

**Proposition:** 05-09/10 Amended  
**Date Submitted:** 10/26/2009  
**Sponsor:** Brown (A&S)  
**Proposed Committee:** Scholastic Affairs  
**Assignment:**  
**Assigned Committee:** Scholastic Affairs 11/17/09  
**Approvals:** ADAC October 13, 2008  
ADC October 20, 2009  
**Title:** Bachelor of Arts in Computer Science  
**Proposal:**

We propose a new undergraduate degree at New Mexico State University, the Bachelor of Arts in Computer Science, which will add an exciting new option to the existing Bachelor of Science in Computer Science.

**Rationale:**

The B.Sc. degree is a rigorous science degree and is important to offer for those students who want to focus on the fullest understanding of the breadth of Computer Science knowledge. However, the degree program is very constrained by its credit hour requirement, and is not very amenable to coexisting with a student's other interests nor serving as one of the majors for a student pursuing a double major.

There is, however, a large recognition both in industry and in some areas of graduate study that students with domain expertise in one knowledge area and a good background in Computer Science are actually more valuable within that domain than students with only an expertise in Computer Science, even if that expertise is stronger. Domain knowledge, be it in biology, chemistry, music, arts, or mechanical engineering, is vitally important to the successful application of computers to that domain.

Thus, at NMSU we need to offer students a path where they can satisfy these needs, where they can pursue both their interests in various knowledge areas and pursue a study of Computer Science. We believe the best way to accomplish this is by introducing a new undergraduate degree, the Bachelor of Arts in Computer Science (BA/CS).

**Overview:**

The BA/CS degree will have at least 19 less required credits than the BS/CS degree, and so be much more flexible for the students. It will add a requirement of six upper-division credit hours of non-CS study, in order to encourage the students to pursue some other area in enough depth to be useful to them.

The best way to present the requirements for the proposed BA/CS degree is in the form of a table, comparing the requirements for the existing BS/CS degree with the new BA/CS. This table follows on the next page.

This proposition's Sponsor has the full proposal for the BA/CS degree, including a detailed justification for those courses we have incorporated in and deleted from the degree.

<b>Cr</b>	<b>Course #</b>	<b>Description</b>	<b>BS Req</b>	<b>BA Req</b>
4	CS 172	Introduction to Computer Science	yes	yes
4	CS 271	Intro. to Object Oriented Programming	yes	yes
4	CS 272	Data Structures	yes	yes
4	CS 273	Machine Organization and Assembly Lang	yes	yes
4	CS 278	Discrete Mathematics for Computer Science	yes	yes
4	CS 370	Compilers and Automata Theory	yes	yes
4	CS 371	Software Development	yes	yes
4	CS 372	Algorithms	yes	no
3	CS 471	Programming Languages	yes	no
3	CS 473	Computer Architecture	yes	no
3	CS 474	Operating Systems	yes	no
4	CS 448	Senior Project	yes	yes
6	CS 4##	Two CS electives (from list)	yes	yes
3	CS/SCI ###	CS or other technical/science elective (list)	yes	no
3	COMM 253G/265G	Communication Studies elective	yes	yes
3	ENGL 218/311/318	English elective	yes	yes
8	FL 111+112	Two-semester Foreign Language	yes	yes
4	MATH 191	Calculus I	yes	142G, 235, or 191
4	MATH 192	Calculus II	yes	no
3	MATH 280/480	Linear Algebra (Matrix Algebra)	yes	no
3	MATH 3##	Math Elective	yes	no
3-	STAT 371/470	Prob./Stat. Course	yes	251, 271, or 371
4				
4	PHYS 215+Lab	Calculus-based Physics I	yes	no
3-	SCI ###	Other lab science elective	yes	no
4				
3	CS 482	Database Management Systems I	no	yes
6	CS 4##	Additional CS electives (including 471-474)	no	yes
6	ANY ###	Two upper division electives from same dept	no	yes
		<b>Total degree credits required</b>	<b>92-94</b>	<b>73-75</b>