FORMAT 5

Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to fysenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	Computer Science	College/School	CEM
Prepared by	Jon Genetti	Phone	474-5737
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See http://www.uaf.edu/uafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Computer Science
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	BS

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

We are creating a new REQUIRED course, "CS 371 – Computer Ethics and Technical Communication" to meet ABET accreditation requirement of a computer ethics class in our degree program, while improving our students' technical communication skills.

We are creating a new REQUIRED course, "CS 372 – Software Construction" to address deficiencies found during our assessment process. In particular, this includes version control systems, testing and debugging, and refactoring that students have needed to succeed in the capstone sequence.

ENGL 314W is no longer a REQUIRED course. It will be replaced by CS 371, which will cover the needed technical writing skills needed while focusing on computer ethics.

CS 411 is now a REQUIRED course (instead of CS 411 or CS 451). Due to faculty constraints and student interest, we are not able to offer CS 451 on a regular schedule.

The title of CS 471 is changing to "Senior Capstone I" to focus on a year-long senior capstone sequence.

The title of CS 472 is changing to "Senior Capstone II" to focus on a year-long senior capstone sequence.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Major — B.S. Degree

1. Complete the general university requirements. (See page 152. As part of the core curriculum requirements, complete: MATH F200X* and any approved ethics course.)
2. Complete the B.S. degree requirements. (See page 152. As part of the B.S. degree requirements, complete: MATH F201X*, PHYS F211X* and PHYS F212X*.)
3. Complete the following:*

MATH F307—Discrete Mathematics.....3
STAT F300—Statistics 3

4. Complete one of the following:*

MATH F302—Differential Equations..... 3
MATH F310—Numerical Analysis 3
MATH F314—Linear Algebra 3
MATH F371—Probability 3
MATH F405W—Abstract Algebra 3
MATH F408—Mathematical Statistics..... 3
MATH F460—Mathematical Modeling.....3

5. Complete the following program (major) requirements:*

CS F201—Computer Science I 3
CS F202—Computer Science II 3
CS F301—Assembly Language Programming..... 3
CS F311—Data Structures and Algorithms 3
CS F321—Operating System.....3
CS F331—Programming Languages 3
CS F411—Analysis of Algorithms

or CS F451—Automata and Formal Languages (3).....3
CS F441—Systems Architecture (3)
or EE F443—Computer Engineering (4) ..... 3 – 4
CS F471W—Software Engineering 3
CS F472W,O—Senior Project and Professional Practice 3
EE F341—Digital and Computer Analysis and Design.....4
ENGL F314W,O/2—Technical Writing..... 3
Electives in computer science at the F300- or F400-level
or approved electives (such as EE F443).....9
6. Minimum credits required 120
* Students must earn a C grade (2.0) or better in each course.

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:

(Underline new wording ~~strike-through old wording~~ and use complete catalog format)

Major — B.S. Degree

1. Complete the general university requirements. (See page 152. As part of the core curriculum requirements, complete: MATH F200X* and any approved ethics course.)
2. Complete the B.S. degree requirements. (See page 152. As part of the B.S. degree requirements, complete: MATH F201X*, PHYS F211X* and PHYS F212X*.)
3. Complete the following:*
MATH F307—Discrete Mathematics.....3
STAT F300—Statistics 3
4. Complete one of the following:*
MATH F302—Differential Equations..... 3
MATH F310—Numerical Analysis 3
MATH F314—Linear Algebra 3
MATH F371—Probability 3
MATH F405W—Abstract Algebra 3
MATH F408—Mathematical Statistics..... 3
MATH F460—Mathematical Modeling.....3
5. Complete the following program (major) requirements:*
CS F201—Computer Science I 3
CS F202—Computer Science II 3
CS F301—Assembly Language Programming..... 3
CS F311—Data Structures and Algorithms 3
CS F321—Operating System.....3
CS F331—Programming Languages 3
CS F371 – Computer Ethics and Technical Communication 3
CS F372 – Software Construction 3
CS F411—Analysis of Algorithms ~~(3)~~
~~or CS F451—Automata and Formal Languages (3)~~.....3
CS F441—Systems Architecture (3)
or EE F443—Computer Engineering (4) ..... 3 – 4
CS F471W—~~Software Engineering~~ Senior Capstone I 3
CS F472W,O—~~Senior Project and Professional Practice~~ Senior Capstone II 3
EE F341—Digital and Computer Analysis and Design.....4
~~ENGL F314W,O/2—Technical Writing..... 3~~
Electives in computer science at the F300- or F400-level
or approved electives (such as EE F443).....9
6. Minimum credits required 120
* Students must earn a C grade (2.0) or better in each course.

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

Two additional classes must be taught each year – CS 371 and CS 372. The department will use 0.5 FTE saved from the suspension of the MSE program. The rest of the changes don't require additional resources.

E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

None.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

CS outcomes assessment, as required for our departmental ABET accreditation, begins with data collected from exams, homework, and our industry advisory board. We have regular department assessment meetings to try to understand what our assessment data is telling us, and how we can adjust our program to improve student outcomes. The changes described here are a direct result of this process. Detailed assessment reports are available on request.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

See section A, which includes justification of each change, and the attachments for the CS 371 and CS 372 new course proposals.

APPROVALS:

	Date
Signature, Chair, Program/Department of: **Computer Science**	11/1/12
Signature, Chair, College/School Curriculum Council for: **gineering and Mines**	11/06/12
Signature, Dean, College/School of: **Engineering and Mines**	11/2/12

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

	Date
Signature, Chair, UAF Faculty Senate Curriculum Review Committee	