



Graduate Advising Handbook

Graduate Computer Security and Information Assurance Program

Department of Computer Science
Rochester Institute of Technology
102 Lomb Memorial Drive
Rochester, NY 14623
Phone: 585.475.2995
Fax: 585.475.7100
www.sia.rit.edu

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1. Introduction

CERT noted: "The area of survivable network technology concentrates on the technical basis for ensuring that a system can provide essential services in the presence of attacks, accidents, and failures, including critical infrastructure protection. Developers and acquirers need to understand the importance of building security and survivability into systems, rather than trying to add it on once the systems are installed."

This curriculum addresses these concerns by drawing on the expertise on the faculty from the three departments that together make up the Golisano College of Computing and Information Sciences, Computer Science, Software Engineering, and Information Technology. The program consists of a group of eight core courses that provide a common knowledge base or foundation. The courses that together make up this foundation are designed to give students a better understanding of both the technological as well as the ethical role of computer security in society. Students will then develop a specialization in one of several areas by selecting four related elective courses under the guidance of a faculty advisor. Students will conclude their program of study through the successful completion of a thesis under the guidance of a faculty mentor. This cross-disciplinary program will enable graduates to develop a strong foundation and will prepare them for leadership positions in both the private and public sectors in the computer security area or admission to programs leading to an advanced degree.

The Security and Information Assurance MS program at RIT consists of a core curriculum, a wide variety of electives. The core provides students with a solid background in the theoretical principles underlying fundamentals, which ensures that graduates acquire the intellectual tools necessary to keep up-to-date in this rapidly evolving discipline.

The program consists of a group of eight core courses that provide a common knowledge base or foundation. The courses that together make up this foundation are designed to give students a better understanding of both the technological as well as the ethical role of computer security in society. Students will then develop a specialization in one of several areas by selecting four related elective courses under the guidance of a faculty advisor. Students will conclude their program of study through the successful completion of a thesis under the guidance of a faculty mentor. This cross-disciplinary program will enable graduates to develop a strong foundation and will prepare them for leadership positions in both the private and public sectors in the computer security area or admission to programs leading to an advanced degree.

The courses are generally offered in the afternoons and evenings. A full-time student, one who takes three or four courses per quarter, may be able to complete the course work in one year; part-time students can finish in two to four years. The time required to complete a Masters thesis varies according to the student and the size of the thesis or that is undertaken.

Faculty members are actively engaged in consulting or research in the areas of networking, computer security, forensics, cryptography, computer vision, computational combinatorics, complexity theory, and distributed computing systems. There are opportunities for graduate students to participate in these activities for thesis work, independent study, graduate assistantships, and consulting. The Lab for Applied Computing (www.lac.rit.edu) provides additional opportunities for students to participate in research activity.

Related M.S. programs at RIT dealing with computers are: Computer Science, Computer Engineering (College of Engineering); Information Technology, and Software Development & Management (both in the Department of Information Technology).

2. General Information

Applications for admission are processed throughout the year, and graduate students may generally begin their programs of study in any of the four academic quarters. Students that require bridge courses (see Section 4) may be required to start their studies in the Fall or Winter quarter. Course offerings are limited during the Summer quarter. Students should contact the Computer Science Department if they plan to start their studies during the Summer quarter. There is not a specific deadline for applications, but the number of students accepted each quarter is limited. It is advantageous for the students to apply early. Application forms may be obtained by writing to:

Admissions Office
Rochester Institute of Technology
60 Lomb Memorial Drive, Box 9887
Rochester, New York 14623-0887
URL: <http://www.rit.edu/admissions>
URL: <http://www.rit.edu/grad>

2.1. Entrance Requirements

Admission Requirements for the Propose Program

Because the program encompasses a wide variety of technical disciplines, students with diverse backgrounds will be accepted. Undergraduate preparation leading to a Bachelor of Science degree in computer science, software engineering, information technology, computer engineering, electrical engineering, applied mathematics or computer engineering technology is usually required. However, exceptional students from other fields may be admitted on a contingent basis.

Required is the knowledge of the following courses or equivalent courses:

- Advanced Java Programming 4003-707
- Operating Systems 4003-713
- Calculus 1 1016-251
- Calculus 2 1016-252
- Discrete Math 1 1016-265
- OS Scripting 4002-402
- Software Engineering 4010-361

The admission committee will make the decision if a student has the required knowledge. The admission committee will assign bridge courses, if a student does t have the required knowledge in one or more of the following courses:

- Calculus 1 1016-251
- Calculus 2 1016-252
- Discrete Math 1 1016-265

A student can take an exam to test out of a bridge course.

The admission committee will ask the student to take an exam, if a student does t have the required knowledge in one or more of the following courses:

- Advanced Java Programming 4003-707
- Operating Systems 4003-713
- OS Scripting 4002-402
- Software Engineering 4010-361

The result of the exam will determine if the student has to take a bridge course or if the missing pieces of knowledge can be obtained by attending a workshop. The student only has to take the boot camp modules in which the student does t have the required knowledge.

The workshop will take two weeks. It will start two weeks before fall quarter starts. The workshop will be held on campus. Material for the summer workshop will be made available to the students for self-study before the commencement of the summer workshop.

Day 1;	Test
Day 2 – Day 9	The major topics of each course will be covered in 4 half day sessions
Day 10	Each subject will be tested. The outcome determines if the student has to take the bridge course or t.

Workshop Content

Advanced Java Programming	<ul style="list-style-type: none">• Solid foundation of the Java Programming language• Collection class• Network programming in Java including RMI and multi threaded programming including synchronization
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Operating Systems	<ul style="list-style-type: none"> • File system • Access control • Client-server model • Process model
OS Scripting	<ul style="list-style-type: none"> • Permissions in a Unix environment • User management • File systems management • Shell programming
Software Engineering	<ul style="list-style-type: none"> • Requirements Engineering (Requirement Elicitation, Specification, Verification, Management) • Design (Design Principles, Architectural and Design Patterns, Verification) • Testing (Black box, White box, Integration from unit testing through acceptance testing, inspection techniques) • Project Management (Configuration management, risk management, process and product metrics, process models)

Students must have a strong record of academic achievement from their undergraduate institution, as indicated by official transcripts, proficiency on the Graduate Record Examination (GRE), as well as strong recommendations from at least two well-qualified individuals who are able to assess the student's potential for success in the program. It is expected that students will achieve at least the following scores on the GRE: 650 on Quantitative, 500 on Verbal, and 650 on Analytical.

Students for whom English is not their native language will be required to submit results of the Test of English as a Foreign Language (TOEFL). A minimum score of at least 570 (paper based) or 230 (computer based) is required.

2.2. Transfer Credits

A student may propose to transfer into the Security and Information Assurance MS program up to nine graduate quarter credits that were taken at another university with a grade of "B" or better. Courses must have been taken within the past two years. The Graduate Coordinator will evaluate these proposals. Official transcripts must be sent to the RIT Registrar's Office, 27 Lomb Memorial Drive, Rochester, NY 14623-5603.

2.3. GRE Scores

These test scores are required from applicants whose undergraduate degrees are from foreign colleges. Other applicants may wish to include GRE scores to enhance their applications (e.g., when undergraduate grades are less than 3.0). Official test results must be submitted to RIT Admissions, 60 Lomb Memorial Drive, Rochester, NY 14623.

2.4. TOEFL Scores

The "Test of English as a Foreign Language" score is required for every applicant for whom English is not the native language. A score of at least 550 on the paper-based test or 213 on the computer-based test is required. Exceptions can be made for an applicant whose academic record is strong. Upon arrival at RIT, students whose native language is not English may be required to take the Michigan English Test and follow the recommendations of RIT's English Language Center.

2.5. Financial Aid and Employment Opportunities

Costs: The **RIT Graduate Study Official Bulletin** contains information on tuition, registration, student services, etc. You can view this online at <http://www.rit.edu/grad>.

RIT offers various forms of financial aid for graduate students:

- Merit scholarships are based on the applicant's application, including grades, courses taken, university attended, letters of recommendation and GRE scores.

Assistantships and Other Employment:

- Graduate students are eligible for co-op work consisting of six months of full-time employment in industry at salaries in the range of \$10-\$25 per hour. This would gross a total of \$10,000-\$25,000. A co-op position is not assured. The co-op program is available for full-time students in good standing (graduate GPA of 3.0 or better) who have completed the Bridge Program and at least 16 credits of their M.S. program of study. During co-op the student may take at most one course per quarter.
- **Co-op positions must be secured by the beginning of the academic term that you wish to co-op. Permission for mid-quarter co-ops will not be granted.**
- To register for co-op, you must participate in "Co-op Orientation". Information may be obtained from Annette Stewart @ 585-475-5466, e-mail: aksocce@rit.edu in the Co-op and Placement Office. URL: <http://www.rit.edu/~964www>
- **On-campus employment:** A student can earn money each quarter by working on campus. Working approximately 20 hours per week for \$5.82 per hour (RIT's minimum wage) you could potentially earn \$1150 per quarter. For more information visit the Office of Student Employment located in room A350 in the SAU, 475-2631.

3. Curriculum

The graduate program of study consists of 49 credits. There are two tracks to the degree, the thesis track and the project track.

For students accepted for Fall 2004 (20041) or later the following plan is applicable:

3.1. The Core Courses

4002-780 Computer System Security
4005-779 Secure Database Systems ¹
4002-755 Secure Wireless and Wired Data Networks
4005-705 Cryptography I
4010-748 Secure Software Engineering: Requirements and Design
0102-785 Ethics in Technology*
4010-710 Research Methods
4005-690 Thesis

3.2. Electives

¹ This course was previously offered as a seminar course.

4005-709 Privacy and Security
4005-759 Information Assurance
4002-882 Enterprise Security
4002-877 Secure e-Commerce
4002-760 Computer Viruses and Malicious Software
4002-841 Advanced Forensics
4005-709 Cryptography II
4005-759 Data Mining
4005-800 Theory of Computer Algorithms
4005-743 Secure Operating Systems and Networks
4005-749 Server-less Network Security
4010-758 Secure Software Engineering: Verification and Validation
Special Topics
Independent Study

3.3. Independent Study

In order to take an independent study, you must have a faculty sponsor. You and that faculty member will fill out the Independent Study form to decide what you will do and how you will be graded. The Independent Study form must be signed by you and the faculty sponsor and it must be approved by the Graduate Coordinator **before** you are allowed to register for an Independent Study course. After your work is complete, you are required to submit a summary of your work. Please note that you can apply **at most four (4) quarter hours** of Independent Study toward your MS degree in Computer Science and Information Assurance.

3.4. Probation and Suspension

Any matriculated graduate student whose Program Grade Point Average falls below a 3.00 (B average) after 12 quarter credit hours or subsequently will be placed on probation and counseled by the departmental advisor concerning continuation in the graduate program.

Those students placed on probation must raise their Program Cumulative Grade Point Average to the 3.00 level within 12 quarter credit hours or be suspended from the graduate program.

Should it be necessary to suspend a graduate student for academic reasons, the student may apply for readmission to the dean of the college or designee (department head, program director, coordinator, etc.) upon demonstration of adequate reason for readmission. Re-admission is not guaranteed.

3.5. The Masters Thesis

The capstone of the master's program is a thesis. Before registering for Thesis the student must take the Research Method Seminar. After successfully completing these tasks the student can file the signed

proposal with the department and register for Thesis ort. It is expected that the student will work with the chair of their committee while she/he is developing the proposal. (See Section 6, Thesis for more details).

4. The Bridge Program

Students who require additional Computer Science, Information Technology or Mathematics background for graduate CS course work are required to take courses from the Bridge Program. Bridge courses will be noted on your Program of Study.

Students who require Bridge Courses are “conditionally” admitted to the MS program and are required to successfully complete one or more of the bridge courses in addition to the 45 credits constituting the MS program.

Each bridge course must be passed with a grade of ‘B’ or better. If you repeat a Bridge Course more than once without achieving at least a grade of ‘B’, you will not be admitted into the MS program.

The Graduate Coordinator may waive bridge courses if the student passes the related bridge course exam given during Orientation the first quarter the student is admitted. Exams in each subject area can only be taken once. The decision of the Graduate Coordinator is final.

Note: Graduate students will be charged graduate tuition for any courses they take at RIT. This includes any undergraduate courses.

5. Student Advising

Students are assigned a graduate advisor based on the initial of the student's family name, as shown below.

FACULTY MEMBER	E-mail	PHONE	LAST NAME BEGINS WITH
Hans-Peter Bischof, Chair	hpb@cs.rit.edu	475-5568	All with CS background
Stephanie Ludi	sludi@mail.rit.edu	475-6479	All with IT background
Luther Troell	ljt@it.rit.edu	475-7407	other

6. MS Thesis

The Master's thesis forms the capstone of the M.S. program in Security and Information Assurance. It is a large body of work, which you undertake independently, but under the supervision of a full-time CS/IT/SE faculty member.

A project consists of a nontrivial software development effort and a report discussing it; or it is a report dealing with a more theoretical questions. Original insight into a problem is desirable but not required. The project report is expected to be a scientific paper:

- describing background and relevant results in the area,
- detailing the work carried out,
- discussing the significance of the deliverables of the endeavor, and
- providing appropriate reference citations.

The project report is to be submitted in electronic and paper copy.

A thesis should deal with a significant question and involve some original insight. Compared to a project, a thesis has a much higher level of expectation in terms of background research and justification. A thesis should also result in a paper submitted to a conference, a journal or other forms of public dissemination.

The purpose of a Master's thesis's to be of educational value to the student and to independently create and present a large, interesting, piece of work. Any acts of plagiarism or other acts of academic dishonesty will result in an automatic 'F' for the thesis. If you have any questions regarding plagiarism you should contact your committee chair before you complete your write up or make your presentation. Additionally, by forming your committee and registering for Thesis you have effectively created a contract between your chair and yourself. Your chair will contribute a substantial amount of time guiding thesis activities. Failure to complete your thesis within the agreed upon schedule may result in receiving a grade of 'F'. In either case, you will need to write a new proposal, form a new committee and register for thesis again. In both cases the 'F' will remain on your transcript. Additionally, by signing your proposal the committee members agree to serve on your committee for one year. After one year they can resign from the committee if they feel the student is not making adequate progress.

6.1. Your Committee

Your thesis committee is composed of three members: a chair, reader and observer. The function of the chair is to direct the technical aspects of your thesis and to ensure that your thesis meets the department's technical and administrative requirements. Normally, you will meet with your chair weekly. Monthly reports must be posted on your RIT student web page. The reader may review your monthly reports and provide feedback on your progress or concerns the reader may have to your chair. The reader must be provided with a final copy of your report ten days prior to your defense. The reader does not have to be a member of the CS/IT/SE faculty, but must hold a MS degree in CS/IT/SE or a related discipline. Other faculty members may also review your work and make recommendations to your chair. All advisement will come directly from your chair. The chair, reader and Graduate Coordinator must sign off on your proposal before you register for thesis. The third member of your committee, the observer, will attend your defense and ensure that department guidelines are met. It is most important that you establish a committee before you begin serious work on your thesis. Failure to do this may cause significant delay in the completion of your degree.

6.2. Thesis Seminar Registration

Students must have completed 16 graduate credit hours with a minimum GPA of 3.0 to register for the thesis and must have successfully taken the Research Method course 4010-710.

6.3. Thesis Proposal

The proposal should contain the following sections:

- A summary describing what you will do.
- An overview of the area of your thesis.
- A functional specification of your thesis. This can take the form of a draft user's manual, if that is appropriate.
- Architectural overview of the planned system; i.e., the design specification. This may be less well understood, hence somewhat shorter.
- A list of the principal deliverables of your thesis and the form that these will be delivered, such as:
 - technical paper or report
 - input/output examples or demonstration
 - code (the complete system should be given to your principal advisor archived on a single file)
 - user manual
 - design documentation and maintenance manual.
- Annotated references. This should include the following: previous master's theses, books, papers, URLs.
- Detailed schedule, including target defense date.
- Status of the work at the present time. Monthly updates must be posted on your RIT web page.

6.4. Registration for Credit

To register for Thesis, you must give the office a copy of your Proposal, signed by the Graduate Coordinator, your chair and reader. The Department has a form for you to complete. Please see Section 7.7 on conditions for Automatic withdrawal from the department if registration and completion requirements are not met.

If you do not finish your Thesis in the first quarter in which you register for credit, you will receive a grade of "I." You should continue to post monthly progress reports on your RIT web page until you finish.

6.5. Doing a Thesis Related to Your Work

A student may be working in the computing field, and their work provides them with an opportunity to do theses that are comparable to the MS Thesis, and they would like that work to qualify.

This approach is possible, and there is some precedent for doing it. Students can even have a Reader from their place of employment, but the chair of their committee must be a Computer Science faculty member and be knowledgeable in the proposed area of work. The work that will be submitted, as the Thesis must be monitored by the faculty members on the committee and the student must post their progress on their RIT web page monthly. This rules out submitting a proposal for work that has already been completed. In addition, the report, and a significant portion of the other work products such as code, must be made available for other students to read in the future. The committee sets the requirements - not the employer. It is your responsibility to assure that your employer's requirements for confidentiality are respected.

6.6. Checklist For The Defense

The last step in the process is the defense. After the student has completed the write up of their work and the chair and the reader have approved it, the student defends his work during a 45-minute

presentation. The defense is open to the public. The student is required to follow the procedures outlined below:

- Schedule the defense and register that scheduling with the Computer Science department secretary; assure all committee members are able to attend; reserve the room with the department staff.
- Provide your committee members with a copy of your written thesis report 10 days before the defense. Plan on your committee members requiring changes to the written documentation after the defense.
- Assure that the room has all the facilities you require (board, markers, projectors, ethernet connection, etc.).
- Post written announcements at least 10 days prior to the event.
- Send an electronic mail announcement in plain text, not as an attachment, of the defense to grads@cs.rit.edu. The announcement should contain:
 - Your name.
 - Thesis title.
 - Web address for thesis write up and code.
 - Date, time, and place of the defense.
 - Your committee members' names.
 - Abstract.
- Verify with the department staff that all necessary paperwork has been completed.
- The defense should take one hour, but you must allow time for questions and discussion. When you rehearse, it should take 30-40 minutes.
- A rehearsal is highly recommended. Ask a friend or two or a member of your committee to sit through a complete presentation. This is the only way you will know how long it takes and to locate the bugs (demos that fail, typos, faulty visuals, etc.) in your presentation.
- Review your presentation with at least one of your committee members before presenting it formally.
- Prepare handouts for your presentation consisting of copies of your visuals in 4-up or 6-up form. Discuss with your committee how many copies to prepare.

6.7. Deliverables

The final paperwork for a thesis requires that you give each of your committee members and the CS Department a copy of the professionally written report, in a pressboard binder (or some flat binding). Deliver software to your committee chair according to whatever agreement you have reached. You should generally put your material together in such a way that subsequent grad students can pick it up and build on it. The report, code and documentation must be posted on your RIT web page.

The final paperwork for a thesis requires that you arrange for a bound copy of the thesis for the RIT Library (see <http://wally.rit.edu/services/services.html> for more information), the CS Department, and each committee member (that makes six copies, counting your own). Give the Department secretary copies of: the thesis binding receipt, the thesis abstract, the signed cover page.

6.8. Full Time Equivalency

Continued, active registration at RIT can be important for students who must maintain full-time student status, such as students with loans to repay or foreign student visas to maintain. Students working on their thesis may be registered for less than 12 credits.

To be considered a full-time student even though you are registered for fewer than 12 credits, you must complete a "full-time equivalency" form. The CS Department allows you to apply for full-time equivalency for a maximum of four quarters. You must have a GPA of at least 3.0.

7. Miscellaneous Information

Information for all RIT graduate students is in the **RIT Graduate Study Official Bulletin** (<http://www.rit.edu/grad>).

7.1. Graduate Course Meeting Times

Four-credit courses generally meet for two hours twice each week.

7.2. Grad Students' Mail Folders

Mail folders are located near the department's offices. Check your folder periodically. This is a primary means of communication between the Department and the students.

7.3. Electronic Mail, etc.

We use electronic mail extensively for communicating with students. Even when you are not enrolled in programming courses, you should log on and read your mail daily.

You should make sure you are subscribed to the grads mailing list. Send email to: grads-subscribe@cs.rit.edu. This will put the mailer's address in the list.

Several newsgroups for RIT CS students are now being maintained. You should subscribe to the relevant groups and check news frequently.

7.4. The Computer Science Office

The current CS office is in the Golisano Building (70), Room 3005. The phone number is 475-2995; office hours are 8:30am to 5:00pm Monday through Thursday, and 8:30am to 4:30pm Friday. The office maintains records for each matriculated CS graduate student. Bring your policy and procedure questions to the staff in this office (e.g., grade problems, transfer of programs, transfer of credit, forms, registration). This office has forms for:

- Change of Program
- Intent to Graduate
- Add or Drop a Course
- Register for Thesis
- Withdrawal from the Institute

Help us maintain correct records on you. Make sure we have the correct spelling of your name, your current address, your student number (usually your SSN), and your day and evening telephone numbers.

7.5. Course Grades

RIT's Registrar distributes course grades. They may not be posted or given out by the Department. In special circumstances, a student may make arrangements with an instructor for early disclosure.

7.6. The Seven-Year Rule for Completing a Degree

You may not use any courses for graduation that were taken more than seven years ago (this rule does not apply to Bridge Program courses).

Guidelines for petition:

In cases where the fulfillment of degree requirements extends beyond the seven-year limit, the Graduate Coordinator must petition the Graduate Council for a formal extension. Please note the following important requirements for these petitions:

- Requirements for the degree must be completed within seven years of the date of the oldest course counted toward the student's program. **For example, if the first course counted toward the degree is taken in 001, that degree must be completed before the start of 071.**
- Application for an extension should be submitted to the Graduate Council **at least** one full quarter prior to the expiration of the seven-year time limit.
- When a student's program is projected to exceed the seven-year limit, he/she should **not** be encouraged to take courses or work on a thesis final until a decision has been made by the Graduate Council.

Documents included in the petition submitted to the chair of Graduate Council by the Graduate Coordinator should include the following:

- Petition support signed by Dean's office.
- Detailed plan for completion of degree, addressing each unmet requirement. Generally, no more than one calendar year's extension will be granted.
- Circumstances that delayed completion of degree.
- RIT graduate transcript (and, where relevant, undergraduate transcript).
- Current résumé.
- A copy of the thesis description proposal (if completed).
- A list of courses that will be older than seven years (and by how much) at the projected date of graduation. At the time of certification, the Graduate Coordinator will provide written documentation of the currency of overdue courses.
- Letter of support from graduate coordinator or faculty advisor.

A subcommittee of Graduate Council comprised of the following individuals will consider the petition. The graduate advisor must be present at this meeting to advocate for the extension.

- Graduate Council representative from requesting college
- Graduate Council representative from another college
- Graduate Coordinator submitting the petition
- Chair of Graduate Council

Decisions are usually made at the time of the meeting and students are notified directly by the chair of Graduate Council.

7.7. Automatic Withdrawal

You may be withdrawn from the program if:

- you fail to register for courses for four successive quarters; or
- you have not registered for thesis within one year after completing your course work; or
- you have not completed your thesis within one year after registering for thesis.

If you are in danger of being withdrawn, see the Graduate Coordinator, **Dr. Hans Peter Bischof**.

7.8. Registration

You will be given a Plan of Study schedule for your studies at RIT during your first quarter at RIT. The Plan of Study is complete except for electives and possible co-op quarters. Matriculated students should meet with their advisor to register for elective classes. You can also view the quarterly and yearly schedules on the B. Thomas Golisano College of Computing and Information Sciences web page:

<http://www.rit.edu/~gccis/>.

7.9. Policy on Academic Dishonesty

If a faculty member judges a student to be guilty of academic dishonesty (e.g., representing another person's work as one's own), the student may be given a failing grade for that piece of work or for the course. A repetition may result in expulsion from the program.

The Rochester Institute of Technology does not condone any form of academic dishonesty. Any act of improperly representing another person's work as one's own is construed as an act of academic dishonesty. These acts include, but are not limited to, plagiarism in any form, or use of information and materials not authorized by the instructor during an examination.

If a faculty member judges a student to be guilty of some form of academic dishonesty, the student may be given a failing grade for that piece of work or for the course, depending upon the severity of the misconduct.

If the student believes the action by the instructor to be incorrect or the penalty too severe, appeal may be made to the Academic Conduct Committee of the college in which the course is offered.

Approved September 1977

7.10. What is Plagiarism?

One HUGE misconception that students have is that rewriting something is not plagiarism, because they are "putting it in their own words." Well, if the source is not officially acknowledged, **IT IS PLAGIARISM**. Copying and pasting actually accounts for only a small percentage of plagiarism. The majority of plagiarism is a result of text manipulation. The accessibility of the Internet makes plagiarism very tempting, and unintentional plagiarism springs from this as well. **Simply stated, plagiarism is using someone's work without giving the appropriate credit.** This can mean several things...

- Copying and pasting text from on-line media, such as encyclopedias is plagiarism.
- Copying and pasting text from any web site is plagiarism.
- Transcribing text from any printed material, such as books, magazines, encyclopedias or newspapers, is plagiarism.
- Simply modifying text from any of the above sources is plagiarism. For example, replacing a few select words using a Thesaurus does not constitute original work.
- Using photographs, video or audio without permission or acknowledgment is plagiarism. You may use such a photographic, video or audio source with or in a paper or multimedia presentation that you create, as long as you do not profit from it or use it for any purpose other than the original assignment. You must include the source in your bibliography.
- Using another student's work and claiming it as your own, *even with permission*, is academically unethical and is treated as plagiarism. This is known as "collusion" and is not allowed.
- Acquiring work from commercial sources is academically unethical and is treated as plagiarism.
- Translation from one language to another is **not** using your own words.

- Using an essay that you wrote for another class/another purpose without getting permission from the teacher/professor of both the current class and the class for which the original work was used is SELF-PLAGIARISM and is basis for consequence or penalty. You may use your previous work as a basis for new research of course, but include the original work in your bibliography.

7.11. Non-matriculated Students

Non-matriculated students may take courses from our department, but prior approval must be obtained from the Graduate Coordinator. You will need to provide proof that you have completed the necessary course prerequisites. However, the number of credits that may later be applied towards a degree may be limited to twelve.

8. Computer Facilities

Graduate Security and Information Assurance students are issued accounts on the CS/IT/SE Department's computer systems as needed. These accounts can be obtained from the Systems Analyst or the Systems Teaching Assistants. Please see the department's secretaries to obtain acceptable proof beforehand.

The CS Graduate Computer Science Laboratory has 16 Sun Ultra10 Workstations available for students to work on during lab hours, and are remotely accessible 24 hours a day.

Graduate Students can access all of the laboratory machines via the Internet through ssh, or another secure connection.

Among the programming languages that are available on our systems are: Java, C++, C, Matlab, Prolog, Lisp, Smalltalk, Awk, Fortran77, Ada, Linda, Icon, Snobol J, and Logo.

Our computer facilities have been developed to support course work, theses, and research. Our Code of Conduct binds all users of the Department's computing facilities. Please read the file: <http://www.cs.rit.edu/deptInfo/codeOfConduct.html>.

9. Course Descriptions

See the B. Thomas Golisano College of Computing and Information Sciences web page: <http://register.rit.edu/courseSchedule/>.

10. Computer Security and Information Assurance – MS Program of Study

10.1. Prerequisites (Bridge Program)

Course	Cr.	Projected Qtr.	Qtr.	Grade
4003-707 Advanced Java Programming	4			
4003-713 Operating Systems	4			
1016-251 Calculus 1	4			
1016-252 Calculus 2	4			
1016-265 Discrete Math 1	4			
4010-361 Software Engineering	4			
4002-402 OS Scripting	4			

10.2. Core

Course	Cr.	Projected Qtr.	Qtr.	Grade
4002-780 Computer System Security	4			
4005-779 Secure Database Systems	4			
4002-755 Secure Wireless and Wired Data Networks	4			
4005-705 Cryptography I	4			
4010-748 Secure Software Engineering: Requirements and Design	4			
0102-785 Ethics in Technology*	4			
4010-710 Research Methods	2			
4005-690 Thesis	7			

10.3. Electives

Course	Cr.	Projected Qtr.	Qtr.	Grade
4005-709 Privacy and Security	4			
4005-759 Information Assurance	4			

4002-882 Enterprise Security	4			
4002-877 Secure e-Commerce	4			
4002-760 Computer Viruses and Malicious Software	4			
4002-841 Advanced Forensics	4			
4005-709 Cryptography II	4			
4005-759 Data Mining	4			
4005-800 Theory of Computer Algorithms	4			
4005-743 Secure Operating Systems and Networks	4			
4005-749 Server-less Network Security	4			
4010-758 Secure Software Engineering: Verification and Validation	4			
Special Topics	4			
Independent Study	4			

11. References

Rochester Institute of Technology (2002), RIT Student Rights & Responsibilities Handbook – Policy on Academic Dishonesty. http://www.rit.edu/~301www/student_conduct/StudentR_R/dishonest.html
 Accessed July 29, 2002.

Spears, M.L. (March 12, 2002) Plagiarism Q&A. <http://www.ehhs.cmich.edu/~mspears/plagiarism.html>
 Accessed July 29, 2002.