. How will students be supported in the blended/accelerated program?*
   Undergraduate computer science majors are currently advised by an assigned faculty advisor and by the College of Engineering, Computer Science, and Construction Management Success Center. The advising protocols will be updated to include a discussion of the blended program so that interested students can take classes that work well in the blended program. Once a student finishes the bachelor's degree, the student will be advised by the Computer Science Department's Graduate Coordinator.
9. Delivery format for each program (e.g., fully in-person, fully online, hybrid, or HyFlex)*:
   Fully in-person
10. How many undergraduate units do students need to complete in order to apply for the program? **90**
11. Provide a degree roadmap (including blended double-counts) for the entire blended program that outlines the recommended courses and sequence.* **Complete BS flowchart (e.g., 2022-2023) + MS degree requirements with up to 12 hours of approved 400/500/600 courses with B or better counted toward both degrees (note that all CSU Chico BS degree holders will meet MS prerequisites)**
    a. Per the Chancellor's Office's, a degree roadmap "serves as a visual presentation of the department's recommended pathway for the achievement of all program requirements. Thus, the degree roadmap is an invaluable advising tool for students and their advisors. While there is no prescriptive format for the roadmap, at a minimum, the roadmap should reflect the recommended*:
        i. Courses by term* **See BS flowchart + MS 18 hours additional 400/500/600 level course work over 2 semesters (three core classes CSCI 611, CSCI 630, CSCI 650) and electives at 400/500/600 level (CSCI 411, CSCI 446, EECE 446, CINS 448,**

CINS 465, CINS 467 and EECE 555, **CSCI 612, CSCI 551) and 693 or 699P or 699T) assuming 12 hours of 400/500/600 level coursework are completed with B or better at start of MS work**

ii. Number of units per course* **3.0**
iii. Total number of units per term* **9.0**
iv. Timing of completing any offsite, internship, and/or capstone requirements* **N/A, unless 699T or 699P is elected instead of CSCI 693**
v. All blended double-counting (maximum 12 units)* **Any 12 units from: CINS 448,CINS 467,CINS 511,CINS 548,CINS 570,CSCI 411,CSCI 515,CSCI 546,CSCI 551,CSCI 580,CSCI 581 , any CSCI 600**
Since only classes with a B or greater can double count, we are allowing students to pick from any course that can count as an elective in the MS program. This will allow them to maximize the number of double counted courses.
vi. For undergraduates, GE/breadth course taking pattern and any potential double-counting with major requirements* **N/A**

Section Two: Impact on or Changes to Existing Programs

12. Will the graduate program requirements be affected? If so, in what way(s)? **No**
13. Will the undergraduate learning objectives be altered in any way? If so, how? **No**
14. Will the change to the undergraduate program affect another program's curriculum in any negative way? **No**
15. How will the established assessment practices for the existing programs to be blended inform improvements in the new blended program?* **The computer science bachelor's program is accredited by ABET. As part of the accreditation process, a well-documented assessment process is in place. The assessment process for master's program is currently being updated and implemented. Since the courses shared between the bachelor's and the master's programs are all elective courses in the current master's program, they will be included in the master's program assessment process. The process will be updated to identifying and address any relevant issues related to the blended program.**
16. If the current undergraduate or graduate program is externally accredited, could this blended program affect our accreditation status? (Please include any correspondence with external accrediting bodies, if applicable.) **No. The accrediting body of the BS program (ABET), does not accredit MS programs.**
17. Do you anticipate any resource or faculty needs to implement and maintain this program? How will these costs be met? **The vast majority of domestic undergraduate CS-BS students get high paying jobs and are not interested in obtaining a MS degree. The ability to complete a masters in one additional semester and improve the likelihood of getting a job will appeal to prospective international BS students. This could result in a flood of new students depleting our teaching resources. If this happens, lecturers can be hired to provide additional sections.**
18. Provide a coordination plan between the academic department(s), budget and/or financial aid office and campus registrar regarding students' transition from undergraduate and graduate status.* **We are developing a multi-step process to ensure the successful transition of students from undergraduate to graduate status involving the offices of the Registrar, Advising, Financial Aid, Student Financial Services, Graduate Studies and the Academic Department. The responsibilities and duties of each unit will be clearly defined and prescribed and include: (1) developing the program's degree progress and academic planner, (2) opening up the blended program application process, (3) declaring students into the blended program and changing their major, (4) providing ongoing program and financial aid advising, (5) conducting an evaluation of graduation eligibility for and awarding of the bachelor's degree, (6) transitioning students to graduate status; and (7) evaluating and clearing the graduate student for the master's degree.**

An * indicates that the Chancellor's Office has mandated a response to this question.

Approved: Tyson R. Henry
_____
Department Chair(s)

Approved: _____
College Dean(s)

Approved: Sharon Barrios
_____
Dean, Graduate Studies

Model Course Flow for Students Starting Bachelor's Degree as Freshmen

Freshman Fall	Freshman Spring	Sophomore Fall	Sophomore Spring	Junior Fall	Junior Spring	Senior Fall	Senior Spring	MS Fall	MS Spring
CSCI 111 Programming and Algorithms	CSCI 211 Programming and Algorithms II	EECE 237 Embedded Systems Development	EECE 446 Introduction to Computer Networks and Network Management	CSCI 440 Operating Systems	CINS 448 Computer Security	CSCI 551 Numerical Methods and Parallel Programming	CSCI 315/515 Programming Languages/Compiler Design	CSCI 650 Algorithms and Computability	CSCI 611 Applied Machine Learning
MATH 120 Analytic Geometry and Calculus	MATH 217 Discrete Mathematics	CSCI 311 Algorithms and Data Structures	CSCI 415 Theory of Computing	CINS 467 Web and Mobile App Development	CSCI 580/581 Artificial Intelligence/CSCI 581 Machine Learning	CSCI 430 Software Engineering	CSCI 490 Computer Science Capstone	CSCI 6xx Elective	CSCI 630 Software Design and Maintenance
	MATH 121 Analytic Geometry and Calculus	Science Selection	CINS 370 Introduction to Databases	CSCI 301W Computer's Impact on Society (W)	MATH 314 Probability and Statistics for Science and Technology	CSCI/CINS Elective	CSCI/CINS Elective	CSCI 6xx Elective	CSCI 693 Research Methods in Computer Science
			Science Selection		CSCI/CINS Elective				
GE A2	GE A1	GE F	GE E	GE B2	GE C2	HIST 130	GE UD-D		
POLS 155			GE D	GE C1					

Courses required in Bachelor's program that can count as electives in Master's program with B or better:	CINS 467	CINS 448 CSCI 580 CSCI 581	CSCI 551	CSCI 515
Elective courses required in the Bachelor's program that can count as electives in the Master's Program with B or better:		CINS 570	CINS 511	CINS 548 CSCI 546

Model Course Flow for Students Tranfering at the Junior Level

Freshman Fall	Freshman Spring	Sophomore Fall	Sophomore Spring	Junior Fall	Junior Spring	Senior Fall	Senior Spring	MS Fall	MS Spring
CSCI 111 Programming and Algorithms	CSCI 211 Programming and Algorithms II	MATH 217 Discrete Mathematics	EECE 237 Embedded Systems Development	CINS 448 Computer Security	EECE 446 Introduction to Computer Networks and Network Management	CSCI 440 Operating Systems	CSCI 551 Numerical Methods and Parallel Programming	CSCI 650 Algorithms and Computability	CSCI 611 Applied Machine Learning
MATH 120 Analytic Geometry and Calculus	MATH 121 Analytic Geometry and Calculus	Science Selection	Science Selection	CSCI 311 Algorithms and Data Structures	CSCI 580/581 Artificial Intelligence/CSCI 581 Machine Learning	CSCI 315/515 Programming Languages/Compiler Design	CSCI 490 Computer Science Capstone	CSCI 6xx Elective	CSCI 630 Software Design and Maintenance
				CINS 370 Introduction to Databases	CSCI 415 Theory of Computing	CSCI 430 Software Engineering	CSCI/CINS Elective	CSCI 6xx Elective	CSCI 693 Research Methods in Computer Science
				CSCI 301W Computer's Impact on Society (W)	CINS 467 Web and Mobile App Development	MATH 314 Probability and Statistics for Science and Technology	CSCI/CINS Elective		
						CSCI/CINS Elective	CSCI/CINS Elective		
		GE C2	GE E						
GE A2	GE B2	GE D	HIST 130						
GE A1	GC C1	GE F	POLS 155	GE UD-D					

Courses required in Bachelor's program that can count as electives in Master's program with B or better:	CINS 467	CINS 448 CSCI 580 CSCI 581	CSCI 551	CSCI 515
Elective courses required in the Bachelor's program that can count as electives in the Master's Program with B or better:		CINS 570	CINS 511	CINS 548 CSCI 546