Florida State College at Jacksonville
Curriculum Proposal Form

Proposal Information (Place an "X" in the box next to those that are applicable.)

Title	Introduction to Software Testing					
Action(s)	x	New Course		Modify Course		Inactivate Course
		New Program	X	Modify Program		Other — Use this space to describe action.

Faculty Proposal Originator(s)

Name(s)	David Singletary
Telephone No.	646-2212 Email dasingle@fsj.edu
Signature	Date 2/15/17

Faculty Originator(s) Dean

Name(s)	Dr. Mamdouh Babi			
Provision Conditions	✓ Support	_____ Do Not Support	_____ Support with Conditions Noted
Signature			Date R/21/17

Faculty Originator(s) School Of Executive Chair/Campus President

Name(s)	Dr. Marie Gnage			
Provision Conditions	✓ Support	_____ Do Not Support	_____ Support with Conditions Noted
Signature			Date 2/20/17

Associate Vice President or Executive Dean

Name(s)	Dr. Nancy Webster			
Provision Conditions	✓ Support	_____ Do Not Support	_____ Support with Conditions Noted
Signature	Nancy Webster		Date 3/10/17

Curriculum Committee Chair (Faculty Senate Chair)

Name(s)	Dr. John Woodward			
Provision Conditions	✓ Support	_____ Do Not Support	_____ Support with Conditions Noted
Signature			Date 3/16/17

Vice President of the College/Provost or Designee

Name(s)	Dr. John Wall			
Provision Conditions	X Support	_____ Do Not Support	_____ Support with Conditions Noted
Signature			Date 4/6/17

Curriculum Services Only CS20150730	Date Received by Curriculum Services:	2-21-2017	Proposal Assigned Tracking Number:	2016-23

.1

Tracking #: _2016-23 – Form 1 (CSRev. 08-2015 Curriculum Services use only)

CURRICULUM ACTION INFORMATION

(For assistance, contact Curriculum Services at 632-3273. The curriculum package will be returned if incomplete)

1. **Identify the effective semester for implementation**: <mark>Fall Term 2017 (20181)</mark> This term should be a future term that would not affect current students negatively. All actions in this package will be effective during the term indicated, unless otherwise reflected. Example: Fall Term, 2012 (20131). Please refer to SACS guidelines in item 5 and Financial Aid guidelines in item 6 when selecting appropriate effective semester.

2. **Program proposals** require the following: Program Information (*Program layout for college catalog must be included-see most recent catalog for format and inclusion, you may request from Curriculum office*) OCP and workforce credit information must be included for all PSAV programs. **If applicable program layout must include information about "Record of Conviction of a Crime", drug screen, background check, immunizations and any other information required for licensing or certifying agents.** All new programs must include information regarding Program Integrity.

   All new programs and program modifications with significant changes must include a copy of the program assessment plan. Advisory committee minutes, detailing employer support for the new program or changes should also be included if applicable. Curriculum packages missing these elements if applicable to the program will be considered "incomplete" until received.

   (Please "X" that you have included the following with your curriculum submission or indicate "n/a"):

   <mark>N/A</mark>   Program Assessment Plan (required for new programs and significant program modifications)
   <mark>Y – Survey</mark> Advisory Committee Minutes (if applicable, required for support of new program or requested changes)

Complete the following for all program submissions:

Program Title: <mark>Computer Information Technology</mark>
Program Code: <mark>2153</mark>   (for new programs, please contact Curriculum Services for code assignment)
Degree Type: <mark>Associate in Science</mark>
State CIP number: <mark>1511010307</mark>   Federal CIP number: <mark>110103</mark>

Program Title: <mark>Information Technology Management</mark>
Program Code: <mark>S301</mark>   (for new programs, please contact Curriculum Services for code assignment)
Degree Type: <mark>Bachelor of Applied Science</mark>
State CIP number: <mark>1101110991</mark>   Federal CIP number: <mark>111099</mark>

School and Area (used for College Catalog): <mark>School of Science, Technology, Engineering, and Mathematics</mark>

(New programs only, unless State requires change)
TABE SCORES (must be included for all new PSAV programs): <mark>N/A</mark>
SOC NAV# (if appropriate, assigned by MEI): <mark>N/A</mark>

Program information from most recent catalog must be included with changes identified.

Please note: If a program is no longer active or students will not be able to complete the program as originally registered, Program Inactivation form and paperwork must be submitted to Curriculum Services.

3. **Limited Access -** Limited Access programs are those that limit the admission of prospective students on the basis of capacity (i.e., the number of students whom the program can accommodate because of available seats).
Is this program limited access? _____ Yes ___x___ No
If yes, please describe criteria.

4. **Additional Program Requirements:** N/A
(1.) Selective Access- Selective access programs are those that admit prospective students who meet specific admissions criteria, including, without being limited to, grade point average (G.P.A.), entrance exams, scores, letters of application, letters of reference and/or professional background criteria (e.g., criminal background check, drug screening, medical examination, and/or professional licensure or certification).

If this program is <u>selective access</u>, list requirements here, or you may insert on the catalog page included in this proposal.

(2.) Occupation and Salary - The following information is required by the FLDOE to provide detailed information to students leading to occupation and salary (must be included for all new programs or to submit changes to existing information).

For each of your Programs of Study, take the salary information from the Florida Department of Economic Opportunity, Occupational Employment and Wages http://www.floridawages.com/eds.php for each Standard Occupational Code (SOC) associated with your program of study.

SOC Code: 15-1151
Job Occupation: Computer User Support Specialists
Entry Salary: $29,387
Median Salary: $42,531

SOC Code: 15-1121
Job Occupation: Computer Systems Analysts
Entry Salary: $54,344
Median Salary: $79,756

SOC Code: 15-1131
Job Occupation: Computer Programmers
Entry Salary: $47,549
Median Salary: $73,890

SOC Code: 15-1199
Job Occupation: Computer Occupations, All Other
Entry Salary$38,949
Median Salary: $77,962

Questions 5-7 are for new programs, substantially modified programs only, please review questions to assure you have met compliance and questions do not apply to this proposal submission.

5. **SACS Information** is required for all new and substantially modified programs: N/A
Please answer the following questions to determine if you should complete the **substantive change intake form**:

(1.) Does this involve development of a new degree or certificate program?

(2.) Does this new degree or certificate program involve a contract, MOU, grant, or consortium for the development or construction of all or part of a program or certificate? (This applies whether the College is outsourcing instruction or our College is providing the instruction for another organization or company.)

(3.) Will this new degree or certificate program be offered via distance education?

(4.) Does this involve instruction of courses delivered by Florida State College at Jacksonville instructors/employees at an off-campus location?

(5.) Does this involve the closure of a program or certificate?

If you answered yes to one or more of the self-assessment questions above, please complete the **substantive change intake form** found on the College's website: http://www.fscj.edu/district/institutional-effectiveness/coc-substantive-chg.php and return it, along with a copy of the curriculum proposal, via e-mail to the Office of Institutional Effectiveness and Accreditation. New programs or programs that require substantive change will require more time for approval. Please factor in time in implementation date.

6. **Financial Aid** (State requires 90 days response time on all new eligible program). Please identify by "yes or no" if this program is eligible for Financial Aid or any other Federal Funding. If so, identify specifics. N/A

   A financial aid eligible program would be:
   At a school that qualifies as an institution of higher education, the following types of programs are eligible for federal student aid purposes:
   • **Program leads to an associate, bachelor's, professional, or graduate degree.**
   • **Program of at least 2 academic years in duration that is acceptable for full credit toward a bachelor's degree,**
   • **Program is at minimum of 1 academic year in duration that leads to a certificate, degree, or other recognized credential and prepares students for gainful employment in a recognized occupation (at least 600 clock hours or** 24 credit hours).

   If you answered yes to any of the above, this program must be SACS and state of Florida approved. Please make sure your effective term incorporates length of time to get appropriate approval.

7. Is this program identified as **gainful employment** (yes or no, include explanation)? _____ Yes _x_____ No

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8. **Course Information (**Course Information includes (if applicable) (list prefix, number and title, credit hours and contact hours. Course Outlines must be included for all new and modified courses.

   a. **New Courses:** (SCNS website: http://scns.fldoe.org/scns/public/pb_index.jsp will assist in course number selection.) List recommended prefix/number, title, credit hours, and contact hours as appropriate. (example: ENC 1101 English Composition I 3 credit hours/3 lecture hours)
   Proposed: CEN ~~2072C~~ 2071C: Introduction to Software Testing   3 credit hours/3 lecture hours/1 lab hour

   b. **Course Modifications:** (course outlines are located at: http://curriculum.fscj.edu/ and may be used to insert in package so modifications can be applied. Please make sure all changes are shown on outlines.) Modifications should be shown with strike-thru and either RED font for add or highlights, but changes should be clear. **DO NOT USE "TRACK" CHANGES IN WORD**.) (example: TRA 2222 Transportation I, change title to: Transportation; credits hours from 3 to 4)

   c. **Course Inactivations (list prefix and number of each course): N/A**

9. **Identify if this is a General Education Requirement and if required** specified Category (Communication; Humanities; Mathematics; Natural Sciences (Biological or Physical, option A or B if appropriate) or Social & Behavioral Sciences.) – ***ALL GER REQUIRED COURSES MUST BE SUBMITTED TO GER-SUBCOMMITTEE FOR APPROVAL PRIOR TO SUBMISSION TO CURRICULUM COMMITTTEE.*** N/A

10. **Effectiveness:** Please describe how current and past students are affected by this change, indicating how you plan to identify and resolve individual issues and how you plan to communicate these changes to affected students.
    Current and past students will not be affected by this change.

11. **Method of Instruction:** Should this course be offered in distance learning or other unique instructional format (please specify which format)? Why or why not? For assistance, see website:
    http://www.fscj.edu/mydegree/Future-Students/Academics/Distance-Learning-and-Online-Programs.html

    No: lab activities will require specialized software and environments

12. **Background (answer the following questions):**
    • Is this a state requirement? No
    • What is the requirement and why must we implement it? This proposal presents the new course, CEN 2071C – Introduction to Software Testing
    • Has history shown students need this course/program for some reason? Yes, this course is needed for technical certification and career preparation in the software development/system analysis field
    • Will this meet some specific workforce, university transfer or student success need? The course will aid in retention, allow students with a course in development to broaden their knowledge of the industry and related processes, in addition to providing an alternate path to employment in a closely related field.
    • Are there partners, grant requirements, faculty collaborations or other reasons leading to the development of this course/program?

    I-TECH Partner Survey Results
    Respondents included Systems Innovators, Robert Half Technology, Medical Tracking, Astadia, Black Knight Financial, and Payspan

Survey Question	Positive Responses (High/Some)
Does your organization include a software test department or group which is separate from your development group?	100%
How critical are coding skills for the members of your test team?	80%
How critical is knowledge of software testing processes for members of your development team?	90%
How would your rate the level of interaction between members of your development team and members of your test team?	97%
What is your interest level in the proposed course for your organization?	83%
If you were hiring for a software test position in your organization, would knowledge of the topics covered in the course proposal benefit the applicant?	93%
If you were hiring for a software development position in your organization, would knowledge of the topics covered in the course proposal benefit the applicant?	90%
Are you familiar with the International Software Testing Qualifications Board (ISTQB - http://www.istqb.org,) or the American Software Testing Qualifications Board (ASTQB - https://www.astqb.org))?	63%
Would Foundation Level Tester Certification from the benefit applicants for a software test or development position in your organization	80%

• Please add any additional information to provide background for this submission.
The IT Advisory Committee has requested that Florida State College at Jacksonville continue to offer and update courses covering Computer Information Technology. We have had great success placing students in high paying career jobs in North Florida. The small and large business community is growing in North Florida. These courses provide students the technical background to design, build and maintain IT systems represented by our business community using modern programming languages.

13. **Rationale/need for the above action(s).**
   • Is there a need for this course/program in our service district? Yes
   • How will this impact student success for upper division instruction or job placement? The course will enhance their opportunities for placement in the CIT field.
   • If the College already has a similar course/program, why are we developing this program/course and what are the differences between the programs and courses? No similar course
   • How many students and what businesses or transfer institutions will benefit? Does this course/program support a College goal or initiative? All students who have completed one of the prerequisite programming courses will benefit.
   • Please add any additional information to provide rationale for this submission.

14. **Others Programs Impacted**: Programs or courses affected by this proposal: Identify other existing programs of study or courses that this proposal will affect, and explain how they will be affected. (Program title, program code, required or elective).
   The following programs will offer the course presented in this update:
   a.   Computer Information Technology (2153) (A.S.) (Elective)
   b.   Information Technology Management (S301) (B.A.S.) (Elective)

15. **Articulations:**   If there are existing internal or external (inter-institutional) articulation agreements that will be impacted by this proposal request, please identify and contact as appropriate: N/A

   • Courses intended for transfer and External Upper division articulations (2+2): Contact Liberal Arts Department at 632-3170.
   • Internal articulations (PSAV to AS) and external articulations (Industry certification to AS): Contact Workforce Development at 632-3363 to update agreement. Copies of active internal and external agreements can be found here - https://www.dropbox.com/sh/o39aqev4wqlbny8/AAC2KS5TnxuhIUBTDYfoxvGfa?dl=0

16. **Financial Information**: Special fees: A Special Fee Request form must be completed and sent to Finance, Attention: Controller. http://www.fccj.org/campuses/mccs/business_services/financial/forms/pdf/special-fee-request.pdf Budget and Department must be filled in for all new programs and courses. Please contact the Director of Budget and Financial Planning at 632-3142 with any budget questions.

   Budget number: _____No change_____   **Department:** __No change_____
   Must be provided for all NEW programs or curriculum package will not go for recommendation.

17. **Fiscal Notes**: This response must include specific information on the financial impact to students and the institution. This section should be concise, unless there are special circumstances related to the course/program. Please answer the following questions. *If answer yes, explanation must be included.

   • Will there be unusual costs to students? No
   • Are faculty salaries to teach course/program higher or lower than standard rates? No
   • Will additional staff or faculty be required, and if so, what are the costs to the institution? No

• Will the institution have to purchase additional equipment, supplies, software, and/or materials not currently owned by the College? No
• Are there grant or business partnerships that will provide funds to establish the course/program? No
• Will business partnerships cover the course/program costs? No

18. **Evaluation**: This response requests specific information on how you will assess the effectiveness of the course/program as it benefits students and the college. This section is also concise but should address the following: **credit transfer course:** review of student enrollment, completion and grades, as well as students ability to move to higher level courses if applicable; **credit or non-credit workforce**: review of student enrollment, completion, job placement, as well as business involvement in development, revision and evaluation of the course/program and student success; and **adult education courses** should include the same information as credit transfer courses but should also include job placement analysis.

Program staff will track student completion rates, retention rates, and persistence rates. Student enrollment, completion, job placement will be shared with advisory committee members and prospective students. All programs affected annually participate in the college program review process.

19. Do you feel that this proposal will have any special impact on the recruitment and retention of disadvantaged students?   If so, please explain. N/A

20. Answer the following (if appropriate). Earn credit how many times: _____1_____
    Writing Requirements course: _____ Yes ___x_____ No
    Grading Method or any special instructions (if other than standard): _____Standard_____

According to APM 09-0304-Curriculum Approval Process. The curriculum package with appropriate attachments must be e-mailed to curriculum@fscj.edu *when finalized. If you have any questions, please call 632-3273. The curriculum services office is located at Administrative Offices, Suite 301.*

Computer Information Technology (2153) (A.S.)

Associate in Science

Computer developers are the people who change our lives as much as the fellow who invented the wheel. Without developers, computers are useless. Applications developers design, write, test, and debug software programs. Systems developers oversee and integrate the work of applications developers and serve as technical advisors to systems analysts, application programmers, and operations personnel.

Five technical certificates available within this degree program: Web Development Specialist (6954) (T.C.) , Database Development Specialist (6955) (T.C.) , Computer Programming Specialist (6956) (T.C.) Information Technology Support Specialist (6280) (T.C.) and Information Technology Analysis (6281) (T.C.) . Students may pursue the A.S. degree and earn technical certificates while completing the requirements for the degree, or pursue one or more certificates to develop or upgrade their skills in a particular field. Contact an advisor or counselor to determine the career education path that is best for you.

Please note that by being enrolled in Computer Information Technology (2153) (A.S.) you may automatically meet the requirements for one of the aforementioned technical certificates. If you meet the requirements for a technical certificate, as a result of being enrolled in Computer Information Technology (2153) (A.S.) , you may automatically be awarded the technical certificate(s) upon meeting their requirements as well. If you choose to opt out of this automatic awarding of a technical certificate please contact an advisor to do so.

The Program

The Computer Information Technology program prepares you for a respected career as a developer, programmer, programmer-analyst, database developer, or web developer. You'll study program and systems design, computer communications, database development, web development, customer support, and software development in specific languages. Our relationship with Microsoft's Developer Network Academic Alliance allows you to download a free, licensed copy of the Microsoft server and developer applications, operating systems and integrated development environments for programming languages taught in your classes. A 50-hour internship is included in the program to provide valuable work experience.

The Computer Information Technology degree program allows you to focus in one of three career tracks:

- **Software Development Track:** The Software Development Track allows for specialization in software development using modern languages. Students may select 6 credits from C language, C++, C#, Java, J2EE, or Visual Basic.NET, ASP.NET, CAPM, Special Topics or Introduction to IT.
- **Web Track:** The Web Track allows for specialization in web development using modern web technologies. Students may select 6 credits from web design, web management, Special Topics or Introduction to IT.
- **Database Track:** The Database Track allows for specialization in database development using modern database technologies. Students may select 6 credits from Oracle SQL and PL/SQL, database administration, M.S. Access database, Special Topics or Introduction to IT.

Mission/Purpose

The mission of the Information Technology Associate in Science degree is to prepare students to enter or advance in the field of information technology by combining traditional college education with hands-on training and internship. The curriculum integrates technical skills, general education knowledge and breadth of knowledge in the information technology field that

prepares students for a respected entry-level through advanced career as a developer, software engineer, programmer-analyst, customer support specialist, database developer, or web developer.

Need More Information? Contact:

Tameiko Grant, Dean of Career Education, (904) 646-2300 or infotech@fscj.edu

More Information Online:

Recommended Roadmap for this Program

Curriculum

General Education

Credit Hours: 15

- **Mathematics** Credit Hours: 3
  Refer to General Education Requirements .
- **Humanities** Credit Hours: 3
  Refer to General Education Requirements .
- **Social Science** Credit Hours: 3
  Refer to General Education Requirements .
- ENC 1101 - English Composition I Credit Hours: 3
  or ENC 1101C - English Composition I Enhanced Credit Hours: 4
- ENC 1102 - Writing About Texts Credit Hours: 3

Professional Courses

Credit Hours: 39

- CTS 1131 - Hardware Configuration Credit Hours: 3
- CTS 1133 - Software Configuration Credit Hours: 3
- CTS 1154 - Technical Support Credit Hours: 3
- CTS 1120 - Fundamentals of Information Security Credit Hours: 3
- CGS 1100 - Microcomputer Applications for Business and Economics Credit Hours: 3
- CIS 1942 - Internship Credit Hours: 2
- CIS 2321 - Information Systems Credit Hours: 3
- MAN 2582 - Introduction to Project Management Credit Hours: 3
- CNT 2001 - Computer Networks and Telecommunications Credit Hours: 3
  or CET 2600 - Network Fundamentals (Cisco 1) Credit Hours: 3
- COP 1000 - Introduction to Computer Programming Credit Hours: 3
- COP 2551C - Introduction to Object Oriented Programming with Java Credit Hours: 3
  or COP 2842 - Internet Programming Credit Hours: 4

- COP 2822 - Web Technologies Credit Hours: 4
- CTS 2437 - Introduction to SQL Server Database Credit Hours: 3

Professional ~~Courses~~ <mark>Electives</mark>

Minimum Credit Hours: 6

Select from one of the following tracks.

Software Development Track

- CGS 1060 - Introduction to Information Technology Credit Hours: 3
- COP 2220 - C Programming Credit Hours: 3
- COP 2334 - Object-Oriented Programming with C++ Credit Hours: 3
- COP 2360 - Introduction to C# Credit Hours: 3
- COP 2805C - Advanced Java Programming Credit Hours: 3
- COP 2806 - J2EE Java Development I Credit Hours: 3
- COP 2837 - Introduction to Programming with Visual Basic.NET Credit Hours: 3
- COP 2823 - ASP.NET Programming Credit Hours: 3
  <mark>CEN 2071C Introduction to Software Testing</mark>
- CTS 2149 - CAPM (Certified Associate in Project Management) Exam Prep Course Credit Hours: 3
- CIS 2930 - Special Topics Credit Hours: 3

Web Track

- CGS 1060 - Introduction to Information Technology Credit Hours: 3
- CGS 2555 - Introduction to the Internet Credit Hours: 4
- CGS 2820 - Web Site Design and Development Credit Hours: 4
- CGS 2821 - Advanced Web Site Design and Development Credit Hours: 4
- CGS 2825 - Web Site Management Credit Hours: 3
- CIS 2930 - Special Topics Credit Hours: 3

Database Track

- CGS 1060 - Introduction to Information Technology Credit Hours: 3
- CGS 2542 - Database Concepts for Microcomputers Credit Hours: 3
- CTS 2440 - Oracle SQL and PL/SQL Credit Hours: 4
- CTS 2441 - Oracle Database Administration Credit Hours: 4
- CTS 2445 - Advanced Oracle PL/SQL Programming Credit Hours: 3
- CIS 2930 - Special Topics Credit Hours: 3

Total Credit Hours: 60

Information Technology Management (S301) (B.A.S.)

Bachelor of Applied Science

The mission of the Bachelor of Applied Science (B.A.S) in Information Technology Management is to educate, mentor, train, and develop students that can manage and supervise IT personnel and projects using effective communication skills, knowledge of evolving technologies, and efficient project planning and implementation techniques. The program will provide students with the opportunity to attain a degree that will enhance their opportunities in management and supervisory positions within the information technology field. The curriculum emphasizes a practical hands-on approach to understanding information technology management.

A minimum grade of "C" or better must be achieved in all upper division courses.

Program Requirements

To meet minimum requirements for consideration for acceptance to the B.A.S. in Information Technology Management program, applicants must:

1. Must have earned an Associate in Science (A.S.), Associate in Arts (A.A.) or higher degree from a regionally accredited college or university or completed a minimum of 60 transferable college credit hours with a GPA of 2.0 or above.
2. Submit a bachelor's admissions application. The B.A.S. in Information Technology Management has rolling admissions throughout the term.

Need More Information? Contact:

Dr. Tameiko Grant, tameiko.grant@fscj.edu, (904) 646-2328

More Information Online

Bright Futures Florida Academic Scholars Guaranteed Baccalaureate Admissions Program

Curriculum

General Education

Credit Hours: 36

- **Communications** Credit Hours: 9
  Refer to General Education Requirements .
- **Mathematics** Credit Hours: 6
  Refer to General Education Requirements .
- **Humanities** Credit Hours: 6
  Refer to General Education Requirements .

- **Natural Sciences** Credit Hours: 6
  Refer to General Education Requirements .
- **Social and Behavioral Sciences** Credit Hours: 9
  Refer to General Education Requirements .

Associate Degree Credit

Credit Hours: 18
Select from any Associate Degree courses: General Education, Electives, Professional Core or Professional Electives

<mark>*INTERNAL NOTE: The new course would be captured as part of the AS Electives for this section. It would not be specified o the program layout within the catalog.*</mark>

Lower Division Coursework

Credit Hours: 27

- CGS 1100 - Microcomputer Applications for Business and Economics Credit Hours: 3
- CIS 2321 - Information Systems Credit Hours: 3
- CNT 2001 - Computer Networks and Telecommunications Credit Hours: 3
  or CET 2600 - Network Fundamentals (Cisco 1) Credit Hours: 3
- COP 1000 - Introduction to Computer Programming Credit Hours: 3
- COP 2551C - Introduction to Object Oriented Programming with Java Credit Hours: 3
  or COP 2842 - Internet Programming Credit Hours: 4
- CTS 1131 - Hardware Configuration Credit Hours: 3
- CTS 1133 - Software Configuration Credit Hours: 3
- CTS 2437 - Introduction to SQL Server Database Credit Hours: 3
- MAN 2582 - Introduction to Project Management Credit Hours: 3

Upper Division Coursework

Credit Hours: 39
A minimum grade of "C" or better is required in all Upper Division coursework.

- BUL 3130 - Business Law and Ethics Credit Hours: 3
- FIN 3400 - Financial Management Credit Hours: 3
- GEB 3213 - Business Writing Credit Hours: 3
- GEB 4891 - Strategic Management and Decision Making Credit Hours: 3
- ISM 3013 - Introduction to Information Technology Management Credit Hours: 3
- ISM 3113 - Systems Analysis and Design Credit Hours: 3
- ISM 4117 - Business Intelligence Credit Hours: 3
- ISM 4212 - Database and Physical Design Credit Hours: 3
- ISM 4220 - Network Management for Information Professionals Credit Hours: 3
- ISM 4302 - Information Technology Planning Credit Hours: 3
- ISM 4480 - Electronic Commerce Systems and Strategies Credit Hours: 3
- ISM 4881 - Capstone in Information Technology Management Credit Hours: 3
- MAN 3240 - Organizational Behavior Credit Hours: 3

Total Credit Hours: 120

FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: CEN 2071C

COURSE TITLE: Introduction to Software Testing

PREREQUISITE(S):   COP2551C (Java) or COP2334 (C++) or
                                         COP2360 (C#) or COP2837 (VB) or COP2220 (C)

COREQUISITE(S):   None

STUDENT ADVISING NOTES: None

CREDIT HOURS: 3

CONTACT HOURS/WEEK: 4

CONTACT HOUR BREAKDOWN:

    Lecture/Discussion: 3

    Laboratory: 1

    Other:

FACULTY WORKLOAD POINTS: 3.7

STANDARDIZED CLASS SIZE
ALLOCATION: 24

CATALOG COURSE DESCRIPTION:

This course introduces software testing from the perspective of the software developer. It is intended to bridge the gap between development and testing functions by immersing students in the software test environment. The primary goal of the course is to help students with an interest in software development to pursue a career as software testers; a supplementary goal is to make them better developers. Students are introduced to general testing concepts, categories, and tools and apply this knowledge to develop solutions for real-world problem scenarios involving software applications written in various high-level programming languages. Lab work includes test plan development and implementation based on these scenarios using tools that are presented in the course. Content includes coverage of the ISTQB Foundation Level certification syllabus topics.

SUGGESTED TEXT(S):   Hambling, Brian (ed.) *Software Testing* (BCS Learning),
                                         ISBN 978-1-78017-299-6 (Latest Edition)

                                         Tarlinder, Alexander. *Developer Testing: Building Quality
                                         into Software* (Addison Wesley) ISBN 978-13-429106-2
                                         (Latest Edition).

IMPLEMENTATION DATE: Fall Term 2017 (20181) – Proposal 2016-23

REVIEW OR MODIFICATION DATE:

COURSE TOPICS		CONTACT HOURS PER TOPIC
I.	Software Development Life Cycles and the Role of Testing	2
II.	Testing Vocabulary and General Concepts	3
III.	Developing Testable Software	2
IV.	Developing Test Plans	2
V.	Testing Frameworks and Tools	5
VI.	Functional Testing	12

    A. Unit Testing (3)
    B. Integration Testing (3)
    C. System Testing (3)
    D. Regression Testing (3)

VII.	Non-Functional Testing	12

    A. Performance Testing (3)
    B. Load Testing (3)
    C. Security Testing (3)
    D. Maintenance Testing (3)

VIII.	Test Automation	7
IX.	Laboratory projects	15

Florida State College at Jacksonville   **Course Learning Outcomes and Assessment**

SECTION 1			
Course Prefix and Number:	CEN 2071C	Semester Credit Hours (Credit):	3
		Contact Hours (Workforce):	
Course Title:	Software Quality Assurance and Testing		

SECTION 2a *(To be completed for General Education courses only.)*		
TYPE OF COURSE (Place an "X" in the box next to those that are applicable.)		
	General Education Core (If selected, core discipline area will be identified in Section 4.)	
	General Education (If selected, you must also complete Section 4, Section 5, and Section 8)	
SECTION 2b		
TYPE OF COURSE (Place an "X" in the box next to those that are applicable.)		
	A.A. Elective		A.S. Required Course	X	A.S. Professional Elective
	A.A.S. Required Course		A.A.S. Professional Elective		Technical Certificate
	PSAV/Clock Hour/Workforce		Development Education		Apprenticeship
	Upper Division/Bachelors		Other:	If selected, use this space to title "other" option.	

SECTION 3									
INTELLECTUAL COMPETENCIES (Place an "X" in the box next to those that are applicable.)									
	Reading		Speaking		Critical Analysis		Qualitative Skills		Scientific Method of Inquiry
	Writing		Listening		Information Literacy		Ethical Judgement		Working Collaboratively

SECTION 4 *(To be completed for General Education courses only.)*					
GENERAL EDUCATION DISCIPLINE AREA (Place an "X" in the box next to those that are applicable.)					
	Communications		Humanities		Mathematics
	Social and Behavioral Sciences			Natural Sciences	

SECTION 5 *(To be completed for General Education courses only.)*					
GENERAL EDUCATION LEARNING OUTCOME AREA (Place an "X" in the box next to those that are applicable.)					
	Communication		Critical Thinking		Information Literacy
	Scientific and Quantitative Reasoning			Global Sociocultural Responsibility	

SECTION 6		
LEARNING OUTCOMES	*TYPE OF OUTCOME (General Education, Course or Program)*	*METHOD OF ASSESSMENT*
Demonstrate proficiency in the general concepts of software testing and developing testable software.	Course	Quiz, test or assignment
Demonstrate proficiency in describing elements of test plan development.	Course	Quiz, test or assignment
Demonstrate proficiency in test plan development.	Course	Lab Assignment
Demonstrate familiarity with functions, strengths, and weaknesses of current testing frameworks and tools.	Course	Quiz, test or assignment

SECTION 6 (Continued)

LEARNING OUTCOMES	TYPE OF OUTCOME (General Education, Course or Program)	METHOD OF ASSESSMENT
Demonstrate proficiency in describing elements of unit testing.	Course	Quiz, test or assignment
Demonstrate proficiency in unit test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of integration testing.	Course	Quiz, test or assignment
Demonstrate proficiency in integration test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of system testing.	Course	Quiz, test or assignment
Demonstrate proficiency in system test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of regression testing.	Course	Quiz, test or assignment
Demonstrate proficiency in regression test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of performance testing.	Course	Quiz, test or assignment
Demonstrate proficiency in performance test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of load testing.	Course	Quiz, test or assignment
Demonstrate proficiency in load test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of security testing.	Course	Quiz, test or assignment
Demonstrate proficiency in security test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing elements of maintenance testing.	Course	Quiz, test or assignment
Demonstrate proficiency in maintenance test design and implementation.	Course	Lab Assignment
Demonstrate proficiency in describing test automation strategies and tools	Course	Quiz, test or assignment
Demonstrate proficiency in automated test design and implementation.	Course	Lab Assignment

SECTION 7

Faculty name(s):	David Singletary		Date:	6/13/2017

From: Singletary, David S.
Sent: Thursday, March 9, 2017 5:01 PM
To: Nelson, Rebecca A. <Rebecca.Nelson@fscj.edu>
Cc: Ciez-Volz, Kathleen <kathleen.ciez.volz@fscj.edu>; Halifko, Robin R. <Robin.Halifko@fscj.edu>; Babi, Mamdouh O. <m.babi@fscj.edu>
Subject: Re: Curriculum Proposal 2016-23: Intro to Software Testing (New Course) Technical Review Findings

Rebecca,

Apologies for the delay, our IT Advisory Committee meeting was cancelled so we had to take an alternative approach for section 12 (Background), a survey was taken of our I-TECH business partners to determine the level of interest in the course and the benefits provided to students who take it, results were just made available today are now included in the new document I've attached to this e-mail. As for your remaining questions:

- Which course number you would like to use **(see below)**
- Acknowledgement of the current faculty workload points and response if you want to proceed with the standard or request an alteration **standard**
- Acknowledgement of the class size allocation and response as to how you want to proceed – standard allocation or proceed with a request to increase **standard**
- Which program(s) this course will appear in as an elective. **CIT A.S. Elective, I have added the course in the appropriate position in the attached document.**

As for the course number, I am looking for guidance from Curriculum Services; the only appropriate number I have been able to find was refused due to an "Upper Level" designation (curious, for a 2000-level course). CEN is the appropriate prefix, can we make up our own number? At this point I will consider any suggestions.

Thank you,

David Singletary
Professor of Information Technology
Florida State College at Jacksonville
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South Campus F-221
904-646-2212

I-TECH Partner Survey Results

Respondents included Systems Innovators, Robert Half Technology, Medical Tracking, Astadia, Black Knight Financial, and Payspan

Survey Question	Positive Responses (High/Some)
Does your organization include a software test department or group which is separate from your development group?	100%
How critical are coding skills for the members of your test team?	80%
How critical is knowledge of software testing processes for members of your development team?	90%
How would your rate the level of interaction between members of your development team and members of your test team?	97%
What is your interest level in the proposed course for your organization?	83%
If you were hiring for a software test position in your organization, would knowledge of the topics covered in the course proposal benefit the applicant?	93%
If you were hiring for a software development position in your organization, would knowledge of the topics covered in the course proposal benefit the applicant?	90%
Are you familiar with the International Software Testing Qualifications Board (ISTQB - http://www.istqb.org,) or the American Software Testing Qualifications Board (ASTQB - https://www.astqb.org))?	63%
Would Foundation Level Tester Certification from the benefit applicants for a software test or development position in your organization	80%