University of South Carolina

College of Hospitality, Retail, and Sport Management

INTEGRATED INFORMATION TECHNOLOGY

(BACHELOR OF SCIENCE IN INTEGRATED INFORMATION TECHNOLOGY)

NEW PROGRAM PROPOSAL

(Proposed CIP Code 11.0103)

January 2013

Dr. Harris Pastides, President

Program Contact:
Dr. Elizabeth A. Regan
Program Director, Integrated Information Technology
IT-oLogy Tower, Suite 1010
1301 Gervais Street
Columbia, SC 29201
earegan@mailbox.sc.edu
803-777-2286

2. CLASSIFICATION

Program Title	Integrated Information Technology
Degree Designation	Bachelor of Science
List of Emphases, if applicable	N/A
Academic unit involved	Integrated Information Technology (Dept. of Retailing, College of Hospitality. Retail and Sport Management)
Designation	undergraduate, 4 year, 125 Credit Hours
Proposed date of implementation :	Fall 2013
CIP code	11.0103 Information Technology
Site	Columbia
Program qualifies for supplemental Palmetto Fellows Scholarship and LIFE Scholarship awards:	Yes _XXX_____ No:_____
Delivery mode	Classroom with use of hybrid and online courses

3. INSTITUTIONAL APPROVAL

This section provides a list of titles of all internal institutional bodies of which approval was required and the dates on which each body approved the program.

Committee Name	Date Approved
Curriculum Committee, Integrated Information Technology Program	March 30, 2012
Curriculum Committee, College of Hospitality, Retail & Sport Management	April 12, 2012
Faculty Meeting, College of Hospitality, Retail & Sport Management	April 20,2012
Academic Affairs Committee, Board of Trustees, University of South Carolina	N/A (CIP code change for already approved program)
Board of Trustees, University of South Carolina	N/A (CIP code change for already approved program)

4. PROGRAM PURPOSE:

Located in the College of Hospitality, Retail, and Sport Management, the Integrated Information Technology major prepares graduates for careers in information technology in these specific industries or any of the diverse range of industries dependent upon information technology in the conduct of their business.

Information Technology students acquire a combination of technical and organizational competencies required to effectively develop technology solutions for business needs. The

program focuses on the management, development, and support of enterprise systems, networks, databases, and Internet-based systems and related competencies such as information security, corporate training, and project management. An industry internship in information technology is required. Graduates are prepared for diverse positions that involve applying technology to solve problems in enterprises of all types. They learn to design, implement, evaluate, and manage technology systems and infrastructures and to integrate information technologies into organizations to achieve business goals.

5. JUSTIFICATION

The proposed new BS degree program in Integrated Information Technology CIP Code 11.0103 will replace the current program by the same name under CIP Code 52.0204. The program focuses on managing enterprise systems, business problem solving, telecommunications and network management, database systems, web site design and management, IT project management, and corporate training and development.

The main purpose of the new program proposal is to properly align the IIT degree within the computing disciplines, which recently redefined the field into three academic domains (computer science, information systems, and information technology), each with a distinct internationally validated model curriculum. This classification is internationally recognized by the major computing professional organizations (ACM Association of Computing Machinery, AIS the Association for Information Systems, and IEEE) as well as the primary accrediting body, the Accreditation Board for Engineering and Technology (ABET). In addition, information technology 11.0103 has also been classified as a STEM (Science, Technology, Engineering, and Math) designated degree program.

The official definition of Information Technology as an academic discipline is:
"Information Technology (IT) in its broadest sense encompasses all aspects of computing technology. IT, as an academic discipline, is concerned with issues related to ***advocating for users*** *and meeting their needs within an organizational and societal context through the* ***selection, creating, application, integration and administration*** *of computing technologies."*[1]

The Integrated Information Technology BS degree program is consistent with the international curriculum model for the information technology domain. Over the past 20 years, as business technology evolved from typewriters to powerful computers connected by global networks, the degree program became increasingly technical, transitioning from a BS in office administration, to office systems, to administrative information management to technology training and support management, and ultimately to today's Integrated Information Technology. The most recent program change to Integrated Information Technology (IIT) was approved in 2010. However the CIP code has never been updated to bring it in line with current CIP classifications for

[1] Lunt, B. M., chair, et al. (2008) Information Technology 2008: Curriculum Guidelines for Undergraduate Degree Programs in Information Technology. Association for Computing Machinery (ACM) and IEEE Computer Society. P9 of 139.

technology disciplines. The proposed new Integrated Information Technology program CIP Code 11.0103 is in line with the 2000 edition of the CIP Codes when the 11.0103 information technology code was introduced. The 2000 edition made many changes across the computing disciplines and introduced a number of new codes.

The definition for 11.0103 CIP code and the old code 52.0204 are provided below:
New proposed code: 11.0103 Information Technology
A program that focuses on the design of technological information systems, including computing systems, as solutions to business and research data and communications support needs. Includes instruction in the principles of computer hardware and software components, algorithms, databases, telecommunications, user tactics, application testing, and human interface design.

Old code: *52.0204 Office Management and Supervision*
A program that prepares individuals to supervise and manage the operations and personnel of business offices and management level divisions. Includes instruction in employee supervision, management, and labor relations; budgeting; scheduling and coordination; office systems operation and maintenance; office records management, organization, and security; office facilities design and space management; preparation and evaluation of business management data; and public relations.

The incorrect CIP code designation has had a number of consequences. For example, recently when Costal Carolina put forward a proposal for a new Information Technology bachelor degree program, USC's program was not identified because it is not properly classified in the Commission's inventory of academic programs. The correct program classification is important for the program to successfully recruit freshman entrants. Most IIT students currently transfer from other programs or associate degree programs. The absence of freshman recruits suggests a visibility issue, both internally and externally, which we believe relates at least in part to the current misclassification of the program.

The proposed new program also better positions Hospitality, Retail, and Sport Management (HRSM) to recruit international students. A number of countries, such as Saudi Arabia and India, sponsor students for technical programs, as defined by CIP codes that are internationally recognized as STEM program codes (Science, Technology, Engineering and Math). The issue came up this summer during a visit by the delegation of students sponsored by the Royal Embassy of Saudi Arabia. The Program Ambassador was very interested in the IIT program, but said that having it classified under the proper CIP code would be important to recruiting Saudi Arabian students. The Department of Homeland Security publishes a list of CIP codes that qualify for "STEM' favorable status (which includes 11.0103).

No additional changes in the IIT curriculum are requested at this time. The main purpose of the current program proposal is to more accurately align the classification for USC's BS in IIT with the 2000 CIP code revisions for IT programs.

Program Need and Demand:

Information technology graduates are in high demand across every industry sector. The IT industry is at the heart of our changing economy and society. In addition to the IT industry itself, information technology jobs are available and serve crucial roles in every sector of

government and private business. There are over 62,000 information technology jobs in South Carolina and projections indicate that seven of the 26 fastest growing occupations in the state are related to IT according to the U.S. Bureau of Labor Statistics.[2] According to *The State* newspaper, Columbia has the nation's fourth highest concentration of professionals who specialize in insurance technology, which is highly dependent upon large scale mainframe systems.[3] IT-based industries and jobs are a focus for a number of current economic development initiatives in the state including the Chamber of Commerce Information Technology Council, Palmetto Pillar Awards, Innoventure, Innovista, Technology Instigator program, Tech After Five, IT-oLogy, and others.

Nationally, the Bureau of Labor Statistics forecasts faster than average growth with excellent job prospects[4]. The following quote describes the Bureau's outlook for positions in the category of computer systems analysts, which best encompasses the types of positions for which students in the IIT program are prepared:

Employment of computer systems analysts is expected to grow 22 percent from 2010 to 2020, faster than the average of all occupations. As organizations across the economy increase their reliance on information technology (IT), workers in this occupation will be hired to design and install new computer systems. Growth in wireless and mobile networks will create a need for new systems that work well with these networks. Additional job growth is expected in healthcare fields. A large increase is expected in electronic medical records, e-prescribing, and other forms of healthcare IT, and analysts will be needed to design computer systems to accommodate the increase. There is also expected to be an increase in the number of systems analysts working at IT consulting firms. These analysts, who will be hired by organizations in a variety of industries to design computer systems, will move on to another business when they are finished. As more small and medium-size firms demand advanced systems, this practice is expected to grow. Systems analysts are expected to grow 43 percent in the computer systems design and related services industry. Job applicants with a background in business may have better prospects because this occupation often requires knowledge of an organization's business needs. An understanding of the specific field an analyst is working in is also helpful. For example, a hospital may desire an analyst with a background or coursework in health management.

On average, 91 percent of USC's IIT graduates are employed in a related field or go on to graduate school each year. Annual salaries of our integrated information technology graduates are meeting the industry predictions of between $40,000 and $80,000.[5] The diverse opportunities in IT are unlike that of any other discipline. The design, development, support and management of hardware, software, multimedia, and most importantly, business applications and integrated systems exist in nearly every area of economic endeavor and everyday life—providing an endless variety of work places and settings. Eighty-five percent of all jobs in IT are

[2] *Occupational Outlook Handbook: Computer and Information Technology*, U.S. Bureau of Labor Statics, 2012-13. www.bls.gov/ooh/computer-and-information-technology/computer-systems-analysts.htm

[3] *The State*. March 21, 2010.

[4] *Occupational Outlook Handbook*. Ibid.

[5] Gerdes, John. HRSM survey of IIT Graduates, Spring 2012.

found within companies that are everyday household names in industries such as retail, design, insurance, banking, aerospace, energy, and healthcare.

Program Relationship to Mission:

The Integrated Information Technology program contributes directly to the University's mission for academic excellence and enhancing the industrial, economic, and cultural potential of the state. The shortage of expertise in the information technology field is a national concern and is the impetus behind the Consortium for Enterprise Systems Management (IT-oLogy) in Columbia, an initiative consistent with USC Connect. This academic/business alliance, in which South Carolina businesses have invested millions of dollars, has a clear focus on "Advancing IT Talent," and works to strengthen the IT talent pipeline while creating new opportunities in South Carolina and the southeast.

The IIT program also aligns with the SACS Quality Enhancement Plan goals for integrating across academic disciplines and experience and engaging with the broader community. The program engages on multiple levels with a broad range of constituents because information technology has become integral to the operation of every enterprise across all industry sectors. Based on standards established by international IT curriculum models, the IIT program ranks favorably with comparable programs in peer institutions. Top firms such as IBM, SCANA, Blue Cross Blue Shield, Colonial Life, among many others, regularly recruit and provide internships for our students. IIT faculty are engaged in IT research, publication, and professional organizations on a national and international level. As the program continues to grow, the potential to gain national and international stature is great.

Relationship of Proposed Program to Other Institutional Programs:

The Integrated Information Technology program prepares students in an important computing domain not provided elsewhere in the University. As such, it complements other computing programs offered through the College of Engineering and Computing. IIT fulfills an area of growing need as the use of information technology has permeated the operation of enterprises of every ilk. There is growing consensus in the computing disciplines that the distinctions among the three academic domains of computer science, information systems, and information technology are significant and consequential. Thus the major computing professional organizations (ACM Association of Computing Machinery, AIS the Association for Information Systems, and IEEE) as well as the primary accrediting body, ABET Computing Accreditation Commission are in concurrence that separate and distinct undergraduate programs are warranted and encouraged

The IIT program provides a unique set of competencies, consistent with the international IT curriculum model that combines broad technical expertise with a foundation in business, organizational skills, communication, and project management.

Relationship of Proposed Program to other Similar Programs in South Carolina:

Coastal Carolina University submitted a program planning summary for one additional program in information technology under the 11.0103 CIP Code which was approved by ACAP on March 22, 2012.

The program at the College of Charleston is a four-course post-baccalaureate certificate program. It targets professionals currently working in software development and related fields who desire to expand their knowledge and skills but are not able to enter a degree program.

The program at Bob Jones University is one of two offerings in the Computer Science Department. The 36 hour program, leading to a BS in Information Technology, has a goal of preparing students for work in the areas of systems analysis and system network, database administration, help desk, and PC support. Its unique emphasis includes preparing students for information technology needs of 21st century ministries as well as businesses.

The program at USC Upstate is a two-year 64-hour degree completion program, articulated with Greenville Tech, leading to a BA degree in Information Management and Systems. It is an interdisciplinary degree integrating an understanding of computer science, information science, telecommunications, discipline-specific data, information administration and an ability to recognize relationships between technical systems and social structures. A condensed online version of the program was introduced in June 2012 with primarily self-paced instruction specifically designed for working professionals who already have a two-year degree.

Thus, although the programs share some similarities, each fulfills its own unique niche. USC's BS degree in Integrated Information Technology offers a deep concentration with 52 hours of technical course work plus a 6 hour internship balanced with the Carolina Core general education foundation and a solid grounding in business, organizational, and communication competencies. USC's partnership in the Consortium for Enterprise Systems (IT-oLogy) adds another unique dimension to the program as does the focus on project management and corporate training and support.
CHE's inventory of academic programs also lists programs within the broad CIP category other institutions in the State offer:

CIP Code 11.0101 Computer Information Systems

Lander University	BS Computer Information Systems
U.S.C. Columbia	BS Computer Information Systems

CIP Code 11.0401 Information Science Studies

Benedict College	BS Computer Information Science
Clemson University	BS Computer Information Science
College of Charleston	BS Computer Information Science
College of Charleston	AB Computer Information Science
U.S.C. Upstate	BA Computer Information Science
U.S.C. Upstate	BS Information Science
Coastal Carolina University	BS Information Systems
Furman University	BA Information Technology
Furman University	BS Information Technology
South University	AS Information Technology
South University	BS Information Technology

A search of the South Carolina Commission on Higher Education Web site for computing programs with the CIP Code 11.0103 identifies only three programs:

CIP Code 11.0103 Information Technology

USC Upstate	BA Information Management and Systems
Bob Jones University	BS Information Technology
College of Charleston	PB Cert Service Oriented Computing

In addition, 12 programs are listed in computer science (more theoretical and mathematics-oriented) and there are multiple two-year degree programs in computer technology which are typically hardware-oriented.

6. ADMISSIONS CRITERIA

In order to be admitted to a program of study in the College of Hospitality, Retail, and Sport Management, freshmen applicants must meet all University admission requirements through the Office of Undergraduate Admissions.

The College of Hospitality, Retail, and Sport Management has a pre-professional and a professional division of student classification. All new students begin in the pre-professional division. Progression into the professional division requires the approval of the department and the successful completion of the requirements indicated under each departmental heading. In addition to the academic admission requirements of the University and of the College of Hospitality, Retail, and Sport Management for admission to the pre-professional division, an enrollment limit into the professional division may be imposed by various departments. Such a limit would become necessary if enrollment levels exceed available department staffing and facility resources. In the event of an enrollment limit, admission to a department may take into account the applicant's grade point average and other factors which may include the applicant's potential for success in the student's chosen major.

To be eligible for graduation, students in the College of Hospitality, Retail, and Sport Management must meet all course requirements, be in good standing, and meet any specific departmental requirements as well as University requirements. A minimum grade of C is required in English 101, 102 and all departmental courses used to satisfy major or professional area requirements. Individual departments may stipulate additional courses that require a minimum grade in order to be applied toward that major. Any additional departmental requirements are indicated under each departmental heading on the College website.

7. ENROLLMENT

This section addresses admission criteria and historical and projected program enrollments.

Table 1 shows total student enrollment history for 2007-08 to 2011-12. Table 2 shows projected student enrollment in each term for the period 2012-13 to 2015. Enrollments have shown steady growth over the period 2007 to 2011. Projections are based on targets for continued growth, and the department and college have strategies in place to achieve those targets.

Table 1: TOTAL ENROLLMENT HISTORY						
YEAR	**FALL**		**SPRING**		**SUMMER**	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2007-08	105	2625	105	2606	104	589
2008-09	99	2793	101	2971	87	475
2009-10	112	3343	119	3301	115	738
2010-11	119	3537	121	3929	109	623
2011-12	148	3603	158	4266	120	720

Table 2: PROJECTED TOTAL ENROLLMENT						
YEAR	**FALL**		**SPRING**		**SUMMER**	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2012-13	160	4320	170	4590	120	720
2013-14	200	5400	200	5400	130	780
2014-15	250	6750	250	6750	130	780
2015-16	275	7475	275	7475	140	840
2016-17	300	8100	300	8100	140	840

8. CURRICULUM: Bachelor of Science (BS) in Integrated Information Technology

The following sections describe the existing program as approved in 2010 and listed in the current Bulletin.

Learning Outcomes

Consistent with IT model curriculum and standards of the ABET Computing Accreditation Commission, the primary learning outcomes for USC's IIT program are:

1. Apply knowledge of computing and mathematics.
2. Analyze a problem and identify / define computing requirements appropriate to its solution.
3. Design, implement and evaluate a computer based system to meet desired needs.
4. Function effectively on teams to accomplish a common goal.
5. Demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities.
6. Communicate effectively with a range of audiences.
7. Analyze the local and global impact of computing on individuals, organizations, and society.
8. Recognize the need for and an ability to engage in continuing professional development.

9. Use current techniques, skills, and tools necessary for computing practice.
10. Use and apply current technical concepts and practices in the core information. [IT]
11. Identify / analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems. [IT]
12. Effectively integrate IT-based solutions into the user environment. [IT]
13. Demonstrate an understanding of best practices and standards and their application. [IT]
14. Assist in the creation of an effective project plan. [IT]

The first nine outcomes are common expectations across all ABET accredited computing disciplines. Outcomes 10-14 are specific to the Information Technology discipline [IT].

Program Requirements (Total Credit Hours: 125)

A bachelor of science degree in Integrated Information Technology consists of the Carolina Core, related coursework, College of Hospitality, Retail, and Sport Management (HRSM) required courses, IIT required and elective courses, and free electives.

1. Carolina Core Courses
2. Related Coursework
3. HRSM College Required Courses
4. IIT Major Requirements
5. Free Electives

Integrated Information Technology majors may pursue a minor in any course of study offered by the College of Hospitality, Retail and Sport Management (HRSM) as well as any other University program with an approved minor. College of HRSM required courses may not be counted toward a minor.

1. Carolina Core for the College of HRSM (31 – 43 Credit Hours)
Integrated Information Technology majors must fulfill all Carolina Core general education requirements. The Carolina Core consists of 31 to 43 credit hours of required coursework in ten different areas of study. Students select one or more courses for each learning outcome to satisfy the minimum number or credit hours required. (For additional information and lists of approved courses, please refer to the Carolina Core section of the Bulletin.)

CMW: Effective, Engaged and Persuasive Communication: Writing (6 hours)
- ENGL 101
- ENGL 102

ARP: Analytical Reasoning and Problem Solving (6-8 hours)
- 6 hours of required math

  Two courses, one from category A, one from category B

  A. Either MATH 122 - Calculus for Business Administration and Social Sciences OR MATH 141 – Calculus I

  B. Either MATH 142 - Calculus II, or higher (not MATH 221 or MATH 222) OR Any STAT

SCI: Scientific Literacy (7 hours)

- Two approved Carolina Core courses from the natural sciences including one laboratory selected from Astronomy, Biology, Chemistry, Environmental Geology, Marine Science or Physics

GFL: Global Citizenship and Multicultural Understanding/Foreign Language (0-6 hours)

- College of HRSM students must demonstrate proficiency in a foreign language by achieving a score of 2 or higher on the foreign language placement test or by fulfilling requirements for one foreign language through level 110 or 121.

GHS: Global Citizenship and Multicultural Understanding: Historical Thinking (3 hours)

- Any approved Carolina Core course for Global Citizenship and Multicultural Understanding/ Historical Thinking

GSS: Global Citizenship and Multicultural Understanding/Social Sciences (3 hours)

- Any approved Carolina Core course for Global Citizenship and Multicultural Understanding/Social Sciences

AIU: Aesthetic and Interpretive Understanding (3 hours)

- Any approved Carolina Core course for Aesthetic and Interpretive Understanding

CMS: Effective Engaged and Persuasive Communication: Speech (3 hours)

- SPCH 140 or SPCH 230

INF: Information Literacy

- This requirement may be met in an overlay course (one that combines learning outcomes from two Carolina Core components).

VSR: Values, Ethics, and Social Responsibility

- This requirement may be met in an overlay course (one that combines learning outcomes from two Carolina Core components).

2. Related Coursework (6 Credit Hours):

- CSCE 201 - Introduction to Computer Security
- ECON 224 - Introduction to Economics

3. College of HRSM Required Courses (21 Credit Hours)

- ITEC 240 - Business Law
- ITEC 242 - Business Communications
- ITEC 264 - Computer Applications in Business I
- RETL 261 - Functional Accounting I

- RETL 262 - Functional Accounting II
- RETL 344 - Personnel Organization and Supervision
- HRSM 301 - Professional Development Seminar

4. Integrated Information Technology Requirements (46 Credit Hours)

A. IIT Core Courses (24 Credit Hours)

- ITEC 343 - Introduction to Computer Hardware and Software Support
- ITEC 345 - Introduction to Networking
- ITEC 346 - Computer Applications in Business II
- ITEC 352 - Software Design
- ITEC 362 - Web-Based Support Systems
- ITEC 370 - Database Systems in Information Technology
- ITEC 444 - Corporate Training and Development
- ITEC 445 - Advanced Networking

B. IIT Professional Division Classes (22 Credit Hours)

The following courses are restricted to students enrolled in the professional division of Integrated Information Technology, or those students who receive special permission from the program chair:

- ITEC 301 - Professional Internship Seminar (1 credit hour)
- ITEC 447 - Management of Information Technology
- ITEC 495 - Professional Internship (6 credit hours)
- ITEC 544 - Training Systems
- ITEC 560 - Analysis and Applications of Project Management Software
- ITEC 564 - Project Management for Information Systems
- ITEC Elective (one of the following courses required):
    - ITEC 475 – Mainframe Systems
    - ITEC 545 - Telecommunications
    - ITEC 562 - Advanced Web Support Systems
    - ITEC 570 - Database Management and Administration
    - ITEC 586 – e-Commerce Technology in Hospitality

5. Free Electives (9-21 Credit Hours)

The IIT curriculum includes 9- 21 hours of electives depending on how students fulfill the Carolina Core requirements. Any course in the University can be used to satisfy the elective requirement (including additional electives in the major).

NOTE: No new courses or program changes are proposed. This is a request for CIP Code change only.

Course Descriptions
This section lists all required and elective IIT courses with descriptions as they appear in the current 2011/12 Bulletin.

ITEC 240 - Business Law
Formation of contracts and their operation as they apply to business; promissory notes and checks; agency and employment.

ITEC 242 - Business Communications
Theory and processes in written business communications; composing effective business letters and reports.
Prerequisites: ENGL 101 and 102

ITEC 264 - Computer Applications in Business I
Survey of the core skills and techniques used in modern business applications, including spreadsheets and databases.

ITEC 301 - Professional Internship Seminar (1Credit)
Preparation for professional internship.
Prerequisites: professional division.

ITEC 343 - Introduction to Computer Hardware and Software Support
Understanding of current computer hardware and software through computer building, repairing, and troubleshooting.
Corequisite: ITEC 264
Prerequisites: ITEC 264

ITEC 345 - Introduction to Networking
Understanding the essential concepts of computer networks, including standards, topologies, security, media, switching, routing, and more.
Corequisite: ITEC 343
Prerequisite**s:** ITEC 343

ITEC 346 - Computer Applications in Business II
The interaction and analysis of electronic spreadsheets and databases.
Prerequisites**:** ITEC 264

ITEC 348 - Applications for Technical Support
Application of office records and information management using current database software.
Prerequisites: ITEC 343

ITEC 352 - Software Design
Survey of core software development principles, application development from pseudocode and flow charting through coding process.

ITEC 362 - Web-Based Support Systems
The development of Web-based information systems for support and training. Communication technologies for the global dissemination of information, including static information and multimedia content.
Prerequisites: ITEC 343

ITEC 370 - Database Systems in Information Technology

Survey of techniques for working with enterprise-level database systems.
Prerequisites: ITEC 264 and 346

ITEC 399 - Independent Study (1-6 Credits)
Contract approved by instructor, advisor, and department head for undergraduate students.
Prerequisites: consent of department

ITEC 444 - Corporate Training and Development
Corporate training of employees: needs assessment, instructional design, implementation, evaluation, and management.

ITEC 445 - Advanced Networking
Advanced administration of client/server networks with major emphasis on network operating system software.
Prerequisites: ITEC 345

ITEC 447 - Management of Information Technology
Overview of current practices and trends in end-user technology and information system management.
Prerequisites: professional division

ITEC 448 - Professional Internship (6 Credits)
Internship coordinated by a faculty member and supervised by an approved business supervisor. Contract approved by instructor, advisor, and department head is required for undergraduate students.
Prerequisites: professional division and ITEC 301

ITEC 475 - Mainframe Systems (cross-listed with CSCE 415)
Introduction to the large scale computer systems used by businesses to support thousands of simultaneous users and process millions of transactions.
Prerequisite: Professional division standing in ITEC; upper division standing in CSCE, or permission of the instructor.

ITEC 544 - Training Systems
Theory, design, and implementation of technology-based training systems, including hardware and software solutions.
Prerequisites: professional division and ITEC 444

ITEC 545 - Telecommunications
Telecommunication systems, applications, and equipment allowing for the global dissemination of information.
Prerequisites: professional division and ITEC 445 or consent of instructor

ITEC 560 - Analysis and Applications of Project Management Software
Project management principles and standard practices, including software applications for project management.
Prerequisites: professional division

ITEC 562 - Advanced Web Support Systems

The development of advanced, dynamic, Web-based information systems, including the integration of back-end database-records management systems.
Prerequisites: professional division and ITEC 362

ITEC 564 - Project Management for Information Systems
Application of project management software, technologies, and practices to the design and implementation of real-world information technology projects.
Prerequisites: professional division; prereq or coreq: ITEC 560

ITEC 570 - Database Management and Administration
Introduction to database administration and implementation using an enterprise-level Relational Database Management System (RDBMS).
Prerequisites: professional division and ITEC 370

ITEC 584 - Hospitality and Tourism Technology
Information technologies such as e-commerce, e-marketing, and e-research are examined, critiqued, and applied within a tourism context.
Cross-listed Course: HRTM 584
Prerequisites: ITEC 264 or equivalent
Note: Effective Spring 2012

ITEC 586 - eCommerce Technology in Hospitality
Provides students with advanced understanding of technologies applicable to hospitality and tourism industries. Students analyze current and emerging technologies to determine operational impact on hotels, restaurants, and travel businesses.
Prerequisites: ITEC 264 or equivalent

ITEC 590 - Special Topics in Integrated Information Technology
Advanced concepts, issues, and trends in information technology. Course content varies and will be announced in the schedule of classes by suffix and title. (May be repeated once for credit.)
Prerequisites: professional division or consent of instructor

9. ASSESSMENT

The Integrated Information Technology program has an HRSM approved assessment plan, and student learning outcomes are assessed and reported annually. Learning outcomes for required courses are assessed on a rotating basis. Program outcomes are assessed primarily at two points: during the senior integrative capstone course ITEC 564 and during the required internship ITEC 448.

For the integrative capstone course (ITEC 564 Project Management for Information Systems), students work in teams to complete a real project for a business client. The project requires students to apply competencies acquired across the curriculum. Assessment includes feedback from the project sponsors and assessment of project results by a jury of faculty using a rubric designed specifically for that purpose.

The Professional Internship (ITEC 448) is incorporated as a major element of the assessment plan. The IIT curriculum requires students to do a professional internship their senior year. By using the supervisors' evaluations of the interns, the faculty is able to adjust the curriculum to current industry needs. It also allows the faculty to adjust the curriculum if weaknesses are

apparent in the performance of interns. Students complete evaluations at the end of their supervised work experience. Evaluation of interns by supervisors is an assessment process that has been used by the IIT program for many years.

All faculty are required to participate in the student evaluation of courses each semester. The results of the surveys are compiled and become part of the faculty annual review and portfolio for tenure, promotion, and post tenure review. The results are reported to faculty for each course along with comparative data on college and university means.

All assessment data are regularly compiled and shared by IIT faculty and used to modify curriculum content coverage and teaching strategies as part of on-going efforts to improve achievement of student learning outcomes and keep content current with changing technology.

10. FACULTY

Table 2 details the rank and academic qualifications of each staff member who is involved in the program.

Table 2. Faculty by Rank and Academic Qualifications

Staff by Rank	Terminal Degrees	Field of Study	Teaching in Field
Professor #1	Ph.D.	Information Systems	Yes
Professor #2	Ed.D.	Business Education	Yes
Associate Professor #1	Ph.D.	Information Systems	Yes
Associate Professor #2	Ph.D.	Information Systems	Yes
Assistant Professor #1	Ph.D.	Information Systems	Yes
Assistant Professor #2	Ph.D.	Engineering / Information Systems	Yes
Assistant Professor #3	Ph.D.	Information Systems with Health IT focus	Yes
Associate Professor #3	Ph.D.	Information Systems with Health IT focus	Yes
Instructor #1	Ph.D.	Business Education / Technology Training	Yes
Internship Coordinator / Student Advisor	Master's	Business Education	Yes

No additional tenure track faculty positions are planned for the IIT program at this time. Assistant Professor #3 and Associate Professor #3 are new hires for Fall 2012 to support the new Master of Science in Health Information Technology. Full Professor #2 is serving as interim Associate Dean and teaching only one business communication course per year. Both of these new faculty members in health IT may also teach courses in the undergraduate program, but their anticipated teaching assignments would be balanced by other IT faculty who may teach one or more health IT graduate courses. (Note: Both of these health IT positions are included in the chart and calculations.)

Table 3 provides a 5-year projection for the number (headcount) and the full-time equivalent (FTE) of faculty, administrators, and staff used in the IIT program. The Program Chair is counted at .40 FTE for administration with the balance of time allocated to teaching and research in the Master of Health IT program (not counted here). Under faculty, 4 tenure track faculty are allocated full time to the IIT program. One faculty member is allocated at .6 FTE to IIT with the remainder of time allocated to service as part of the IT-oLogy (Consortium for Enterprise Systems Management). One faculty member is serving as Interim Associate Dean and teaching only 1 course a year (.2 FTE). The two new faculty in health IT are teaching one course a year in the undergraduate IIT program for .2 FTE each (total 5.2 Faculty FTE to IIT program).

The program is supported by two staff positions: an administrative coordinator devoting half time to IIT and half to MHIT (counted as .5 FTE here) and a Student Advisor/Internship Director with .55 FTE devoted to the IIT program (and the remainder to teaching accounting in the Retail Department).

Table 3. Unit Administration/Faculty/Staff Support

Year	**New**		**Existing**		**Total**	
	Headcount	**FTE**	**Headcount**	**FTE**	**Headcount**	**FTE**
Administration						
2012-13	0	0	1	.40	1	.40
2013-14	0	0	1	.40	1	.40
2014-15	0	0	1	.40	1	.40
2015-16	0	0	1	.40	1	.40
2016-17	0	0	1	.40	1	.40
Faculty						
2012-13	0	0	8	5.2	8	5.2
2013-14	0	0	8	5.2	8	5.2
2014-15	0	0	8	5.2	8	5.2
2015-16	0	0	8	5.2	8	5.2
2016-17	0	0	8	5.2	8	5.2
Staff						
2012-13			2	1.05	2	1.05

2013-14			2	1.05	2	1.05
2014-15			2	1.05	2	1.05
2015-16			2	1.05	2	1.05
2016-17			2	1.05	2	1.05

11. PHYSICAL PLANT

The Carolina Coliseum contains an adequate number of classrooms and computer labs (currently 3) to support the IIT program. In addition, the IIT program has implemented a new 30-computer computer lab in the IT-oLogy Tower at 1301 Gervais. Faculty offices were recently relocated to the 10th floor of the IT-oLogy Tower, and IIT is sharing the IT-oLogy conference room facilities on the 2nd floor. This move is creating new opportunities for collaboration with IT-oLogy and other technology firms for faculty and students.

Computer equipment is replaced on a systematic cycle consistent with University policies. Current versions of computer software for courses are maintained and software used for instruction is available to students through contractual agreement with the vendors. Faculty members have current office computers with appropriate software consistent with the technical courses that they teach.

12. EQUIPMENT

Current computer equipment and software in place for the IIT program are adequate to support the program. Computer labs and classrooms at IT-oLogy may also be used for instruction through the IIT collaboration with the Consortium for Enterprise Systems Management. Through the Consortium, IBM has provided a very high end mainframe Z-computer of the type used for large-scale transaction processing required by firms such as Blue Cross, Blue Shield, Colonial Life, SCANA, and other large firms. IBM's contribution valued at over $100 million is indicative of industry support for the information technology program.

13. LIBRARY RESOURCES

The University of South Carolina libraries have access to all major journals in information technology and computer science. Existing online resources include the Web of Science, the Association for Computing Machinery (ACM) Digital Library, Gartner, Academic Search Premier, and many others. These library resources are fully adequate for the program, but it will be desirable to continue adding new technology publications to keep current with the rapid growth of the field.

14. ACCREDITATION, APPROVAL, LICENSURE, OR CERTIFICATION

The IIT program is in the process of seeking accreditation from the ABET Computing Accreditation Commission. ABET is recognized in the United States by the Council for Higher Education Accreditation (CHEA) as the organization responsible for the accreditation of educational programs leading to degrees in computing, technology, applied science, and engineering. Graduation from an ABET accredited program is a prerequisite for many licensing

and certifying bodies and agencies. In addition, ABET is signatory to a number of mutual recognition agreements worldwide that provide recognition of graduates from ABET-accredited programs under certain conditions (www.abet.org).

ABET officially recognized Information Technology as a separate and distinct academic discipline within the computing disciplines and developed specific accreditation guidelines for information technology degree programs in 2008. "In light of the broadening scope of computing, the Joint Task Force for Computing Curricula 2005 (a cooperative project of the ACM, AIS, and IEEE-CS) was appointed to produce a curriculum volume describing five computing disciplines and their relationship to each other. This volume would pull together the curricular recommendations for Computer Engineering, Computer Science, Information Systems, Information Technology, and Software Engineering."[6] Currently there are only 18 accredited four-year information technology degrees in the nation, none in South Carolina.

The ABET accreditation review process is approximately two years. According to IIT's project plan and timeline, awarding of accreditation is anticipated in August 2014. Costs associated with accreditation are anticipated at approximately $20,000. These costs have been approved by the HRSM Dean and are budgeted for the 2012-13 and 2013-14 academic years.

The computer science programs at USC are already accredited by ABET, and the Computer Science Department has been serving as a consultant to Integrated Information Technology as we pursue adding the BS in Integrated Information Technology to USC's list of ABET accredited programs.

15. ARTICULATION

The Integrated Information Technology program accepts transfers from the two- and four-year programs at other South Carolina institutions as well as out-of-state. The IIT program actively recruits from the two-year institutions and participates with them through initiatives such as IT-oLogy and the Midlands Education and Business Alliance to promote the growth of IT talent in the state. The IIT program is a founding member and partner in the Consortium of Enterprise Systems Development, better known as IT-oLogy. IIT is also a founding member of the Palmetto Open Source Software Conference (POSSCON), which is held annually in Columbia, and has become the largest Open Source Software Conference on the East Coast. IIT actively participates in other initiatives to recruit students—especially women and minorities— into IT careers, such as the CWIC Carolina Women In Computing event, Joining Forces for Women Veterans, the Chamber Information Technology Council, Innoventure, and others.

In order to be admitted to a program of study in the College of Hospitality, Retail, and Sport Management, transfer applicants from outside of the USC system must meet all University admission requirements through the Office of Undergraduate Admissions and have at least a 2.25 GPA.

[6] Lunt, B. M., chair, et al. (2008) Information Technology 2008: Curriculum Guidelines for Undergraduate Degree Programs in Information Technology. Association for Computing Machinery (ACM) and IEEE Computer Society. P9 of 139.

Students from other USC campuses who wish to enter the College of Hospitality, Retail, and Sport Management must fulfill one of the following requirements:

1. Be in good standing, meet all University admission requirements through the Office of Undergraduate Admissions, and have the cumulative GPA of 2.25 or higher.
2. Be in good standing and have completed 30 semester hours with the cumulative GPA of 2.25 or higher.

Students enrolled in other colleges on the Columbia campus must have a minimum GPA of 2.25 on all work taken.

16. Actual Costs and Sources of Financing

Costs and sources of funding for the Integrated Information Technology program are summarized below. Since the new proposed IIT degree CIP Code 11.0103 will replace a long-established program, no new program costs are anticipated. Tuition revenue amounts were calculated based on existing University tuition rates and credit hour data from FY2011-2012. With FTE expected to increase 3% each year, the projected revenue would grow by nearly $100,000 each year. This figure does not take into account tuition increases.

Table 4 - Costs to the Institution and Sources of Financing

ESTIMATED COSTS BY YEAR						
CATEGORY	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**TOTALS**
Program Administration						
Faculty Salaries	1,171,519	1,171,519	1,171,519	1,171,519	1,171,519	5,857,595
Graduate Assistants	27,000	27,000	27,000	27,000	27,000	135,000
Clerical/Support Personnel	50,289	50,289	50,289	50,289	50,289	251,445
Supplies and Materials	4,120	4,120	4,120	4,120	4,120	20,600
Library Resources	1,000	1,000	1,000	1,000	1,000	5,000
Equipment	6,000	6,000	6,000	6,000	6,000	30,000
Facilities	60,000	60,000	60,000	60,000	60,000	300,000
Other (Identify) –	24,395	24,395	24,395	24,395	24,395	121,975

Marketing and Misc.						
TOTALS	1,344,323	1,344,323	1,344,323	1,344,323	1,344,323	6,721,615

SOURCES OF FINANCING BY YEAR						
Tuition Funding[1]	3,289,218	3,387,895	3,489,531	3,594,217	3,702,044	17,462,905
Program-Specific Fees						
State Funding						
Reallocation of Existing Funds						
Federal Funding						
Other Funding (Specify)						
TOTALS	3,289,218	3,387,895	3,489,531	3,594,217	3,702,044	17,462,905

[1]FTE projected to increase by 3% per year.