

**UCC/UGC/ECCC**

Proposal for Course Change

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| **FAST TRACK (Select if this will** **be a fast track item. Refer to**  [***Fast Track Policy***](http://www4.nau.edu/avpaa/UCCPolicy/Agenda_FastTrack_Consent.docx) **for eligibility)** |

# *If the changes included in this proposal are significant, attach copies of original and proposed syllabi in* [*approved university format*](http://www4.nau.edu/avpaa/UCCForms/syllabus.doc)*.*

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| 1. Course subject and number: | **CS 421** | 2. Units: | **3** |

[**See upper and lower division undergraduate course definitions**](http://www4.nau.edu/avpaa/UCCPolicy/Uplow.doc).

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| 3. College: | CEFNS | 4. Academic Unit: | Electrical Engineering & Computer Science |

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| 5. Current Student Learning Outcomes of the course.  **NEED** | Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. *(*[*Resources & Examples for Developing Course Learning Outcomes*](http://www4.nau.edu/avpaa/Assessment/CourseLearningOutcomesPDF_090712.pdf)*)*  **UNCHANGED** |

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| 6. Current **title,** **description** and **units**. Cut and paste, in its entirety,from the current on-line academic catalog\* CS 421 ALGORITHMS (3) Description: Order notation; design techniques such as divide and conquer, greedy, and dynamic programming; advanced data structures; and time- and space-complexity analysis. Introduces NP completeness. Letter grade only. Course fee required.  Units: 3  Prerequisite: CS 249 | Show the proposed changes in this column **Bold** the proposed changes in this column to differentiate from what is not changing, and **~~Bold with strikethrough~~**what is being deleted. CS 421 ALGORITHMS (3) Description: Order notation; design techniques such as divide and conquer, greedy, and dynamic programming; advanced data structures; and time- and space-complexity analysis. Introduces NP completeness. Letter grade only. Course fee required.  Units: 3  Prerequisite: **BSCS Major,** CS 249 **with a grade of C or better** |

\*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

7. Justification for course change.

**We have two CS degree programs, the regular BSCS and the ACS, and a CS Minor. The latter two were meant to be easier, specifically those students are not required to take our "heavyweights", i.e. CS 315, 396 and 421. Unfortunately, what is happening, the ACS and CS Minor students now take these classes as CS electives, contributing greatly to the already high DWF rates, which defeats the purpose of the programs. We are proposing to change the prerequisites for these classes so that only BSCS students can take them. We are also adding a prerequisite requirement that we have on all our other classes and was overlooked for this class until now, that students must earn a C or better to take this course.**

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| 8. Effective **BEGINNING** of what term and year? | **Fall 2014** |
| [**See effective dates calendar**](http://www4.nau.edu/avpaa/timelines/1314Effective.xls). |  |

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**

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| **CURRENT** | **PROPOSED** |
| Current course subject and number: | Proposed course subject and number: |
| Current number of units: | Proposed number of units: |
| Current short course title: | Proposed short course title (max 30 characters): |
| Current long course title: | Proposed long course title (max 100 characters): |
| Current grading option:  letter grade  pass/fail  or both | Proposed grading option:  letter grade  pass/fail  or both |
| Current repeat for additional units: | Proposed repeat for additional units: |
| Current max number of units: | Proposed max number of units: |
| Current prerequisite:  CS 249 | Proposed prerequisite (include rationale in the justification):  **BSCS Major, CS 249 with a grade of C or better** |
| Current co-requisite: | Proposed co-requisite (include rationale in the justification): |
| Current co-convene with: | Proposed co-convene with: |
| Current cross list with: | Proposed cross list with: |

9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes  No

If yes, describe the impact. If applicable, include evidence of notification to and/or response

from each impacted academic unit.

**Computer Science; BSCS and the CS Minor. Impact is on two programs, the BSACS degree program and the CS Minor where CS 421 has been available as an elective.**

10. Is there a related plan or sub plan change proposal being submitted? Yes  No

If no, explain.

**The proposed prerequisite change will not require a related plan change.**

11. Does this course include combined lecture and lab components?                  Yes  No

If yes, include the units specific to each component in the course description above.

**Answer 12-15 for UCC/ECCC only:**

12. Is this course an approved Liberal Studies or Diversity course?                  Yes  No         If yes, select all that apply.   Liberal Studies    Diversity    Both

13. Do you want to remove the Liberal Studies or Diversity designation?            Yes  No

If yes, select all that apply.   Liberal Studies    Diversity     Both

14. Is this course listed in the [**Course Equivalency Guide**](https://aztransmac2.asu.edu/cgi-bin/WebObjects/Admin_CEG.woa/wa/ByInst?inst=NAU)?                               Yes  No

15. Is this course a [**Shared Unique Numbering**](https://aztransmac1.asu.edu/cgi-bin/WebObjects/ATASS.woa/wa/SUNList?S=X) (SUN) course?                            Yes  No

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| **FLAGSTAFF MOUNTAIN CAMPUS** |  |
| **Scott Galland** | **1/27/2014** |
| Reviewed by Curriculum Process Associate | Date |
|  |  |
| **Approvals**: |  |
| H:\Faculty Files\Scott\Signature.jpg | **1/27/2014** |
| Department Chair/Unit Head (if appropriate) | Date |
|  |  |
| Chair of college curriculum committee | Date |
|  |  |
| Dean of college | Date |
|  |  |
| **For Committee use only:** |  |
|  |  |
| UCC/UGC Approval | Date |

Approved as submitted: Yes  No

Approved as modified: Yes  No

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| **EXTENDED CAMPUSES** |  |
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| Reviewed by Curriculum Process Associate | Date |
|  |  |
| **Approvals:** |  |
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| Academic Unit Head | Date |
|  | |
| Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  | |
| Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning) | Date |
|  | |
| Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  | |
| Chief Academic Officer; Extended Campuses (or Designee) | Date |
|  |  |

Approved as submitted: Yes  No

Approved as modified: Yes  No