

# INFORMATION TECHNOLOGY & INFORMATICS



4 Huntington Street  
New Brunswick, NJ 08901-1071

(848) 932-7550  
iti@comminfo.rutgers.edu  
<http://comminfo.rutgers.edu/iti>

Undergraduate  
Student  
**Handbook**

## TABLE OF CONTENTS

Greetings	3
The Information Technology and Informatics (ITI) Major	4
The School of Communication and Information (SC&I)	5
Getting Help in ITI	6
Advising	6
ITI Major Listserv	7
Special Permission Numbers	7
Transferring Credits	8
Applying to the Major in ITI	9
ITI Major Requirements	10
ITI Major GPA	11
Scholastic Honors	11
Educational Opportunities beyond the Classroom	11
Senior Thesis	11
Internship	12
Independent Study	12
Study Abroad Opportunities	13
Student Organizations	17
ITI Major Specializations	18
Game Production and Innovation	18
Game Production and Innovation Requirements	19
Course Listing	20
University Academic Integrity Policy	26
Careers in ITI	28
Planning Your Career	29
Sample Resume	30
Resume Tips	31
Career Options	32
Department Faculty and Staff	33

<p style="text-align: center;"><b>BACHELOR OF ARTS IN INFORMATION TECHNOLOGY AND INFORMATICS (ITI)</b></p>
--

## **GREETINGS FROM THE DEPARTMENT**

*Welcome to the Information Technology & Informatics major!*

You are entering the program at a time of exciting change! As a student in this major, you have opportunities to develop your knowledge and skills to play a significant leadership role in a dramatically evolving information technology industry.

This handbook outlines regulations and procedures for the major. These change from time to time in accordance with university regulations and ongoing development and evaluation of the major. You are advised to regularly consult the SC&I website where updates and changes will be posted.

I wish you well as you progress with your studies, prepare for exciting careers, and for a lifetime of learning.

Sharon Stoerger, Ph.D.  
Director, Information Technology and Informatics Major

# **THE INFORMATION TECHNOLOGY AND INFORMATICS (ITI) MAJOR**

The ITI major, part of the Library and Information Sciences department, places emphasis on the evaluation, implementation, use, and management of information technologies for a wide range of organizations and corporations, as well as the social and organizational aspects of information and communication technologies. The major unites theories drawn from the humanities and social sciences with practical computer-based competencies. This combination prepares students to work in a diverse and highly competitive technological marketplace that demands individuals who understand the social, economic, and organizational impacts of technology locally, nationally and globally. Your study combines rigorous thinking, problem-solving, and technology skills in a program that is based on sound research and current technology applications.

## **ITI PROGRAM LEARNING GOALS**

Upon successful completion of the ITI program and through the body of work completed in the 39 credits in the program, students will be able to demonstrate:

- Understanding approaches for the evaluation, implementation, use, and management of information technologies for a wide range of organizations and corporations, as well as the social and organizational aspects of information and communication technologies. A focus is on the importance of logical thinking and the need for highly developed technical skills founded in understanding contexts, principles and processes of programming.
- Recognizing and applying the central concepts of management and organizational theory as they apply to the technological marketplace and organizational settings, and how information technology infrastructures and systems support corporate and organizational goals.
- Understanding people as the users of technology, and the social, cultural, philosophical, ethical, legal, public policy and economic issues relating to information technologies
- Proficiency in the analysis of problems and opportunities to which information technologies might be applied and the development of appropriate solutions including design and use of coding languages.
- Ability to apply information technology and management theories and concepts to social, professional and civic life.

These program-level learning objectives provide the essential foundation for the development of knowledge and skills in a variety of directions through the thoughtful choice of elective courses.

## **THE SCHOOL OF COMMUNICATION AND INFORMATION (SC&I)**

SC&I was created in 1982 with the merger of the Graduate School of Library and Information Studies and the School of Communication Studies. At the core of the SC&I mission is the dynamic interaction among the three related and focused disciplines: Communication, Journalism & Media Studies, and Library & Information Science.

Its faculty includes recognized experts in the study of communication and information processes, organizations and technologies and how they shape and define relationships among individuals and societies. At the same time, SC&I is firmly committed to meeting the teaching and service needs of the University and the State with the most effective human-based and technologically advanced capabilities.

The teaching staff includes full-time tenure-track faculty (Assistant, Associate and Full Professors), full-time non-tenure track faculty (Instructors), part-time-lecturers (PTLs) who teach one or two courses in their professional specialty, and teaching assistants (TAs) who are doctoral students.

SC&I offers three undergraduate majors – Communication; Information Technology and Informatics; and Journalism & Media Studies – that can lead to a Bachelor of Arts degree.

SC&I offers two programs of graduate study: Master of Communication and Information Studies and Master of Information (MI), while the Graduate School also offers a Ph.D. in Communication and Information Studies here at SC&I. The Master of Information (MI) degree offers a number of interdisciplinary pathways to prepare ITI graduates to influence today's dynamic global information landscapes. Concentrations associated with the MI program develop core knowledge, capabilities and values targeted to specific career directions and goals including: data science, technology, information and management, archives and preservation, informatics and design, and library and information science. The MI program is flexible, as it is offered on campus, online, or in a hybrid combination approach.

For creative, motivated and high-achieving Rutgers undergraduate ITI majors, SC&I also offers a dual degree program. The ITI – MI Dual Bachelor of Arts / Master of Information Degree program allows students to earn a bachelor's degree and an MI in five years of continuous study. In this competitive, experiential and rigorous learning environment, students will be immersed in projects that will prepare them to tackle today's challenges and develop technology-based solutions for authentic problems.

The School is committed to providing students with a strong base for fundamental and applied research in the field.

## GETTING HELP IN THE ITI MAJOR

The Department of Library and Information Science, home to the ITI major, strives to help students with their academic and professional pursuits. To that end, we provide a variety of advising options for our students. We ask that you read the following information prior to scheduling an appointment. This will help to ensure that your needs are met as quickly and appropriately as possible within Department policy.

*When you have a question, follow these steps:*

1. Check the ITI handbook for an answer (this document)
2. Check the SC&I website for an answer: <http://comminfo.rutgers.edu/iti>

**If you cannot find the answer to your question in these locations, do one of the following:**

1. Contact your instructor if your question relates directly to your learning progress in a particular course;
2. Send an email to [iti@comminfo.rutgers.edu](mailto:iti@comminfo.rutgers.edu) (*A good rule of thumb for email requests: If your question takes more than two sentences to explain, you probably need to meet in person with an advisor.*)
3. Call, email, or meet with one of the Departmental Undergraduate Advisors or the ITI Director.

## ADVISING

The Department provides a variety of student advising options, and strongly encourages all students to take advantage of these opportunities for a number of important reasons. First, planning your major is important as it helps you to create a sense of what you want to accomplish as an ITI major. Second, during advising sessions, you will learn about prerequisites, how to plan for future semesters, and you will get help in developing strategies to complete requirements on time. Third, there are many opportunities to participate in a variety of extra-curricular activities through the department, and the advisor can help direct you to the ones that suit you best.

Advising for the ITI major is available through the Office of Student Services. You may walk-in for advising, or make an appointment by phone or email. We seek to help you plan ahead in order to avoid last minute problems!

### *Location*

Office of Student Services (CI – 214)  
School of Communication and Information  
Rutgers University  
4 Huntington Street  
New Brunswick NJ 08901-1071

### *Phone Number*

(848) 932-7550

### *Email Address*

[iti@comminfo.rutgers.edu](mailto:iti@comminfo.rutgers.edu)

### *Departmental Undergraduate Advisors*

Ms. Tieka Harris  
(848) 932-8737  
[tieka.harris@rutgers.edu](mailto:tieka.harris@rutgers.edu)

Ms. Stephanie Jones  
(848) 932-8743  
[stephanie.jones@rutgers.edu](mailto:stephanie.jones@rutgers.edu)

*The Office of Student Services does not advise students on core curriculum or general University requirements. Such advising must be obtained through one of the University Academic Advising Centers. SAS Advising Centers are located on each of the four campuses: Milledoler Hall on College Ave, Busch Campus Center, Douglass College Hall and Lucy Stone Hall on Livingston Campus. SEBS, MGS, and RBS students should consult their appropriate academic deans or advisors.*

## THE ITI MAJOR LISTSERV

New ITI majors and all current majors are automatically subscribed to the department listserv – [nb\\_iti\\_majors@rams.rutgers.edu](mailto:nb_iti_majors@rams.rutgers.edu)

Majors cannot unsubscribe. The email address we use is the one you have established with Rutgers University, listed on the PeopleFind directory, at [www.acs.rutgers.edu/directory](http://www.acs.rutgers.edu/directory). If you want to change it, simply go to the bottom of that page and change your directory information.

All postings are automatically scanned for viruses, and any questionable attachments are removed to further protect against viruses. The purpose of the listserv is to provide information to ITI majors about Course Offerings, Registration, Special Events, Internships, Jobs and Discussion with Peers.

Also note, students are responsible for checking their Rutgers e-mail for important announcements regarding the ITI major. All communication will be via the student's official University account. Please do not base your planning and decisions on gossip and hearsay. Always check with the ITI Director or Student Services if in doubt.

## SPECIAL PERMISSION NUMBERS

ITI courses are extremely popular and often fill up within the first few days of pre-registration. For this reason, the Department has established a set of guidelines to help you navigate the special permission process.

Special permission numbers for closed courses are not available from your instructors. The SC&I Office of Student Services maintains the special permission numbers for undergraduate courses and will (1) verify students' eligibility for enrollment in specific courses, and (2) verify students' extenuating circumstances before assigning any special permission numbers.

Students who want to enroll in a course that is closed should continue to check the on-line registration system, up to and including the add/drop period. If there is a unique or extenuating circumstance, the student should discuss it with the Student Services staff who will consult with the faculty when appropriate or necessary. It is important to remember that you might not always gain admission to your first choice courses. Always have alternative courses in mind.

**Note that special permission numbers do not replace prerequisites, and do not serve as prerequisite overrides.**

## TRANSFERRING CREDITS

No more than six (6) transfer credits (2 courses) from other units of Rutgers University, or other universities or colleges, will be accepted toward the major with the exception of students participating in Rutgers-approved study abroad programs. For students participating in such programs a maximum of twelve (12) transfer credits (4 courses) will be accepted toward the major, subject to the review and approval of the program director.

Courses are evaluated in terms of their very close match of content and skills to the ITI course, the level of the course, and the grade achieved (this must be a C or higher). Students will be notified in writing of the outcome of the petition.

Students wishing to transfer credits into the ITI major from other colleges or universities should follow these procedures. Paying close attention to these details will make the process easier. **You must bring all of these materials in order to have your transfer credit request considered.**

1. Gather the following:
  - a) Your transcript from the college/university whose course you wish to transfer (this may be an unofficial transcript), which indicates you earned a C or better in the course.
  - b) The syllabus of the course from your other college or university, including assessment requirements and reading lists.
  - c) Any paperwork that your degree-granting school (i.e. SAS) may want us to fill out for transfer credits with your contact information, including phone numbers and email addresses.
2. Bring all these documents to SC&I Room 214 (Undergraduate Student Services).
3. See one of the Undergraduate Student Services Advisors (SC&I 214) or the Undergraduate ITI Program Director (SC&I 331).
4. If you are transferring a course from a New Jersey community college, use the New Jersey Transfer system at [njtransfer.org](http://njtransfer.org) to determine if the course will transfer into Rutgers. Otherwise, we will evaluate the course, based on the course syllabus or description, and determine which ITI course at Rutgers is equivalent, if any.
5. You will be responsible for returning the completed paperwork to the appropriate office to ensure your transfer credits are indicated on your Rutgers transcript. We encourage you to check your transcript later in the semester to verify these credits were transferred. The Department of Undergraduate Student Services does not actually change codes on the transcript. We only authorize the transfer of credits.
6. For Study Abroad, students are responsible for obtaining an approval from the School of Arts and Sciences and/or the School of Environmental and Biological Sciences, **PRIOR TO** registering for Study Abroad courses. Prior approval is also required from SC&I. Immediately after returning from a Study Abroad Program, students are responsible for submitting a copy of their transcript for the courses taken abroad. The department will then authorize credit transfer, based on successful completion of the course.



# APPLYING TO THE MAJOR IN INFORMATION TECHNOLOGY AND INFORMATICS

## Preconditions for Submitting an Application to the ITI Major

To apply for admission to the ITI major, you must:

- 1) Have completed Expository Writing or a University-approved equivalent course with a grade of C or better;
- 2) Have completed at least 15 credits at Rutgers, or at least 15 transfer credits to Rutgers, with at least a 2.0 Grade Point Average; and
- 3) Have completed with a grade of C or better, the prerequisite survey course for the ITI major, which is

**04:189:103 – Information Technology and Informatics**

**No grade below C will be accepted toward courses in the major, effective Fall 2007. Major courses in which a grade below C is earned should be retaken, with the exception of elective courses, in which case, an approved alternate course may be taken.**

## Submitting an Application to the Major

SC&I will accept applications to the 39-credit ITI major during the fall, spring, and summer semesters. Application submission deadlines are published on the SC&I website, and allow for decisions to be announced in time for students to pre-register for the following semester. The SC&I website is located at <http://comminfo.rutgers.edu> and includes details about our majors, our courses, and our school.

In each course, SC&I integrates the design of content and technology so that the use of digital communication, collaborative work applications, and, in some cases, multimedia tools are built in to the regular work of each class. These courses are listed at the end of this handbook. From time to time, additional elective courses will be made available as 3 credit Special Topics courses.

## Degree Requirements for the ITI Major

### ***Interdisciplinary Requirement (3 credits)***

One (1) of the following courses must be taken as soon as possible after admittance to the ITI major, and prior to the senior year:

<u>Courses</u>	<u>Credits</u>	<u>Prerequisites</u>
04:189:101 Introduction to Communication & Information Processes	3	<i>None.</i> <i>Not open to seniors.</i>
<b>or</b> 04:189:102 Introduction to Media	3	

### ***Core Requirements (12 credits)***

You must complete 12 credits of core courses in the ITI major.

<u>Courses</u>	<u>Credits</u>	<u>Prerequisites</u>
04:547:200 Social Informatics	3	<i>None.</i>
04:547:201 Introduction to Computer Concepts	3	<i>ITI majors only</i>
04:547:202 Object-oriented Programming	3	<i>04:547:201; ITI majors only</i>
04:547:210 Management of Technological Organizations	3	<i>ITI majors only</i>

### ***Elective Requirements (21 credits)***

Each student must complete 21 credits (seven 3-credit courses) of electives within the ITI major. Credits earned in 04:547:450 – ITI Internship, 460 – Independent Study, and 465 – Senior Thesis can apply here.

## ITI MAJOR REQUIREMENTS

The ITI major is 39 credits. There are 18 credits of requirements, and 21 credits of electives, giving students the opportunity to focus on an area of concentration. A GPA of 2.0 in ITI is required for completion of the ITI major.

You may use this sheet to document the completion of your ITI courses as you proceed through the major.

---



---

### REQUIRED COURSES (18 credits)

---

Course Number	Course Title	Semester Taken	Grade	Prerequisites
04:189:103	<i>Information Technology &amp; Informatics</i>			<i>None</i>
<b>STUDENTS MAY APPLY TO THE MAJOR UPON COMPLETION OF 04:189:103 WITH A GRADE OF C OR BETTER, PROVIDED THE OTHER PRECONDITIONS ARE ALSO MET.</b>				
04:189:101	<i>Introduction to Communication &amp; Information Processes</i>			<i>None. Not open to seniors.</i>
<b>or</b> 04:189:102	<i>Introduction to Media</i>			
04:547:200	<i>Social Informatics</i>			<i>None.</i>
04:547:201	<i>Introduction to Computer Concepts</i>			<i>ITI majors only</i>
04:547:202	<i>Object-oriented Programming</i>			<i>04:547:201; ITI majors only</i>
04:547:210	<i>Management of Technological Organizations</i>			<i>ITI majors only</i>

### ITI ELECTIVES (21 credits)

04:547:___				
04:547:___				
04:547:___				
04:547:___				
04:547:___				
04:547:___				
04:547:___				

---

Notes:

## **ITI MAJOR GRADE POINT AVERAGE (GPA)**

To graduate as an ITI major, students must have a minimum GPA of 2.0 in ITI courses, including the pre-requisite course; and every class in the major must be a C or higher for it to count towards the major.

The student audit system, also referred to as Degree Navigator (DN) at <http://nbdn.rutgers.edu> provides students with their overall GPA and their major GPA.

## **SCHOLASTIC HONORS IN SC&I**

To receive Scholastic Honors designation for graduation, graduating students must:

- have achieved a 3.65 GPA or above in the ITI major AND
- have achieved at least a 3.25 GPA overall in their undergraduate studies.

These honors are not dependent upon participation in any official Honors Program.

## **EDUCATIONAL OPPORTUNITIES BEYOND THE CLASSROOM**

### **ITI Senior Thesis Program**

**04:547:465**

The Information Technology and Informatics (ITI) program offers an honors program to undergraduates who excel in the major. Students would conduct original research under the supervision of a faculty advisor and an honors thesis committee. In order to enter the program, the specified eligibility requirements must be met; and upon declaration, the program requirements fulfilled. Eligibility requirements include a 3.4 grade point average in the ITI major, 3.2 grade point average overall, completion of 45 credits of university-level work by the end of semester in which declaration is made, agreement from a faculty advisor, and completed ITI honors declaration. Program requirements require the successful completion of Application of Research in Information Technology (04:547:300) usually taken in the fall semester, successful completion of the Honors Thesis course (04:547:465) usually taken in the spring semester, passing an oral defense of the thesis, and presenting the final project at the SC&I session of the Rutgers Undergraduate Research week. Full program admission and completion requirements can be found on the ITI website.

## **Internship in ITI**

### **04:547:450**

The ITI major offers an Internship option. Students are not permitted to take more than a combined total of 6 independent study/internship credits. To be eligible for an internship and/or independent study, students must have 24 credits in ITI major courses by the end of the semester when applying for either course.

An internship is approximately 150 hours of ITI work in an organization over a 15-week period that represents a significant learning opportunity in the major. Through discussion with key personnel in the work organization and SC&I, students are required to identify workplace learning objectives, and to establish how these learning objectives are going to be met and demonstrated through a range of workplace activities. Both the workplace supervisor and academic supervisor at SC&I evaluate the student's work. An internship generally takes place as students are completing the major, providing them with an opportunity to apply knowledge and skills in the workplace. Before an internship can be formally approved, students are required to develop a full proposal, which outlines its nature, objectives and outcomes. The proposal represents the formal agreement between the student, place of employment and SC&I, and is placed in the student's file at SC&I. When this proposal is reviewed and approved, students are assigned a special permission number to proceed with the enrollment and to commence the internship. In order to allow sufficient time for review and assessment, the deadline for submission of approved applications (approved by workplace supervisor, academic advisor and ITI Director) is typically one week before the formal closing of the following semester's registration. Details are available at: <http://comminfo.rutgers.edu/programs/iti/internship.jsp> and these need to be followed explicitly.

## **Independent Study in ITI**

### **04:547:460**

An independent study is an individually negotiated learning program of approximately 150 hours (3 credits). It provides a framework, which allows students to design, negotiate and manage a tailor-made program of study based on existing experience and knowledge and on longer term intentions and needs. Typically, students work with SC&I faculty on research projects in order to receive independent study credit. Students are required to identify learning objectives, and to work through how these learning objectives are going to be met and demonstrated to the academic supervisor in SC&I. Students are expected to have completed substantial course work in the ITI major before commencing an independent study. In order for it to be formally approved, students are required to develop a full proposal. When this proposal is reviewed and approved, students will be assigned a special permission number to proceed with the enrollment and to commence the independent study. Details on preparing an Independent Study proposal are available on the SC&I website at: <http://comminfo.rutgers.edu/information-technology-and-informatics-major/independent-study.html> and these need to be explicitly followed.

**NOTE:** Both the internship and independent study options require students to communicate regularly with their academic advisors. Students may not do both an Internship and Independent Study in the same semester.

## STUDY ABROAD OPPORTUNITIES

Programs listed here are part of Rutgers Study Abroad/Center for Global Education-approved academic experiences in countries outside of the United States in approved universities. The benefit of studying abroad at one of the Rutgers “approved” programs is that the Center for Global Education will provide orientation, assistance and support before students travel, and will make sure credits for the courses taken abroad are transferred to the RU Registrar’s system. All information about health and travel insurance, advising about enrolling and accommodations at the foreign university will be provided by the Center as well. Students should also confer with the undergraduate director for the major or a SC&I academic advisor to ensure that the courses taken will meet major requirements.

Students should plan ahead by determining the academic program at least one semester before planned study abroad. For example, if a student wishes to study abroad in the spring semester, plans should be made early in the previous fall semester at the latest. Check the RU Study Abroad website at <http://globaleducation.rutgers.edu/> to learn about deadlines and requirements for applications. Summer is also a good time to explore possibilities for the major and universities that offer courses in the major discipline.

The programs listed below have been reviewed and recommended by department faculty. All programs offer courses in English and accept international students. After visiting the linked websites, be sure to also see the RU Center for Global Education website at <http://globaleducation.rutgers.edu/> for more information and their advising hours as well as the undergraduate director for the SC&I major or a SC&I academic advisor.

- **Cardiff University** (Cardiff, Wales, United Kingdom) is one of the UK’s most popular universities and is an internationally recognized center for teaching and research. It is ranked 15 in the UK and top 1.5% in the world and a member of the elite Russell Group top 20 UK research-led universities. It was founded in 1883 and is based in the very center of Cardiff, the capital of Wales, only two hours from London by train.

- RU Study Abroad program information:  
[http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10082](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10082)
- Study Abroad program at Cardiff University:  
<http://www.cardiff.ac.uk/for/prospective/international/study-abroad.html>

Relevant courses are offered by the Cardiff School of Computer Science & Informatics. They have a variety of courses in human computer interaction, informatics, knowledge management, database systems, web applications, and so on.

- Computer Sciences course module catalog:  
<http://www.cardiff.ac.uk/study/international/study-abroad/choosing-your-programme/modules/computer-sciences>
- Cardiff School of Computer Science & Informatics: <http://www.cs.cf.ac.uk/>

- **City University** (London, England, United Kingdom) is a leading international University and the only university in London to be both committed to academic excellence and focused on business and the professions, from Journalism and Engineering to Finance and Management. It is located in the heart of London, close to the British Library and the West End, and minutes away from the Square Mile – London’s world-famous financial district – and the headquarters of financial and professional institutions, major arts complexes and media offices.

- RU Study Abroad program information:  
[http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10015](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10015)

- Study Abroad Programme at City University London:  
<http://www.city.ac.uk/international/exchange-and-study-abroad/study-abroad-programme>

They offer relevant courses in human computer interaction, games, databases, IT security, and data visualization. Check the link below.

- Computing courses: <http://www.city.ac.uk/international/exchange-and-study-abroad/study-abroad-programme/computing>

- **Graz University of Technology** (Graz, Austria) (TU Graz) was founded in 1811 and is a large public university with two campuses in the center of Graz and one on the outskirts of the city. It pursues top teaching and research, both knowledge-oriented and applied, in the fields of the engineering sciences and the technical-natural sciences. Graz is the second largest city in Austria, and with six universities in the city, has the largest student population in the country.

- RU Study Abroad program information:  
[http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10259](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10259)
- Incoming Exchange Students, International Relations and Mobility Programmes at the Graz University of Technology:  
[http://portal.tugraz.at/portal/page/portal/Internationale\\_Beziehungen/IncomingExchangeStudents](http://portal.tugraz.at/portal/page/portal/Internationale_Beziehungen/IncomingExchangeStudents)

Relevant courses are offered by the Faculty of Computer Science. It is a primarily Computer Science program, but also offer some relevant courses such as human computer interaction, information visualization, social media, information architecture, and IT security.

- List of courses in English: <https://www.tugraz.at/en/fakultaeten-und-institute/overview-faculties-and-institutes/#c72216>

- **Macquarie University** (Sydney, Australia), founded in 1964, occupies a park-like campus 10 miles north-west of Sydney, and is Australia's fourth-largest university. Located within Sydney's hi-tech corridor, its campus is in one of the largest business and technology precincts in the southern hemisphere, creating a hub of innovation and excellence. Macquarie is renowned for its interdisciplinary research and teaching, highly skilled graduates and first-class facilities.

- RU Study Abroad program information:  
[http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10001](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10001)
- Study Abroad and Exchange at Macquarie University:  
[http://mq.edu.au/pubstatic/study/international/courses\\_and\\_study\\_options/study\\_abroad\\_and\\_exchange\\_programs/](http://mq.edu.au/pubstatic/study/international/courses_and_study_options/study_abroad_and_exchange_programs/)

They offer courses in object-oriented programming, web technology, and e-commerce. In addition, students interested in games will find a good fit here because they offer courses in video game design for their Bachelor of Information Technology - Games Design and Development degree.

- Course list for Information Technology undergraduate unit:  
<http://www.handbook.mq.edu.au/2014/Units/UGByDesignation/Information+Technology>
- Course list for Bachelor of Information Technology - Games Design and Development degree:  
<http://www.handbook.mq.edu.au/2014/DegreesDiplomas/Degree/Bachelor+of+Information+Technology+-+Games+Design+and+Development>
- Course list for Web Design and Development major area:  
<http://www.handbook.mq.edu.au/2014/Majors/UGMajor/Web+Design+and+Development>

- **University College Cork** (Cork, Ireland) was established in 1845 as one of three Queen's Colleges. It is one of Ireland's leading research institutions, and has also scored high marks in surveys of international students for its sports and social facilities. Cork, Ireland's second largest city, is a cosmopolitan modern city and have been designated 'European Capital of Culture 2005,' reflecting the strong tradition of music, art and theatre in the city.
  - RU Study Abroad program information: [http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10032](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10032)
  - Visiting US and Non-EU Students, International Education at University College Cork (UCC): <http://www.ucc.ie/en/international/studyatucc/visitingusandnoneustudents/>

Relevant courses include digital content management, database design & administration, web development, information systems security & e-commerce, information retrieval, and web security.

- Course list (Select "Computer Science Modules" in the list): <http://www.ucc.ie/admin/registrar/visiting/>

- **University College Dublin** (Dublin, Ireland) was established in 1854, and among its more famous alumni is the writer James Joyce. It is ranked in the top 1% of the world's universities. It is also Ireland's most popular university for international students with more than 5,000 international students enrolled. The city of Dublin, on Ireland's east coast, dates back to the time of the Vikings and beyond, and for much of the last thousand years, it has been Ireland's cultural and political capital.
  - RU Study Abroad program information: [http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10033](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10033)
  - Study Abroad Programmes, UCD International: <http://www.ucd.ie/international/study-at-ucd-us/what-can-i-study/visiting-students/study-abroad/study-abroad-programmes/>

UCD School of Information & Library Studies is a member of the iSchool consortium, just like SC&I. They have an undergraduate major in Information and Social Computing, one that is very similar to our own ITI program.

- BA in Information & Social Computing major information (click the "detailed information on subject content" link at the bottom of the "What will I study?" section for a detailed course list): <https://myucd.ucd.ie/course.do?courseID=122>
- UCD School of Information and Library Studies (UCD iSCHOOL): <http://www.ucd.ie/sils/>

- **University of Queensland** (Brisbane, Australia), founded in 1909, is one of Australia's premier learning and research institutions and ranks among the top 100 universities in the world. The main St Lucia campus is located five miles south-west of downtown Brisbane, in a bend of the Brisbane River. UQ offers a wide range of world-class study options for Study Abroad and Exchange students.
  - RU Study Abroad program information: [http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10010](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10010)
  - Study Abroad and Incoming Exchange at The University of Queensland, Australia: <http://www.uq.edu.au/studyabroad/>

There are several relevant courses such as web design, human computer interaction, information security, computer networks, and social & mobile computing.

- Information Technology course list:  
[http://www.uq.edu.au/study/program\\_list.html?acad\\_prog=2230](http://www.uq.edu.au/study/program_list.html?acad_prog=2230)
  
- **University of Sussex** (Brighton, England, United Kingdom), founded in 1961, the University of Sussex is located on a campus four miles outside Brighton and adjacent to the rolling Sussex Downs. The University of Sussex is a well-regarded research university and offer one of the largest study abroad programs in the UK. Sussex is a vibrant, seaside city, and is just one hour from London, making it a great gateway to continental Europe.
  - RU Study Abroad program information:  
[http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program\\_ID=10019](http://globaleducation.rutgers.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10019)
  - Study Abroad Guide for international students, International and Study Abroad at the University of Sussex: <http://www.sussex.ac.uk/study/sabroad/guide>

Among the several undergraduate programs in the Department of Informatics, School of Engineering and Informatics, Computing for Business and Management and Games and Multimedia Environments (GAME) would interest ITI students.

  - List of Undergraduate study at the Department of Informatics (Click each major, select “Course content” and then “Modules” to find course list):  
<http://www.sussex.ac.uk/informatics/ugstudy>



## **ITI STUDENT ORGANIZATIONS**

### **Information Technology and Informatics Council**

The student association supporting the ITI major is the Information Technology and Informatics Council. The purpose of this organization is to establish an active student organization in order to:

- Promote the awareness of the ITI program at SC&I;
- Become the voice of the students within the ITI program and with faculty;
- Work with and support other technology and non-technology based organizations within Rutgers University;
- Provide members with learning and work opportunities.

You are strongly encouraged to join this association and volunteer for a leadership position. It has already developed a strong professional program, and won the Rutgers University award for the Best New Student Association in 2002-2003.

### **Gamma Nu Eta**

Gamma Nu Eta is an honor society that recognizes academic excellence, community service activities, and leadership in the field of Information Technology. Applicants must be students who have been admitted to the Information Technology and Informatics (ITI) program as their major. Members should have at least an overall GPA of 3.5, GPA of 3.65 in the ITI major, and have completed a minimum of 18 credits in the ITI program. Student who qualify are invited to join the organization. This typically occurs in September and January. More information about GNH can be found at: <http://gammanueta.org/>

If you have any questions, comments, or concerns, please contact Dr. Stoerger – [sharon.stoerger@rutgers.edu](mailto:sharon.stoerger@rutgers.edu)

### **Women in Technology and Informatics (WITI)**

The Women in Technology and Informatics (WITI) organization is open to any student at Rutgers who is interested in the field of information technology and is supportive of women in this field. This group strives to empower women in the professional sector of technology while educating its members on the subject of gender and information technology. WITI informs women about opportunities and encourages them to reach their highest potential. It also further imposes women to take advantage of countless opportunities in the technical sector. WITI's goals are to:

- 1) Provide connections, resources, and opportunities to students in the field of technology
- 2) Educate students on the topic of women in technology through events, discussions
- 3) Identify and attempt to eliminate the misconceptions of women in the technology sector
- 4) To highlight and encourage contributions of women in the technical field
- 5) Provide professional growth through networking, programs and professional speakers

## ITI MAJOR SPECIALIZATIONS

### GAME PRODUCTION AND INNOVATION SPECIALIZATION FOR ITI MAJORS

Are you passionate about games? Would you like to work as a producer in the video game industry? The Game Production and Innovation Specialization and Certificate Program is designed for people just like you!

The Game Production and Innovation specialization is **designed for ITI majors** who have an interest in gaming and game studies either in addition to or instead of a focus on the coding and development processes in the industry. The specialization is intended to provide a basic understanding of game informatics and design, that is, understanding the social dimensions of the various users (e.g., designers, builders, players, managers, and so on); the technical dimensions with a focus on design; and the organizational and contextual dimensions.

The objective is to provide students with the capability to plan and design video games to address organizational and societal issues, including recreational gaming. Specific careers in gaming would include game production, game design, writing or screen writing, animation and management.

Six courses are required for the Game Production and Innovation specialization (18 credits). See the details on page 19 of this handbook.

## GAME PRODUCTION AND INNOVATION SPECIALIZATION REQUIREMENTS FOR ITI MAJORS

The ITI major is 39 credits. There are 18 credits of requirements, and 21 credits of electives, 18 of which will be for the specialization. A GPA of 2.0 in ITI is required for completion of the major and only courses completed with grades of C or better count toward completion of the ITI major.

You may use this sheet to document the completion of your required ITI courses, and those for the Game Production and Innovation Specialization as you proceed through the major.

### REQUIRED COURSES

Course Number	Course Title	Semester Taken	Grade	Prerequisites
04:189:103	<i>Information Technology &amp; Informatics</i>			None

**STUDENTS MAY APPLY TO THE MAJOR UPON COMPLETION OF 04:189:103 WITH A GRADE OF C OR BETTER,  
PROVIDED THE OTHER PRECONDITIONS ARE ALSO MET.**

04:189:101 <b>or</b> 04:189:102	<i>Introduction to Communication &amp; Information Processes</i> <i>Introduction to Media</i>			None. Not open to seniors.
04:547:200	<i>Social Informatics</i>			None.
04:547:201	<i>Introduction to Computer Concepts</i>			ITI majors only
04:547:202	<i>Object-oriented Programming</i>			04:547:201; ITI majors only
04:547:210	<i>Management of Technological Organizations</i>			ITI majors only

#### **Required Electives**

04:547:215	<i>Social Impacts of Video Gaming</i>			None
04:547:315	<i>Game Design Methodology</i>			04:547:201 or instructor permission
04:547:415	<i>Digital Game Creation (Game Design)</i>			04:547:201

#### **Additional Electives (select 4)**

04:547:230	<i>Human-computer Interaction</i>			04:547:202 or 01:198:113 or 01:198:211
04:547:320	<i>Web Design</i>			04:547:201 or 01:198:113 or 01:198:211 or instructor permission
04:547:321	<i>Information Visualization</i>			04:547:201 or 01:198:111 or 01:198:170 or 14:440:127
04:547:332	<i>Advanced Web Design</i>			04:547:320 or instructor permission
04:547:420	<i>Economics of Information Technologies</i>			04:547:210
04:547:47x	<i>Game Capstone (coming soon)</i>			None
04:547:47x	<i>Game Production</i>			None
04:547:___	_____			See prerequisites per course.

**NOTE:** Internships and other courses can be taken to fulfill the optional course requirements for the specialization subject to review and pre-approval of the ITI Program Director, Dr. Sharon Stoerger (sharon.stoerger@rutgers.edu).



## COURSE LISTING

Not all classes are offered in every term. Some courses may be available during the summer, depending on availability of instructors. Please make sure you plan your semester schedule according to the courses offered during that time. Consult the Rutgers University Online Schedule of Courses (webreg) for additional information. *Please make note of the prerequisites associated with each course.* See the advisors in the Student Services Office, SC&I Room 214, if you have any questions or need assistance.

### Communication and Information Courses

04:189: \_ \_ \_

#### **04:189:101 Introduction to Communication and Information Processes (3 credits)**

*Prerequisites: None.*

Survey of the field of communication: interpersonal, group, organizational, speech, mass, intercultural, and international communication; public relations and advertising.

#### **04:189:102 Introduction to Media (3 credits)**

*Prerequisites: None.*

Historical development of mass media institutions and the role of media in society. Particular attention to news, government regulation, effects, economics, emerging technologies, and audience dynamics.

#### **04:189:103 Information Technology and Informatics (3 credits)**

*Prerequisites: None.*

Theoretical foundations of informatics, human-computer interaction, management of information, the relationship between technology, race and gender, and information intelligence.

### INFORMATION TECHNOLOGY AND INFORMATICS COURSES

04:547: \_ \_ \_

#### **04:547:111 THE INTERNET AND THE INFORMATION ENVIRONMENT: A QUANTITATIVE APPROACH (3 credits)**

*Prerequisites: None*

This course is a quantitative and mathematically rigorous introduction to concepts that underlie the Internet and Web search engines. A challenging problem will introduce each topic, and the exposition of principles and relevant theorems will be followed by an application to the Internet and at least one other application in the Social Sciences (e.g. social networks) or the Humanities (e.g. author identification).

#### **04:547:200 SOCIAL INFORMATICS (3 credits)**

*Prerequisites: None*

This course provides a survey of the key social issues related to information technology development, decision-making and use. Its focus is on the critical analysis of social, cultural, philosophical, ethical, legal, public policy and economic issues relating to information technologies, and how these interactions shape workplace decisions and technology use.

#### **04:547:201 INTRODUCTION TO COMPUTER CONCEPTS (3 credits)**

*Prerequisites: None, ITI Majors only*

As the introductory course to the technological concentration/area in the ITI program, Introduction to Computer Concepts explains the basic principles of computer systems and applications. It covers the basic mathematical-theoretical principles that govern the functioning of computers, the architecture and organization of computer systems, the role of hardware and software, and the role of creative thinking and problem solving in building software applications.

**04:547:202 OBJECT-ORIENTED PROGRAMMING (3 credits)**

*Prerequisites: 547:201 or alternatives listed in Online Schedule of Classes, ITI Majors only*

This course introduces students to the principles of object-oriented analysis, design and programming. The focus is on developing creative thinking for analyzing a problem domain and designing a solution, and on using the Java programming language (or other appropriate programming language) to implement it.

**04:547:210 MANAGEMENT OF TECHNOLOGICAL ORGANIZATIONS (3 credits)**

*Prerequisites: None, ITI Majors only*

This course presents the fundamental concepts of management and organizational theory applied to the technological marketplace and organizational settings. It focuses on project management with emphasis on decision support systems and management information systems in corporate environments. The course considers information as an organizational resource and students will explore how information systems support corporate and organizational goals.

**04:547:215 SOCIAL IMPACTS OF VIDEO GAMES (3 credits)**

*Prerequisites: None*

This course examines video games from a cultural and social perspective. Rather than focusing on game design, it will explore the ways culture, socialization, and values are a part of gaming. Using a variety of theoretical and methodological approaches, a range of topics will be discussed in an attempt to understand not only the internal workings and social dynamics of computer games, but their place in the broader culture. Topics include: community management and maintenance in games; social processes and interaction; games as communication spaces and virtual worlds; intellectual property and commodification in games, players as producers of game content, political/ideological analysis of games; gender and race in gaming; design and values.

**04:547:220 RETRIEVING AND EVALUATING ELECTRONIC INFORMATION (3 credits)**

*Prerequisites: None*

In this course, students examine and analyze the information retrieval process in order to more effectively conduct electronic searches, assess search results, and use information for informed decision making. Major topics include search engine technology, human information behavior, evaluation of information quality, and economic and cultural factors that affect the availability and reliability of electronic information.

**04:547:230 HUMAN-COMPUTER INTERACTION (3 credits)**

*Prerequisites: 547:202 or alternatives listed in Online Schedule of Classes, ITI Majors only*

This course studies how best to design the interface between human users and computer systems. Emphasis is placed on learning how to involve the user at different stages in the design process to improve the interface in a cost effective way. In particular, experience with iterative user-centered design, rapid prototyping and usability testing methods are developed. Students evaluate several computer interfaces as well as iteratively design and evaluate an interface prototype.

**04:547:240 DIGITAL HARDWARE BASICS (3 credits)**

*Prerequisites: None, ITI Majors only*

This course provides students the opportunity to develop the basic computer skills needed to manage an information technology operation in the business world. The class includes a broad coverage of technology concepts and trends underlying current and future developments in IT operations. We start by introducing the workplace environment of your staff, then moving to the background of the computer and its hardware devices components. The students will end with a broad base of knowledge and competency in hardware operations management including installation, configuration, diagnosing, preventative maintenance, and basic networking.

**04:547:300 APPLICATION OF RESEARCH IN INFORMATION TECHNOLOGY (3 credits)**

*Prerequisites: 547:220, ITI Majors only*

This course provides an introduction to systematic inquiry in information technology and informatics using quantitative and qualitative approaches with an emphasis on individual and organizational users of information working in electronic environments. It includes the analysis, synthesis, evaluation, and reporting of applied and theoretical research in the information technology field. Computer laboratory sessions are used to facilitate

statistical, textual, and graphical analyses of data. Methodologies of research in information technology are critically evaluated.

**04:547:315 GAME DESIGN METHODOLOGY (3 credits)**

*Prerequisites: 547:201 or alternatives listed in Online Schedule of Classes or permission of the instructor*

This course examines the theory, practice, and methodology of the modern game designer. Content will cover everything from simple board game mechanics to the inner workings of massively multiplayer experiences. From developing ideas for new product concepts, to writing strong game design documentation, to fine-tuning gameplay mechanics, this course provides a survey of the best practices, key challenges, and unique opportunities for game designers.

**04:547:320 WEB DESIGN (3 credits)**

*Prerequisites: 547:201 or alternatives listed in Online Schedule of Classes, ITI Majors only*

This course focuses on the role that web pages play in an organization's public profile, and on establishing linkages between specific content and organizational and client needs in a web-based environment. It addresses principles and skills of web design using current W3C standards, website access, usability and evaluation. It also addresses developing website content tailored to specific audiences.

**04:547:321 INFORMATION VISUALIZATION (3 credits)**

*Prerequisites: 547:201, ITI Majors only*

In this course, students learn how to effectively present complex information using the Web, multimedia or information visualization techniques. The course develops an understanding of how best to leverage human perceptual capabilities to communicate information or gain insights into large and abstract data.

**04:547:330 DATABASE TECHNOLOGIES (3 credits)**

*Prerequisites: 547:202 or alternatives listed in Online Schedule of Classes, ITI Majors only*

This course introduces students to basic database design principles and applications, and the use of database technologies for the organization and management of large information systems. It focuses on development of data structures, data base design principles, relational structures, database testing and use, query language, as well as translating organizational needs into data base applications.

**04:547:331 NETWORKING AND INTERNET TECHNOLOGY (3 credits)**

*Prerequisites: 547:201 or alternatives listed in Online Schedule of Classes, ITI Majors only*

This course provides an introduction to computer network and Internet technologies. It emphasizes the distinction between various logical concepts and entities such as networks, the Internet at large, and the World Wide Web. Universal protocols and services such as SMTP, HTTP, DNS, and SNMP are explored. In addition, students will learn to deconstruct and identify components of common technologies. The context of these technologies within society and business is also introduced.

**04:547:332 ADVANCED WEB DESIGN TECHNOLOGIES (3 credits)**

*Prerequisites: 547:320 or permission of the instructor, ITI Majors only*

With the advent of the Extensible Markup language, web developers have the opportunity to build richer, more fully interactive sites by tapping into the power of a series of flexible and robust technologies that permit more effective sharing of information between organizations. Students will be starting with the fundamentals of XML and moving on into discussions and implementations of XHTML, Schema, DTDs, RSS, Web Services, AJAX and other XML-based frameworks for Web development. Particular attention will be paid to the issues surrounding open source development efforts and the business case for various technologies and their alternatives.

**04:547:340 GENDER AND TECHNOLOGY (3 credits)**

*Prerequisites: None, ITI Majors only*

This course analyzes gender in relation to race, class, nationality, culture, religion, and sexuality in the context of technological innovation. Its focus is on fundamental concepts, the feminist critique of techno-science, and the impact of gender issues on workplace inclusiveness and equity, in a transnational and historical perspective. It examines the effects of gender on the development and use of information technologies and on gender-based electronic information preferences.

**04:547:400 INFORMATION POLICIES, POLITICS, AND POWER (3 credits)**

*Prerequisites: 547:200, 547:210, ITI Majors only*

This course prepares students for policy development in organizations. It analyzes and synthesizes concerns and conflicts related to information technology, information access and dissemination, freedom of information, copyright, intellectual property rights and responsibilities, privacy, filtering and information security and computer crime. Legal, political, social and ethical issues and how they contribute to policy development will be considered. Against this backdrop, the course provides opportunity for students to undertake organizational policy development.

**04:547:410 ELECTRONIC COMMERCE (3 credits)**

*Prerequisites: 547:202 or alternatives listed in Online Schedule of Classes, ITI Majors only*

This course examines the technologies used to transact business electronically. It investigates a range of social, economic and security issues related to such transactions, and the design of websites that facilitate these transactions.

**04:547:415 DIGITAL GAME CREATION (GAME DESIGN) (3 credits)**

*Prerequisites: 547:201*

Creating a digital game involves merging many of the skills of many disciplines into a single cohesive whole. It involves applying principles from computer programming, two and three dimensional art, animation, physics, mathematics, artificial intelligence, user interface and experience design, psychology, narrative design, and visual communication, to provide an incomplete list. This course focuses upon understanding and demonstrating the technical implementation of game play mechanics within a game engine framework. The purpose of this course is designed to expand upon the work done in Game Design Methodology (04:547:315) to provide an introduction in working with these disparate skill sets by building subsets of a complete game in a digital form.

**04:547:420 ECONOMICS OF INFORMATION TECHNOLOGIES (3 credits)**

*Prerequisites: 547:210, ITI Majors only*

This course examines economic theories related to information technologies and systems. The concept of information as “commodity” is considered. Quantitative methods such as cost-benefit analysis and return on information technology investment evaluation are introduced. Alternative methods, such as measuring the human costs associated with information technology implementations, are also addressed.

**04:547:421 DATA ANALYTICS FOR INFORMATION PROFESSIONALS (3 credits)**

*Prerequisites: None, ITI Majors only*

Introduction to issues confronting information professionals when analyzing large data sets for inclusion into repositories. Students will propose and examine models to analyze data using software designed for such purposes. Data mining related methods will emphasize intended uses of such data. Individual and group assignments will focus on specific data analytic methods. Application areas for data analytics include requirements by funding agencies for data that is expected to be organized and shared.

**04:547:430 ADVANCED PROGRAMMING (3 credits) – *under review***

*Prerequisites: 547:202, ITI Majors only*

Building on concepts introduced in Object-Oriented Programming, this course provides students with in-depth exposure to Java (or appropriate programming language) necessary for building realistic applications. The course focuses on creative thinking for generating flexible software designs, on complex user interfaces and on multi-threaded network applications.

**04:547:432 INFORMATION SECURITY (3 credits)**

*Prerequisites: 547:201 or alternatives listed in Online Schedule of Classes, ITI Majors only*

An introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. The purpose of the course is to provide the student with an overview of the field of information security and assurance. Students



will be exposed to the spectrum of security activities, methods, methodologies, and procedures. Coverage will include inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post-incident procedures, technical and managerial responses, and an overview of the information security planning and staffing functions.

**04:547:440 INFORMATION TECHNOLOGY AND LEARNING (3 credits)**

*Prerequisites: 547:210, ITI Majors only*

This course focuses on understanding how organizations learn, and how information technology can be used for the design and development of instructional systems and materials within the organization to facilitate workplace learning. It will address workplace learning needs, learning styles, learning outcomes, representation of knowledge, problem solving, and assessment of the usability of e-learning systems in the workplace.

**04:547:445 CERTIFICATION PRACTICUM IN ITI (3 credits)**

*Prerequisites: ITI Majors only, Permission by department*

Certification Practicum in Information Technology and Informatics provides students an opportunity to integrate skills learned through ITI courses and apply them to the acquisition of an IT certificate. Obtaining an IT certificate will also enable students to gain experience that will contribute to their educational and career goals. This course will provide students with directed preparation for selected IT certifications conducted under faculty supervision.

**04:547:450 ITI INTERNSHIP (3 credits)**

*Prerequisites: Substantial course work in the ITI major needs to have been completed (24 credits). Prior approval of proposed work by Director of the ITI Program and SC&I academic supervisor, ITI Majors only*

The student negotiates or gains a work placement of approximately 150 hours. The internship provides supervised professional work experience in a corporate, research, or educational setting, where there is opportunity to apply and further develop knowledge and skills acquired in the Information Technology and Informatics course work. *Internships require the students to communicate regularly with the ITI internship coordinator.*

**04:547:455 CAPSTONE IN ITI (3 credits)**

*Prerequisites: ITI Majors only, Completion of at least 18 credits in the major and preferable in the last semester of the major, permission of the department*

The Capstone in Information Technology and Informatics is designed to synthesize what students have learned in the ITI program through a directed project identified by the Capstone instructor. Throughout the semester, students work together in teams to complete the selected project. Students will also complete written assignments that document the progress of the team, produce a final paper, and participate in a final presentation experience to showcase their work.

**04:547:460 INDEPENDENT STUDY (3 credits)**

*Prerequisites: Substantial course work in the ITI major needs to have been completed (24 credits). Prior approval of proposed independent project by Director of the ITI Program and internal academic supervisor, ITI Majors only*

An Independent Study is an individually negotiated learning program of approximately 150 hours. Students design, negotiate and manage a program of study based on their existing experience and knowledge and on their longer term work intentions. Typically this study is not available to the students through the range of elective courses provided in the ITI major. The study builds however on existing knowledge and skills acquired during the major. Students identify learning objectives, construct a program of research, investigation and documentation, and determine how learning outcomes are demonstrated to the academic supervisor in SC&I. *Independent Study requires the students to communicate regularly with their faculty advisors.*

**04:547:465 SENIOR THESIS (3 credits)**

*Prerequisites: ITI major; 04:547:300; Special permission of the department.*

Honors students will conduct original research under the supervision of a faculty adviser and an honors thesis committee. Students must be accepted into the honors program in order to enroll in this course.

**04:547:470 TOPICS IN INFORMATION TECHNOLOGY (3 credits)**

*Prerequisites: To be determined on the basis of each proposed course.*

Different courses may be offered as electives in the ITI Program. The following courses are examples that have been offered in recent semesters, and may be offered in upcoming semesters:

- Game Production
- The Digital Divide
- Introduction to Health Informatics
- Project Management
- Serious Games

**04:547:471 TOPICS IN INFORMATION TECHNOLOGY (3 credits)**

*Prerequisites: To be determined on the basis of each proposed course.*

Different courses may be offered as electives in the ITI Program. The following courses are examples that have been offered in recent semesters, and may be offered in upcoming semesters:

- Game Production
- The Digital Divide
- Introduction to Health Informatics
- Project Management
- Serious Games

**04:547:472 TOPICS IN INFORMATION TECHNOLOGY (3 credits)**

*Prerequisites: To be determined on the basis of each proposed course.*

Different courses may be offered as electives in the ITI Program. The following courses are examples that have been offered in recent semesters, and may be offered in upcoming semesters:

- Game Production
- The Digital Divide
- Introduction to Health Informatics
- Project Management
- Serious Games

## SUMMARY OF UNIVERSITY POLICY ON ACADEMIC INTEGRITY

The faculty of the Department of Library and Information Science does not condone cheating of any kind. All students are expected to observe the generally accepted principles of scholarly writing both inside and outside the classroom. Plagiarism and other forms of cheating, when verified, will serve as grounds for assigning the offending party or parties the most severe penalties allowed under the University's "Academic Integrity Policy." See <http://academicintegrity.rutgers.edu/academic-integrity-policy/> for additional information.

The principles of academic integrity entail simple standards of honesty and truth. Each member of the university has a responsibility to uphold the standards of the community and to take action when others violate them. Faculty members have an obligation to educate students to the standards of academic integrity and to report violations of these standards to the appropriate deans. Students are responsible for knowing what the standards are and for adhering to them. Students should also bring any violations of which they are aware to the attention of their instructors.

### Violations of Academic Integrity

Any violation of academic integrity is a serious offense and is therefore subject to an appropriate sanction or penalty. Academic integrity violations at Rutgers University are classified into two levels called nonseparable and separable. Nonseparable violations are less severe violations for which the possible sanctions do not include suspension or expulsion from the University; separable violations are more severe violations for which the possible sanctions include suspension or expulsion. Whether a given violation is classified as nonseparable or separable depends on a number of factors including: the nature and importance of the academic exercise; the degree of premeditation or planning; the extent of dishonest or malicious intent; the academic experience of the student; and whether the violation is a first-time or repeat offense.

#### Nonseparable Violations

Nonseparable violations are less serious violations of academic integrity. They may occur because of inexperience or lack of understanding of the principles of academic integrity and are often characterized by a relatively low degree of premeditation or planning and the absence of malicious intent on the part of the student committing the violation. These violations are generally quite limited in extent, occur on a minor assignment or quiz or constitute a small portion of a major assignment and/or represent a small percentage of the total course work. Below are a few examples of violations that are most often considered nonseparable, at least when committed by an undergraduate student as a first-time offense. This list is not exhaustive and classification of a given violation as separable or nonseparable is always heavily dependent on the specific facts and circumstances of the violation.

- Improper citation without dishonest intent.
- Plagiarism on a minor assignment or a very limited portion of a major assignment.
- Unpremeditated cheating on a quiz or minor examination.
- Unauthorized collaboration with another student on a homework assignment.
- Citing a source that does not exist or that one hasn't read on a minor assignment.
- Making up a small number of data points on a laboratory exercise.
- Signing in for another student via attendance sheet or clicker in a course in which attendance counts toward the grade.

However, an alleged second nonseparable violation shall be treated as an alleged separable violation. Moreover, some violations that would be considered nonseparable for an undergraduate student may be treated as separable for a graduate student.

Sanctions for nonseparable violations include, but are not limited to, one or more of the following, and do not include suspension or expulsion:

- Required participation in a noncredit workshop or seminar on ethics or academic integrity.

- An assigned paper or research project related to ethics or academic integrity.
- A make-up assignment that may be more difficult than the original assignment.
- No credit for the original assignment.
- A failing grade on the assignment.
- A failing grade for the course.
- Disciplinary warning or probation.

### **Separable Violations**

Separable violations are very serious violations of academic integrity that affect a more significant portion of the course work compared to nonseparable violations. Separable violations are often characterized by substantial premeditation or planning and clearly dishonest or malicious intent on the part of the student committing the violation. Below are some examples of violations that are most often considered separable. Again, the list is certainly not exhaustive and classification of a given violation as separable or nonseparable is always heavily dependent on the exact facts and circumstances of the violation.

- A second nonseparable violation.
- Substantial plagiarism on a major assignment.
- Copying or using unauthorized materials, devices, or collaboration on a major exam.
- Having a substitute take an examination.
- Making up or falsifying evidence or data or other source materials for a major assignment, including falsification by selectively omitting or altering data that do not support one's claims or conclusions.
- Facilitating dishonesty by another student on a major exam or assignment.
- Intentionally destroying or obstructing another student's work.
- Knowingly violating research or professional ethics.
- Any violation involving potentially criminal activity.

Sanctions for separable violations include, but are not limited to, one or more of the following, and may, but need not, involve suspension or expulsion:

- A grade of XF (disciplinary F) for the course.
- Disciplinary probation.
- Dismissal from a departmental or school honors program.
- Denial of access to internships or research programs.
- Loss of appointment to academically-based positions.
- Loss of departmental/graduate program endorsements for internal and external fellowship support and employment opportunities.
- Removal of fellowship or assistantship support.
- Suspension for one or more semesters.
- Dismissal from a graduate or professional program.
- Permanent expulsion from the University with a permanent notation of disciplinary expulsion on the student's transcript.

The recommendations for sanctions at each level are not binding, but are intended as guidelines for the University community. For both nonseparable and separable violations, the severity of the sanction imposed should be proportional to the severity of the violation committed.

**Faculty who believe that violations have occurred should immediately contact SC&I's Associate Dean Novick. Students who suspect that other students are involved in actions of academic dishonesty should speak to the instructor of the course. Questions on reporting procedures may be directed to the Office of the Dean.**

## CAREERS IN INFORMATION TECHNOLOGY AND INFORMATICS

*See [Rutgers Career Services](#) for additional information.*

The School of Communication, Information and Library Studies offers the major in Information Technology and Informatics. This program emphasizes the evaluation, implementation and management of information technologies for a wide range of organizations. Information Technology and Informatics unites theories drawn from the humanities and social sciences with practical computer-based competencies. This combination prepares students to work in a diverse marketplace, which demands individuals who understand the social and economic impact of technology locally and globally, and the effective use of technology in organizations.

Students often combine this major with other interests in fields such as Human Resources, Criminal Justice, Economics, Political Science, Entrepreneurship, Business Administration, Psychology, English, or Sociology.

Currently, New Jersey's growth industries – technology, pharmaceuticals, logistics, and finance – are either driven or heavily supported by information technology. Graduates of the major seek positions in government, health care, industry, education, and finance, where their technical knowledge and skills, and their understanding of the organizational, social and cultural contexts make them valuable employees. Any work that involves communicating and information as focal points are potential career fields. The information technology industry is a competitive one, however, and experience is a must. It is critical to identify an area of focus and then build experience and a portfolio of work products.

Regardless of your career choice, increase your marketability to employers through internships, responsible work experience, strong performance in the classroom, and involvement in college activities. Regular advising sessions with undergraduate advisors in Student Services will help you choose coursework that will bring your academic and career interests together.

- Go to [Career Services at SC&I](#) Newsletter, Advising, Jobs and Internship listings.
- Go to the [University Career Services](#) for Career Fairs, Resume Workshops and Advising.
- Explore resources by logging into your CareerKnight account (CareerShift, Going Global).
- See the [Occupational Outlook Handbook](#) for additional career information.
- Explore career options through [Vault's Career Insider](#) using your Rutgers ID.

# IMPORTANT STEPS TO TAKE ON YOUR CAREER PATH

Engage with your **SUCCESS** and move forward on your career path today!

Regular advising and conversations are critical to making career decisions. There are many paths to take and you will want to explore alternatives to find the right path for you. Employers are looking to hire people who are passionate about their work.

What are your passions? What makes you unique?

We all begin our career path exploration by beginning with a reflection on ourselves and what would make us happy in our work choices. Imagine where and with whom you wish to work. Consider the products or ideas that you want to represent. Your major will help you gain insight into your own interests. Use individual research projects and team assignments in your courses as a way to help you gain knowledge about your career choices.

Here is an outline for your path to **SUCCESS**:

**S**tudy your interests, know your passions:

- Complete the free online assessment [Focus 2](#) and use these results to get started
- Schedule an advising appointment with University Career Services
- Schedule a Career Advising Session or come to weekly Drop in Sessions at SC&I

**U**nderstand and investigate your career options

- Begin to research the careers that appeal to you in your Focus 2 results
- Use [Occupational Outlook](#) to learn more about careers of interest (salary, requirements)

**C**oordinate your experiences (join groups, volunteer, jobs, and internships)

- Search for and join student organizations that reflect your interests
- Explore professional organizations you can join as a student member, build a network.

**C**raft a portfolio of samples to demonstrate your skills and passions

- Work on your LinkedIn profile and find ways to create a web presence
- Use your free access to [lyndaCampus through SC&I](#) to build your technical skills

**E**dit and refine your personal brand.

- Draft a resume, get feedback from Career Services at SC&I, University Career Services
- Create a new resume for each application inserting specific, unique details
- Find a sample resume on [Career Services at SC&I](#)

**S**ign up for Career Workshops, Panel Presentations, Career Expos and Fairs

- Don't miss opportunities to practice your networking skills
- Be a visible member of your community, contacts lead to jobs!

**S**earch in a wide range of career tools to find the one that works for you

- On CareerKnight home page use the free *CareerShift* and Going Global resources
- Keep up with new opportunities and resources every week on [Career Services at SC&I](#)

## SAMPLE RESUME

### YOUR NAME

Address  
Address

Phone  
Email

Website or LinkedIn url here

**OBJECTIVE:** The point of the objective is to insert the name of the position and company to demonstrate that resume is tailored to a specific ad. Make it specific to the position, **not generic.**

#### **EDUCATION**

Rutgers, The State University of NJ, New Brunswick 2016  
BA: Major Include GPA /or Major GPA if 3.0 or better  
Minor:

#### **RELEVANT COURSEWORK**

4 – 6 Courses in Columns	Choose courses related to job ad
Demonstrate your skills with	Alphabetical order will indicate that
Microsoft Office Suite	You pay attention to details
Use “Page Layout” to create columns	You can use 2 or 3 columns

**EXPERIENCE** This can be internships, paid and unpaid experience

Company, city, state dates

**Your title**

- Action verb short statement. **DO NOT EXCEED 1 LINE PER BULLET**
- New Action verb

Company, city, state dates

**Your title**

- New Action verb
  - New Action verb
- THERE IS NO MAGIC NUMBER OF BULLETS  
YOU DON'T NEED TO INCLUDE EVERYTHING**

Company, city, state dates

**Your title**

- New Action verb
  - New Action verb
- YOUR GOAL IS TO MATCH COMPANY NEEDS  
USE THE JOB AD'S VOCABULARY**

#### **Activities**

Organizations dates

**Join/Follow organizations and groups that relate to your career goals**

**This also demonstrates your membership and leadership in communities**

#### **Skills**

Microsoft Office Suite	Facebook?	WordPress?
List all apps you know	Instagram?	YouTube?
Other tech. skills?	Snapchat?	Twitter?
Adobe Illustrator?		

References furnished on request. (Do not give away names of references until requested.)

## RESUME TIPS

### DO NOT EXCEED 1 PAGE (1 SIDED) IN YOUR RESUME.

Human Resources can spend less than 10 seconds on a resume. Imagine you are the HR person. Make sure they can see the information that relates to the position you are applying to. Help them hire you.

#### Dr. Coan's 10 basic resume tips

1. Create/save a "master resume" file on your computer with all experiences and courses
  - Include a copy of your transcript with course titles and class projects
2. Develop each resume uniquely from that file to demonstrate your match to the position
  - Insert the name of the company into an objective "To contribute to X"
3. Limit your bullet points to a single line (demonstrate the ability to edit)
  - Start each line with an action verb and use vocabulary from the job ad
4. Avoid claiming "I am an excellent writer." Instead demonstrate by writing excellently
  - Ask 5 people to proofread and find every little mistake (they are always there)
5. Gain technical skills to list on your resume for free at Lynda.com through SC&I. See:
  - <http://comminfo.rutgers.edu/instructional-technology/lyndacampus-for-sc-i.html>
6. Remember every app you use and take for granted is a **skill** you have
  - Check your devices to see what apps you know
7. Think of your resume as an advertisement, **do not** try to tell your whole life story
  - Leave some details for your cover letter and the interview
8. Limit yourself to one page, one inch margins all around, 12 point font.
  - **Do not squeeze!** Do not use miniature font. Demonstrate your design ability
9. Use vocabulary from the job or internship description in your resume and cover letter
  - Resumes are scanned for key terms, be sure you've inserted them
10. Take advantage of University Career Services and Career Services at SC&I
  - Get input on your resume and then choose what is right for you

Check out the Newsletter Page on [Career Services at SC&I](#) for more Career Tips.

[Newsletter #14 What's Your Passion?](#) Use Focus 2 to learn about yourself.

[Newsletter #18 CareerKnight Insider Tips](#) Why you want to go there!

[Newsletter #20 Teach Yourself Mad Skills!](#) Free access to Lynda.com through SC&I



## A Sample of Potential Occupations

Associate Project Manager	Database Analyst	Network Administrator	Technology Evaluator
Business Analyst	Database Designer	Project Manager	Technology Development Associate
Computer Service Representative	Electronic Commerce Developer	Project Team Leader	Technical Support Engineer
Configuration Database Analyst	Help Desk Analyst	Quality Assurance Analyst	User Interface Specialist
Consultant	Human Resources Info. Specialist	Set-Up Configuration Specialist	Web Analyst
Customer Support Coordinator	Information Officer	Software Developer	Web Designer
Data Processing Manager	Instructional Technology Designer	Systems Consultant	Web Information Officer
Database Administrator	IT Infrastructure Site Analyst	Technology Analyst	

## A Sample of Types of Employers

### ***Global and National, Private Companies and Non-profit Organizations***

Advertising Agencies	Financial Institutions	Global Data Insight Platforms	Professional Associations
Beauty Companies	Health Organizations	Labor Unions	Public Relations Firms
Community Organizations	Hospitality Organizations	Management/Consulting Firms	Publishing Companies
Computer Firms	Hospitals	Media Firms	Research Organizations
Consulting Firms	Information Design Agencies	Newspapers	Telecommunications Firms
Educational Organizations	Investment Firms	Nonprofit Organizations	Television Stations
Entertainment Firms	Information Technology Service Providers	Pharmaceutical/Biotech Firms	

### ***Government Agencies***

Central Intelligence Agency	Department of Labor	Federal Trade Commission	National Telecommunications and Information Administration
County Prosecutor's Office	Department of Treasury	Information Administration	Securities & Exchange Commission
Department of Commerce	FBI	National Archives	Small Business Administration
Department of Energy	Federal Retirement Thrift Investment Board	National Science Foundation	U.S. Information Agency

## Rutgers University

### ***Example Jobs of ITI Graduates***

Big Data Engineer/ Informationist at Knowledge Enterprise Applications Services Analyst at Cognizant Hardware Engineer at Bloomberg	IT Support Analyst at Rutgers University Foundation Information Systems Engineer at Vanguard Network Database Admin at Cross River Fiber	Senior Web Applications Developer at Optum/UnitedHealth Group Technical Support Engineer at iCIMS Technology Analyst at JPMorgan Chase & Co.	Technology Management Consulting at Accenture User Experience Designer at Honeywell
--	--	--	--

## DEPARTMENT FACULTY & STAFF

**A** = Annex A & B

**CI** = SC&I Building

**SDW** = DeWitt House

**HU** = Huntington House

\*All phone numbers are (848)-932-XXXX, with the last 4 digits listed below.

### FULL-TIME FACULTY

	<u>E-Mail</u>	<u>Office</u>	<u>Phone*</u>
Mark Aronson	bookmarch@aol.com	HU 100	7601
Nicholas Belkin	belkin@rutgers.edu	HU 202	7608
Kay Cassell	kcassell@rutgers.edu	CI 311	8789
Kaitlin Costello	k.costello@rutgers.edu	AnB 254	7153
Marija Dalbello	dalbello@rutgerse.edu	CI 308	8785
Ingrid Erickson	ingrid.erickson@rutgers.edu	SDW 303	7195
Sunyoung Kim	sunyoung.kim@rutgers.edu	CI 329	7585
Michael Lesk	lesk@acm.org	CI 330	8804
Claire McInerney	clairemc@rutgers.edu		8796
Daniel O'Connor	dan.oconnor@rutgers.edu	CI 309	8790
Lilia Pavlovsky	pavlovsk@rutgers.edu	CI 205	7576
Marie Radford	mradford@rutgers.edu	SDW 206	8797
Rebecca Reynolds	rbreynol@rutgers.edu	AN-A 101	7553
Charles Senteio		AN-A 204	7586
Chirag Shah	chirags@rutgers.edu	CI 302	8807
Vivek Singh	vivek.k.singh@rutgers.edu	CI 334	7588
Anselm Spoerri	aspoerri@rutgers.edu	AN-A 203	7569
Sharon Stoerger	sharon.stoerger@rutgers.edu	CI 331	8814
Ross Todd	rtodd@rutgers.edu	HU 201	7602
Joyce Valenza	joyce.valenza@rutgers.edu	HU 203	8761
Nina Wacholder	ninwac@rutgers.edu	CI 307	8784

*ITI Program Director  
Department Chair*

### PART-TIME LECTURERS

Rick Anderson	rianders@docs.rutgers.edu		
Le Anne Barclay-Platenburg	lp1002@nyu.edu		
Ben Bakelaar	bakelaar@rutgers.edu		
Isaiah Beard	isaiah.beard@rutgers.edu		
George Berger	georgeberger@mail.com		
Beth Binde	binde@rutgers.edu		
Deborah Close	deborahclose@outlook.com		
Vincent Colonna	vcolonna@scarletmail.rutgers.edu		
Charlie Collick, Jr.	charles.collick@rutgers.edu		
Bill Crosbie	bcrosbie@rci.rutgers.edu		
Rochelle Davis	rddavis@scarletmail.rutgers.edu		
Mike Doyle	midoyle@rci.rutgers.edu		
Nirav Gadhia	niravgadhia@gmail.com		
Elaine Gomez	elamgomez@gmail.com		
Tanweer Haroon	h_tanweer@hotmail.com		
Gang He	gh257@andromeda.rutgers.edu		
William Karavites	willkara@oit.rutgers.edu		
GoUn Kim	gounkim@gmail.com		
Denise Kreiger	denise.kreiger@rutgers.edu		
Chuck Kerschner	chuck.kerschner@rutgers.edu		
Shardul Khatri	sharduldkhatri@gmail.com		
Hannah Kwon	hanners@gmail.com		
Ismael Lara	larai@scarletmail.rutgers.edu		
Mark Levine	marklev@rutgers.edu		
Jason Llorenz	jason.llorenz@rutgesr.edu		
Fei Luo	feiluo@oit.rutgers.edu		
Mark Mishler	mark.mishler@rutgers.edu		
Douglas Motto	dmotto@cs.rutgers.edu		
Silvia Muller	silvia@docs.rutgers.edu		
Hitesh Nagda	hitesh711@gmail.com		
John Obenchain	jobenchain@docs.rutgers.edu		
Jason Pappas	jppappas@sas.rutgers.edu		
Andrew Parks	andrew.parks@rutgers.edu		
Connie Pascal	connie.pascal@yahoo.com		
Harshil Patel	harshilpatel@gmail.com		
Alexander Pichugin	pichugin@rutgers.edu		

**Adam Potocki**  
**Gayle Stein**  
**Ananya Upadhyaya**  
**Joel Wattercheril**  
**Elizabeth Welch**  
**Shakira Willoughby-Little**  
**George Yu**

potockra@oit.rutgers.edu  
gstein@rutgers.edu  
ananya.upadhyaya@rutgers.edu  
joel.wattacheril@rutgers.edu  
liz.welch21@gmail.com  
sw757@oit.rutgers.edu  
george.yu@rutgers.edu

**STAFF**

**Karen Novick**  
**Jon Oliver**  
**Kevin Ewell**

*Associate Dean*  
*Assistant Dean, IT*  
*Assistant Dean, Student*  
*Services*

knovick@rutgers.edu  
joliver@rutgers.edu  
ewell@rutgers.edu

CI 317 8820  
CI 319 8748  
CI 214 8741

**Tieka Harris**  
**Stephanie Jones**  
**IT Services**

*Undergraduate Advisor*  
*Undergraduate Advisor*  
*Helpdesk*

tieka.harris@rutgers.edu  
stephanie.jones@rutgers.edu  
help@comminfo.rutgers.edu

CI 214 8737  
CI 214 8743  
CI 120 5555