

Proposal

Conversion of Information Systems Concentration of the B.S. in Computer Science and Information Systems (CSIS) to a Full Degree Program

Proposed new degree:

B.S. in Computer Information Systems

Prepared by

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CONVERTING OPTIONS/CONCENTRATIONS WAIVER

Institutions requesting a waiver to the New Degree Program Review Process when converting an existing option or concentration into full program must answer the following questions:

1. Is the program degree level within the mission designation of the college?

The proposed conversion will result in a B.S. in Computer Information Systems, which is within Stockton's current mission level of Masters.

2. What is the need/impetus for the requested change?

- external review?
- accreditation review?
- other? (please explain below)

We plan to pursue accreditation for the new degree program through the Accreditation Board for Engineering and Technology (ABET). To do so, the current Information Systems (IS) concentration must first be converted to a full degree program. Additionally, during our most recent five-year review of the existing program in Computer Science & Information Systems (CSIS), our external evaluator recommended that we convert the IS concentration to a full degree program regardless of our pursuit of ABET accreditation.

3. How long has the option/concentration been offered?

The existing Information Systems concentration of the B.S. in Computer Science and Information Systems has been offered since 1988. It evolved from an earlier program in Information Science that dates back to 1975 or earlier.

4. What is the enrollment history?

The number of students enrolled in the Information Systems concentration for the past several years is as follows:

Fall	Fall	Fall
'06	'07	'08

The new program, B.S. in Computer Information Systems, will consist of: (a) 52 credits of CIS courses (32 required CIS credits + 20 CIS elective credits), (b) 16 credits of business environment courses, (c) 8 credits of quantitative courses, and (d) 4 additional credits of CS, CIS, or electives. All of the required CIS courses in the proposed new degree currently exist in the current concentration except for three. The proposed new

Program Announcement Narrative Proposal

a. Program Objectives

Computer Information Systems (CIS) professionals bridge the gap between computer scientists and the people who use technology in a variety of settings. These specialists focus on integrating information technology solutions and business processes to meet the information needs of organizations. This major is ideal for creative analytical thinkers and problem solvers who want to play a key role in design, development, implementation and management of technology in organizational settings. Our curriculum has a strong technology focus, while emphasizing the organizational and behavioral aspects of CIS. Offering a stand-alone BS in Computer Information Systems will provide students a clear understanding of the CIS discipline and enable us to prepare our students to be capable, responsible, and focused professionals, based on their interests and career goals, while providing them the benefits of our liberal arts curriculum

The B.S. in Computer Information Systems is designed to provide a solid education in preparation for employment as CIS professionals, or entry to graduate school for research and advanced studies. All CIS majors will learn programming and problem solving, systems analysis and design, database systems, computer networking, human computer interface, and IS strategy & project management. In addition to the technical skills, our curriculum provides students a sound understanding of organizational principles and practices for strengthening their communication, teamwork and collaboration, ethical reasoning skills, and a variety of business environment courses. Our degree offers a broad foundation enabling our graduates to acquire life-long learning skills needed to adapt and advance in an ever changing professional workplace.

The proposed degree, B.S. in Computer Information Systems, will be housed within Stockton's Computer Science and Information Systems program, whose mission statement

b. Evaluation and Learning Outcomes Assessment Plan

- x d.2: Students will fulfill duties of team roles.
- x d.3: Students will share in the work of the team.
- x d.4: Students will listen and communicate with other teammates.

Outcome e: An understanding of professional, ethical, legal, security and social issues and responsibilities.

- x e.1: Students will recognize and evaluate ethical issues involved in a professional setting.
- x e.2: Students will recognize and describe current issues in security.
- x e.3: Students will demonstrate understanding of intellectual property issues.
- x e.4: Students will recognize the need for proper etiquette and proactive social behavior in professional settings.

Outcome f: An ability to communicate effectively with a range of audiences.

- x f.1: Students will write technical documentation of a computer-based system, process, component, or program.
- x f.2: Students will make oral presentations for an appropriate target audience.
- x f.3: Students will prepare materials for a non-technical audience.

Outcome g: An ability to analyze the local and global impact of computing on individuals, organizations, and society.

- x g.1: Students will evaluate the impact of computing on individuals.
- x g.2: Students will evaluate the impact of computing on organizations.
- x g.3: Students will evaluate the impact of computing on society.

Curriculum Mapping:The proposed B.S. in Computer Information Systems includes required IS courses offered by the CSIS program as well as required courses from the Business program. Additionally, there are elective CIS courses offered by the CSIS program and elective business courses. The curriculum mapping (mapping courses to performance indicators) presented here includes only a mapping of courses offered by the CSIS program, and does not include courses offered by other academic programs, whether required or elective.

like Programming & Problem Solving II, E-Commerce, Information Assurance & Security, Mobile Application Development, Advanced System Analysis, Advanced Database, Web Application Engineering, System & Network Administration, and Enterprise Systems. The curriculum is based on the recon

- x **Global Perspectives** One of our program learning outcomes relates directly to this Stockton 2020 theme: “Outcome g: An ability to analyze the local and global impact of computing on individuals, organizations, and society.”
- x **Sustainability:** Relating also to Learning Outcome g, one cannot analyze the global impact of computing, in particular the global impact on society, without considering sustainability issues, such as Green Computing and more generally the impact technology has on the environment.

Impact on other Stockton programs The CSIS program offers the Statistics course (CSIS 1206) taken by all Business majors, as well as a variety of other majors. This course will be required by the proposed new CIS degree, so there will be no impact related to this service course.

Students in the proposed new CIS degree will be required to take 4 courses chosen from a list of 7 business courses. One of these courses is a required course, and two are offered as electives for the existing IS concentration of the CSIS degree. These two electives are chosen by nearly all of the students in the current concentration. So the direct impact is approximately 1 additional business course per student in the proposed new degree. However, given students can choose any 4 from a set of 7, the enrollment impact will be spread over several courses. Additionally, many of the students in the current CIS concentration often minor in Business, and thus, even 1 extra business course per student may be an overestimate.

d. Need

The Bureau of Labor Statistics, Occupational Outlook Handbook (<https://www.bls.gov/ooh/computer-and-information-technology/home.htm>), lists the following CIS related careers, along with 2015 median salary and projected job growth through 2024:

Occupation	2015 Median Pay	Projected Growth through 2024
Computer and Information Systems Managers	\$131,600 per year	15% (Much faster than average)
Computer Network Architects	\$100,240 per year	9% (Faster than average)
Information Security Analysts	\$90,120 per year	18% (Much faster than average)
Computer Systems Analysts	\$85,800 per year	21% (Much faster than average)
Database Administrators	\$81,710 per year	11% (Faster than average)
Computer Programmers	\$79,530 per year	-8% (Decline)
Network & Computer Systems Administrators	\$77,810 per year	8% (As fast as average)

Several CIS related careers appear in the 2017 CNN Money list of the “100 Best Jobs in America” (<http://money.cnn.com/pf/best-jobs/2017/list/index.html>) including the following:

Rank	Occupation	Median Pay	10 Year Job Growth
1	Mobile Application Developer	\$97,100	19%
5	Information Assurance Analyst	\$98,900	18%
9	Database Analyst	\$70,100	11%
9	IT Director	\$128,100	15%
14	Webmaster	\$61,200	27%
22	IT Operations Manager	\$97,200	15%
33	Video Game Designer	\$81,600	13%
35	IT Training Specialist	\$67,400	8%
38	IT Business Analyst	\$83,000	21%
50	IT Security Director	\$147,000	15%
52	Database Administrator	\$93,800	11%
57	User Interface Designer	\$73,800	27%

64	Programmer Analyst	\$82,300	21%
80	Software Developer	\$96,600	13%
99	User Experience Designer	\$85,900	13%

The following 2 schools within the State of New Jersey are the only NJ institutions to currently offer undergraduate Information Systems degrees that are accredited by the Accreditation Board for Engineering and Technology (ABET), under ABET's Information Systems criteria:

Institution	Degree Offered	Years ABET Accredited
New Jersey Institute of Technology	B.S. in Business and Information Systems B.A. in Information Systems	2012-present (B.S.) 2002-present (B.A.)
Rowan University	B.S. in Management Information Systems	2006-present

Additionally, the following 11 schools within the State of New Jersey currently offer undergraduate Information Systems degrees that are not accredited by ABET (note: NJIT is represented in both lists for different academic programs). We have included our own institution in this list, with our current degree

f. Program Resources

The CSIS program currently has 9 full-time tenure-track lines (one of which is filled this year with a 13D) and we also have 1 half-time faculty member. All of the full-time tenured/tenure-track faculty have doctoral degrees. Of these, three have doctoral degrees in Information Systems, four have doctoral degrees in Computer Science, and one has an Ed.D. Additionally, we have several adjuncts who currently offer courses

Degree Requirements

Computer Information Systems Degree Program Requirements (80 credits total):		
Computer Information Systems (52 credits):		
Computer Information Systems Core (required courses): 32 credits		
CSIS 1xxx		Information Systems & Digital Innovations (Replaces CSI

