### Academic Affairs - Course Proposal

**Academic Unit:** Computer Science  
**Department Chair:** Du Zhang

**Type of Course Proposal:**  
New __   Change X__   Deletion __

**Date:** April 14, 2006

**Does this course fulfill a requirement for single-subject or multiple subject credential students?**  
Yes ____      No X__

**For Catalog Copy:** Yes X__   No__

**CCE:** Yes__ No X__

**Change in catalog course description**

<table>
<thead>
<tr>
<th>Prefix &amp; No.</th>
<th>Title:</th>
<th>Units:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 206</td>
<td>Algorithms and Paradigms</td>
<td>3</td>
</tr>
</tbody>
</table>

**Semester Effective:**  
Semester Effective: Fall X__   Spring ___ 2006 ___

**Prefix & No.**

**Title:** Algorithms and Paradigms

**Units:** 3

**JUSTIFICATION:**

Change in catalog description to reflect changes in course content over time.

**NEW COURSE DESCRIPTION:** (Not to exceed 80 words, and language should conform to catalog copy.  
See http://www.csus.edu/acaf/univmanual/crspsl.htm - Guidelines for Catalog Course Description

Design and analysis of algorithms. Classical design paradigms including greedy, divide-and-conquer, dynamic programming, and backtracking algorithmic methods. Alternative paradigms of computing including parallel and numerical approaches. Theoretical limits of computation. Selected additional topics such as genetic, approximation, and probabilistic algorithms.

**Note:**  
**Prerequisite:** Fully classified graduate status in Computer Science or Software Engineering.

**Corequisite:**

**CAN (California Articulation Number):**

<table>
<thead>
<tr>
<th>Graded:</th>
<th>Instructor Approval?</th>
<th>Title for SIS+ (not more than 25 characters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter X___ Credit/No Credit___</td>
<td>Yes____ No_X__</td>
<td>ALGORITHMS AND PARADIGMS</td>
</tr>
</tbody>
</table>

**Course Classification:** 05

**Cross Listed?**  
Yes ___   No___X__

**If yes, with what course:**

**How Many Times Can This Course be Taken for Credit?** Once.
FOR NEW COURSE PROPOSALS OR SUBSTANTIVE CHANGES ONLY:

**Description of the Expected Learning Outcomes:** Describe outcomes using the following format: “Students will be able to: 1), 2), etc.” See the example at http://www.csus.edu/acaf/example.htm

**Attach a list of the required/recommended course readings and activities [Note: it is understood that these are updated and modified as needed by the instructor(s).] This attachment should be forwarded only to your Dean's office, not Academic Affairs.**

**Assessment Strategies:** A description of the assessment strategies (e.g., portfolios, examinations, performances, pre- and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above:

**For whom is this course being developed?**

Majors in the Dept ___ Majors of other Depts ___ Minors in the Dept ___ General Education ___ Other ___

Is this course required in a degree program (major, minor, graduate degree, certificate)? Yes ___ No ___

If yes, identify program(s):

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer facilities, faculty, etc.)? Yes ___ No ___

If yes, attach a description of resources needed and verify that resources are available.

Indicate which department or programs will be affected by the proposed course (if any). ______________________

*The Department Chair's signature below indicates that affected programs have been sent a copy of this proposal form.*

**Approvals:** If proposed change, new course or deletion is approved, sign and date below. If not approved, forward without signing to the next reviewing authority, and attach an explanatory memorandum to the original copy.

**Signatures:** [ ] Date

- Department Chair:
- College Dean or Associate Dean:
- CPSP (for school personnel courses ONLY)
- Associate Vice President
- and Dean for Academic Programs

**Distribution:** Academic Affairs (original), Department Chair and College Dean. Dean’s office to send original after approval to Jerri McAtee, at zip 6016. An electronic copy must also be sent to mcateejj@csus.edu.