

Revised 7/23/07

PROPOSAL SUMMARY AND ROUTING FORM




Proposal Title: Course Renumbering – Digital Media Software Engineering

Initiating Unit or Individual: CPTS

Contact Person's Name: Frederick Baker e-mail: frederickbaker@ferris.edu phone: 616.451.4777

Date or Term of Proposal Implementation: Fall 2008

- Group I - A – New degree/major or major, redirection of a current offering, or elimination of a degree, major or minor
- Group I - B – New minors or concentrations
- Group II - A – Minor curriculum clean-up and course changes
- Group II - B – New Course(s)
- Group III - Certificates
- Group IV – Off-Campus Programs

| Group/Individual | Signature | Date | Vote/Action * |
|---------------------------------|---|---------|---|
| Program Faculty |  | 1/23/08 | <input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support |
| College Faculty |  | 1/23/08 | <input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support |
| Dean |  | 1/23/08 | <input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support |
| University Curriculum Committee | | | <input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support |
| Senate | | | <input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support |
| Academic Affairs | | | <input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support |

* Support with Concerns or Not Support must include a list of specific concerns. Votes must be shown for faculty groups. Administrators check appropriate action taken.

To be completed by Academic Affairs

President (Date Approved) Board of Trustees (Date Approved) _____
President's Council (Date Approved)

1. Proposal Summary

The original degree proposal was passed by the Academic Senate in April of 2007 with the understanding that the degree program would be adjusted to address the concerns of many from different colleges at that time. In this proposal, the program is revised to satisfy the many stakeholders at Ferris State University. The addition of a full-time program coordinator has enabled these changes to reflect not only the interests of FSU – Big Rapids, but FSU – Grand Rapids and its potential students.

In this proposal, the current course SENG 410 will be renumbered as 499 to be consistent with capstone courses university-wide. To accomplish this, the 410 course will be deleted and a new 499 created, with minor adjustments to reflect this change.

2. Summary of All Course Action Required*

a. Newly Created Courses to FSU:

| Prefix | Number | Title |
|--------|--------|----------------------------------|
| SENG | 499 | Capstone in Software Engineering |

b. Courses to be Deleted From FSU Catalog:

| Prefix | Number | Title |
|--------|--------|---|
| SENG | 410 | Capstone Course in Applied Software Engineering |

c. Existing Course(s) to be Modified:

| Prefix | Number | Title |
|--------|--------|-------|
|--------|--------|-------|

d. Addition of existing FSU courses to program

| Prefix | Number | Title |
|--------|--------|-------|
|--------|--------|-------|

e. Removal of existing FSU courses from program

| Prefix | Number | Title |
|--------|--------|-------|
|--------|--------|-------|

*Contact Senate Secretary or UCC Chair if spaces for additional courses are needed.

Digital Media Software Engineering, B.A.S.

Background: The bachelor of Applied Science In Software Engineering is designed as a degree focused on the processes, procedures, and technology involved with software development. The degree will focus on fundamental computer science topics as well as processes and procedures commonly used in the production of software. This approach will provide students with the ability to construct software as well as the knowledge and understanding of the concepts used in commercial software development. This approach will allow graduates to seamlessly transition into the workforce integrating their knowledge of the industry.

Entry into the Program: The Software Engineering, B.A.S. is a course-specific degree completion program with a four-year sequence that begins promptly upon acceptance and enrollment. It is expected that students entering this technology intensive program already have solid foundation skills in dealing with personal computers (PC's). A completed Associate Degree is not required to be admitted. While students with earned college credit may apply to the program, students are encouraged to apply as a freshman/first-year student. Students interested in the degree should set up an advising appointment with the Software Engineering advisor. Financial aid is available for dually enrolled students; see next page for more information.

| Required Courses | Course Title FSU Prerequisites Shown in Parentheses () | GRCC Equivalent Courses | FSU S.H. | Grade |
|------------------------------|--|--|-----------------------------|-----------|
| Requirements | | | | |
| Programming | SENG 101 | Computer Programming I | FSU-GR Class | 3 |
| | SENG 102 | Computer Programming II | FSU-GR Class | 3 |
| | SENG 230 | Software Data Structures | FSU-GR Class | 3 |
| | SENG 235 | Programming Languages | FSU-GR Class | 3 |
| Foundation | SENG 160 | Software Engineering Methodologies and Processes | FSU-GR Class | 3 |
| | SENG 170 | Software Requirements Management | FSU-GR Class | 3 |
| | SENG 210 | Software Packaging and Deployment | FSU-GR Class | 3 |
| | SENG 220 | Software Configuration Management | FSU-GR Class | 3 |
| | SENG 350 | Software Quality Assurance | FSU-GR Class | 3 |
| | SENG 360 | Software Design and Architecture | FSU-GR Class | 3 |
| Software Development | SENG 300 | Database Programming | FSU-GR Class | 3 |
| | SENG 310 | Application Programming Interfaces | FSU-GR Class | 3 |
| | SENG 320 | Engineering Enterprise Software Applications | FSU-GR Class | 3 |
| | SENG 330 | Programming Graphical User Interfaces | FSU-GR Class | 3 |
| | SENG 340 | Software Engineering for Mobile devices | FSU-GR Class | 3 |
| Mathematics | MATH 220 | Calculus with Analytical Geometry I | MA 134 | 3 |
| | MATH 230 | Calculus with Analytical Geometry II | MA 133 | 3 |
| | STQM 260 | Statistics | MA 215 | 3 |
| Business | APPS 301 | Project Management | FSU-GR Class | 3 |
| | BLAW 321 | Contracts & Sales | BA 207 | 3 |
| Professional Development | SENG 410 | Capstone Course - Applied Software Engineering | FSU-GR Class | 3 |
| | SENG 390 | Special Topics (DAGD 280, DAGD 360) | FSU-GR Class | 3 |
| | SENG 400 | Independent Study (197, 207, 307, 497) | FSU-GR Class | 3 |
| | SENG 420 | Software Development Industry Certification | FSU-GR Class | 3 |
| | SENG 491 | Applied Internship | FSU-GR Class | 3 |
| | | | Total Required Hours | 75 |
| Recommended Electives | | | | |
| Programming | SENG 255 | DAGD Programming I | FSU-GR Class | 3 |
| | SENG 355 | DAGD Programming II (DAGD 255) | FSU-GR Class | 3 |
| | ISYS 216 | Introduction to Java | CO 117 | 3 |
| | ISYS 212 | C and C++ Programming | CO 127 | 3 |
| | ISYS 312 | Advanced C++ Programming | CO 227 | 3 |
| | DAGD 320 | Multiplayer Game Programming (DAGD 255, DAGD 355, DAGD300) | FSU-GR Class | 3 |
| Digital Animation & Design | DAGD 310 | User Interface Design (DAGD 150, GRDE 216, DAGD 260) | FSU-GR Class | 3 |
| | | | Total Elective Hours | 9 |
| Last updated: 8/2016 | | | | |

General Education Requirements

| Required Courses | Course Title FSU Prerequisites Shown in Parentheses () | GRCC Equivalent Courses | FSU S.H. | Grade |
|--|---|----------------------------|----------|-------|
| Communication Competence—12 Credits Required | | | | |
| COMM 121 | Fundamentals of Public Speaking | SC 131 | 3 | |
| ENGL 150 | English 1 | EN 100 OR EN 101 | 3 | |
| ENGL 250 | English 2 | EN 102 | 3 | |
| ENGL 311 or ENGL 321 or ENGL 325 | Advanced Technical Writing Advanced Composition Advanced Business Writing | FSU-GR Class | 3 | |
| Scientific Understanding – 7 to 8 Credits Required | | | | |
| This requirement can be met with science courses in the following areas: Astronomy, Biology, Chemistry, Geology, Physical Science or Physics. In addition, GE 132-Physical Geography at GRCC meets the four-credit lab science requirement. AS 102, CM 100, and BI 125 meet the three-credit science requirement. | | | | |
| | Scientific Understanding Elective with Lab | GRCC Lab Science | 4 | |
| | Scientific Understanding Elective (Lab or Non-Lab) | GRCC | 3 or 4 | |
| Quantitative Skills 4 Credits Required | | | | |
| This FSU MATH 116 requirement can be completed as follows: (1) complete MA 107 and MA 108 GRCC Courses, (2) pass the College Algebra and Trigonometry CLEP exam, or (3) complete a math course higher than FSU's MATH 116 (ex: MA 127, 129, 131, etc., at GRCC). Additionally, the algebra component of FSU's MATH 116 is MA 107 at GRCC. MA 107 can be completed as follows: (1) pass MA 107 or higher (2) pass the college Algebra CLEP exam, or (3) an ACT Math subtest score of 24 or higher. | | | | |
| MATH 116 | Intermediate Algebra and Numerical Trigonometry | MA107 and MA 108 | 4 | |
| Cultural Enrichment—9 Credits Required | | | | |
| Credits can be earned in one or more subject areas; however, one three-credit course must be at the 200 level or higher. Select from the following subject areas: Art, Art History, any foreign language (French, German or Spanish at GRCC), History, Humanities, Literature, Music, Philosophy (but not Logic), or Theatre. In addition, the following specific GRCC courses are accepted as cultural enrichment: PO104, SC241, EN247 and EN 249. | | | | |
| | Cultural Enrichment Elective | GRCC Elective | 3 | |
| | Cultural Enrichment Elective | GRCC Elective | 3 | |
| | Cultural Enrichment Elective (200 level or above) | GRCC Elective | 3 | |
| Social Awareness – 9 Credits Required | | | | |
| Subject areas include: Anthropology, Economics, Geography (but not Physical Geography; this course is considered a science elective), Political Science, Psychology or Sociology. Some GRCC courses that satisfy this requirement include: AN210, EC 251 or EC 252, GE 135, PS 110, PY201 and SO251. Criteria: (1) One three-credit course must be 200-level or higher; (2) Must have two subject areas. | | | | |
| | Social Awareness Elective | GRCC Elective | 3 | |
| | Social Awareness Elective | GRCC Elective | 3 | |
| | Social Awareness Elective (200 level or above) | GRCC Elective | 3 | |
| The University requires that one or more general education courses meet the Global Consciousness and Race, Ethnicity and Gender (REG) criteria. Students can take one course that meets both the Global and REG requirement simultaneously. Some examples of GRCC or FSU courses that can meet these criteria include: | | | | |
| <p>"G": Global and "REG" Race, Ethnicity and Gender Courses Under Social Awareness:</p> <p>ANTH 122 (AN 210 at GRCC) – Introduction to Cultural Anthropology [G/REG] GEOG 100 (GE 135 at GRCC) – Geography of World Regions. [G/REG] GEOG 112 (GE 210 at GRCC) – Cultural Geography. [G/REG] *PLSC 323 – International Organization. [G/REG] *PLSC 331 (PS 201 at GRCC) – Comparative World Governments [G/REG] *PLSC 341 (PS 202 at GRCC) – International Relations. [G/REG] SOBY 335 (SO 270 at GRCC) – Marriage and the Family. [G/REG] *FSU PLSC Courses are taught in Grand Rapids primarily during the Summer Semester.</p> <p>REG Courses Under Cultural Enrichment:</p> <p>EN 270 (at GRCC) – Multicultural Literature [REG only] LITR 202 (EN 271 at GRCC) – Black Literature [REG only] PO 103 (at GRCC) – Introduction to Photography [REG only]</p> <p>Global Courses Under Cultural Enrichment:</p> <p>Any foreign language course from GRCC HIST 152 (HS 102 at GRCC) – Western Civilization Since 1500 [Global only] HIST 373 (HS 290 at GRCC) – Twentieth Century Russia [Global only] MUSI 232 (MU 107 at GRCC) – Introduction to Music Listening [Global only] Note: MU 107 comes into FSU as a 200-level course and meets that requirement.</p> <p>Additional REG Courses Under Social Awareness:</p> <p>PLSC 121 (PS 110 at GRCC) – American Government I [REG only] PSYC 150 (PY 201 at GRCC) – Introduction to Psychology [REG only] PSYC 226 (PY 232 at GRCC) – Lifespan Human Development [REG only] PSYC 341 (PY 233 at GRCC) – Child Psychology [REG only] PSYC 342 (PY 234 at GRCC) – Psychology of Adolescence [REG only] SOCY 121 (SO 251 at GRCC) – Introductory Sociology [REG only] SOCY 122 (SO 254 at GRCC) – Social Problems [REG only] SOCY 340 (SO 280 at GRCC) – Minority Groups in America [REG only]</p> | | | | |
| A Minimum of 41 General Education Hours Required for FSU B.A.S. Degree | | | | |

NAME: _____ SS#: _____ DATE: _____ ADVISOR: _____

Admission Requirements:

- Recent high school graduates need an ACT composite score of 18 and a high school grade point average of 2.50 (on a 4.0 scale).
- Students transferring from another college should refer to www.ferris.edu and choose "Transfer Student" from the "Quick Links" pull-down menu to review Ferris' policy regarding admissions criteria for transfer students.
- All courses transferred into Ferris must be 'C' or higher including courses used in the DAGD required core and recommended electives. Students with an Associate's Degree can transfer a general education course(s) with less than a "C" grade.
- Student must submit a portfolio for departmental review to be evaluated for acceptance into the program.

Digital Media Software Engineering, B.A.S.

Background: The bachelor of Applied Science in Software Engineering is designed as a degree focused on the processes, procedures, and technology involved with software development. The degree will focus on fundamental computer science topics as well as processes and procedures commonly used in the production of software. This approach will provide students with the ability to construct software as well as the knowledge and understanding of the concepts used in commercial software development. This approach will allow graduates to seamlessly transition into the workforce integrating their knowledge of the industry.

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| Requirements | | | | |
| Programming | SENG 101 | Computer Programming I | FSU-GR Class | 3 |
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| | SENG 230 | Software Data Structures | FSU-GR Class | 3 |
| | SENG 235 | Programming Languages | FSU-GR Class | 3 |
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| | SENG 220 | Software Configuration Management | FSU-GR Class | 3 |
| | SENG 350 | Software Quality Assurance | FSU-GR Class | 3 |
| | SENG 300 | Software Design and Architecture | FSU-GR Class | 3 |
| Software Development | SENG 300 | Database Programming | FSU-GR Class | 3 |
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| | SENG 420 | Software Development Industry Certification | FSU-GR Class | 3 |
| | SENG 491 | Applied Internship | FSU-GR Class | 3 |
| | SENG 499 | Capstone in Software Engineering | FSU-GR Class | 3 |
| | | | Total Required Hours: | 75 |

| Recommended Electives* | | | | |
|-------------------------------|----------|--|------------------------------|----------|
| Programming | SENG 255 | DAGD Programming I | FSU-GR Class | 3 |
| | SENG 355 | DAGD Programming II (DAGD 255) | FSU-GR Class | 3 |
| | ISYS 216 | Introduction to Java | CO 117 | 3 |
| | ISYS 212 | C and C++ Programming | CO 127 | 3 |
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NAME: _____ SS#: _____ DATE: _____ ADVISOR: _____

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- All courses transferred into Ferris must be "C" or higher including courses used in the DAGD required core and recommended electives. Students with an Associate's Degree can transfer a general education course(s) with less than a "C" grade.
- Student must submit a portfolio for departmental review to be evaluated for acceptance into the program.

CREATE NEW COURSE
Course Data Entry Form

FORM F

Create New Course
Rev. 07/23/07

I. ACTION TO BE TAKEN: CREATE A NEW COURSE

Notes

1. Complete each item in Section I and Section II.
2. If this course is to be used as a prerequisite for other university courses, Form Fs that reflect the prerequisite change must be submitted for those courses as well.

Term Effective (6 digit code only): 200808 Examples: 200801(Spring), 200805(Summer), 200808(Fall)
Note: The first four digits indicate year, the next two digits indicate month in which term begins.

II. PROPOSED FOR NEW COURSE: Complete all sections a through r. See manual for clarification.

a. Course Prefix: SENG b. Number: 499 c. Enter Contact Hours per week in boxes.
LECTure 3 LAB 0 INDEpendent Study – Check (x)
Practicum: Seminar:
d. Course Title: Capstone in Software Engineering (Limit to 30 characters/spaces.)

e. College Code: f. Department Code:
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

g. Type: Variable Fixed h. Minimum Credit Hours 3 i. Maximum Credit Hours 3

J. May Be Repeated for Added Credit: Check (x) Yes No

k. Levels: Check (x) Undergraduate Graduate Professional

l. Grade Method: Check (x) Normal Grading Credit/No Credit only (Pass/Fail)

m. Does proposed new course replace an equivalent course? Check (x) Yes No

n. Equivalent course: Prefix Number See instructions on Replacement courses.

o. CATALOG DESCRIPTION – Limit to 75 words – PLEASE BE CONCISE.

This course deals with the design and implementation of software subsystems. The concept of design patterns is introduced and common patterns are applied to the development of software components. Laboratory projects provide an opportunity for teams of students to implement components and to integrate them into complete systems.

p. Term(s) Offered: (See instructions for listing.) q. Max. Section Enrollment: 20

r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces. SENG 491.

UCC Chair Signature/Date: _____

Academic Affairs Approval Signature/Date: _____

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code
 Basic Skill (BS) General Education (GE) Occupational Education (OC) G.E. Codes

Office of the Registrar use ONLY

Date Rec'd: _____ Date Completed: _____ Entered: SCACRSE ___ SCADETL ___ SCARRES ___ SCAPREQ ___

DELETE COURSE
Course Data Entry Form

FORM F

Delete Course
Rev. 7/23/07

I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term Year See instructions.

II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:

Include the information that is in the current course database.

a. Course Prefix

b. Number

c. Enter Contact Hours per week in boxes.

LECTure LAB INDependent Study - Check (x)

Practicum: Seminar:

d. Full Course Title:

UCC Chair Signature/Date:

Academic Affairs Approval Signature/Date:

_____/____/____

_____/____/____

Office of the Registrar use ONLY

Date Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADTL __ SCARRES __ SCAPREQ __