RIT

Software Engineering

Undergraduate Student Handbook

Rochester Institute of Technology
B. T. Golisano College of Computing and Information Sciences

Department of Software Engineering
www.se.rit.edu

This handbook is a basic reference for students majoring in software engineering. The information in it is drawn from various official RIT publications such as the Undergraduate Bulletin and the Educational Policies and Procedures Manual.

This handbook should be used as a guide in conjunction with official RIT publications. Should there be discrepancies between this handbook and any official RIT publication, the official RIT publication takes precedence.

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1 Introduction

We designed this handbook for current Software Engineering (SE) students. We encourage you to use it frequently as many questions you may have as you progress through your program of study may be answered here. Like every document we maintain, you can always find the most recent version of this handbook in our website at www.se.rit.edu.

We are here to help you succeed through your learning experience at RIT. The SE faculty makes every effort to stay current in their respective fields of study through scholarship activities geared towards making your academic experience rich, unique, and rewarding. Our staff is constantly exploring ways to help you meet your academic and professional goals. This handbook is the result of years of experience answering student questions, compiling information, and presenting it in a form that's useful to you. If however, there is a circumstance or situation in which you need help in resolving, and if the information you are looking for is not contained in this handbook, we encourage you to stop by the Department's main office to seek help.

While we make every effort to keep an up-to-date version of this and other printed documents as soon as we know of changes, printing hard-copies takes time. The surest source of up-to-date information is always our website where you'll find the most recent version of a variety of documents, links, rosters, lists, etc. Visit our website often.

1.1 Terms and magic words

Some of the magic words around campus center on what are known as *academic units* (colleges, departments, programs, etc). RIT is divided into eight colleges, and yours is the B. Thomas Golisano College of Information Sciences (**GCCIS**). Your department is the *Department of Software Engineering* (known as SE for short); your program is *Undergraduate Software Engineering*. You are in the *Undergraduate Program* of the *Department of Software Engineering*. There are people in charge of each of the "academic units". Colleges have what is known as *Deans*; Departments have *Chairs*; some Programs have *Coordinators.*

Official codes are used to refer to the various degree programs. Students in your classes will have various codes such as VSEN (Software Engineering), VCSG (Computer Science), EECC (Computer Engineering), SMAC, etc., for their major. If you are a full time student working toward a BS in Software Engineering you have a code of **VSEN**. If someone asks what college you are in you should answer **GCCIS**; if they ask you what department you are in, answer **Software Engineering**; and if they ask what program you are in; your abbreviated answer is **VSEN**.

1.2 Institute Policies and Procedures Manual

Throughout this document, you will see many references to RIT's Policies and Procedures webpage followed by a section number and title. If you are interested in the specific topic, visit www.rit.edu/~620www/Manual/, RIT's official Institute Policies and Procedures webpage, and click on the suggested section.

2 Communication with faculty, staff, and other students

Throughout this handbook you will see references to various people, places and things around campus. It is sometimes helpful to know whom these people are, and where they are located on campus.

2.1 Communicating through e-mail

It is likely that before coming to RIT you already had one or more e-mail accounts you like to use. RIT gives every student an e-mail account as well. The SE Department assumes that all our students use their RIT e-mail account to conduct RIT business. SE faculty and departmental notifications will only be sent to your RIT student account. By being admitted to the SE department you assume the responsibility to check your RIT e-mail frequently.

2.2 Getting in touch with faculty members

Each faculty member has an office, a telephone, a mailbox, and an e-mail address. Some even have their own WebPages. A roster of the software engineering department's faculty and staff can be found on Table 6. ***Software Engineering Staff and Faculty.*** In our website you can find all our contact information. You are encouraged to meet with faculty members during their office hours, the times they set aside each quarter to help students in their offices.

2.3 Academic advising

The department's Senior Academic Advisor (academic advisor) will help you meet your program requirements, select elective courses, and answer general questions related to RIT, courses, and other academic matters. The academic advisor's office is located in the department's main office; her contact information is listed below and can also be found on the department's website. Appointments to meet with your academic advisor can be made in person, via e-mail, or by phone.

Although your academic advisor will always be your first point of contact for most of your questions, on occasion you may need to meet with a faculty member. Your academic advisor will help you set up an appointment with a faculty member and can also assist you in presenting the information necessary to him/her. In any case, if you think you need to meet with a faculty member, please make sure to contact your academic advisor first so that, if needed, your student file can be forwarded to the faculty member before your meeting.

Academic Advisor Contact Information
Ms. Lana Verschage Office: 70-1694 Phone: (585) 475-2012 E-mail: lana@se.rit.edu

2.4 Student mail folder

Your student mail folder is located outside the department's senior projects lab (room 70-1570 in the first floor of the GCCIS Building). Please check it often for notices, graded homework assignments, registration information, and other materials. Your mail folder is a vital communication link between you and faculty, staff, and other students. You should also check the bulletin boards located near the mail folders for announcements. If you cannot find your mail folder, please inform the SE department's staff in the main office.

2.5 Computer network

In addition to providing you with electronic e-mail, your RIT student computer account also gives you access to a variety of online services such as the Wallace Library's online catalogue and the Student Information System (SIS). These and many more services are provided through RIT's Information and Technology Services (ITS) network whose website is located at

www.rit.edu/~wwwits. Any question regarding the use of computers across campus should be directed to ITS

The SE Department maintains a computer network. All SE students get an SE computer account, which is needed to access our department's computing facilities. If you have any problems with your SE computer account, stop by our department's systems administrator whose contact information you can find in the department's website.

3 Course registration

3.1 Planning a course schedule

The Schedule of Courses is published every quarter and is available from your department office. The schedule lists the course sections offered, the days and times they meet, and the classroom locations. The courses appear in the Schedule of Courses in numerical order within each college. Each course is assigned a nine-digit number; for example, 4010-101-01. All courses offered in the Department of Software Engineering begin with the numbers 4010. The next three numbers identify the specific course, and the last two numbers identify the particular section of that course. Course schedules may also be found on RIT's Student Information System (SIS). This will allow you to view course offering for one academic year.

Example: Course 4010 101 01	
40	B. Thomas Golisano College of Computing & Information Sciences
10	Software Engineering Program
101	Software Engineering Freshman Seminar
01	Section 1 (there may be several sections offered in a quarter)

3.2 Quarter codes

RIT uses a five-digit code to indicate the academic quarter – this code appears on transcripts as well as on registration materials. The first four digits are the *academic year*, which is the year in which the fall quarter occurs. The fifth digit indicates the quarter: 1 = fall, through 4 = summer.

Example: 2007-2008 Academic Year	
20071	Fall, 2007
20072	Winter, 2007-2008
20073	Spring, 2008
20074	Summer, 2008

3.3 Tips on planning a schedule

Know the courses you should register for and the sequence in which to take them. Make sure you have taken all the prerequisite courses, and choose an appropriate course load. Your academic advisor can help you with this.

Use a blank schedule to plot the time slots of your desired courses so you can see if there are any conflicts. Begin with a required course that has only one section offered and has no alternatives. Continue adding courses from least to most flexible in terms of times and number of offerings. Be prepared with an alternate course schedule in case you are not able to get into your preferred sections.

3.4 Suggested course sequence flowchart

The Software Engineering Suggested Course Sequence Flowchart located in the department's website under the ***"About the Department"*** tab, shows all the courses required for graduation, the

prerequisite chains among them, and the recommended quarter in which each course or elective is to be taken. While slight deviations are possible, it is essential that you complete all prerequisites for a course prior to registering for that course. Your academic advisor can help ensure that you take appropriate courses in the proper order.

3.5 Registering for classes

Before you register for courses, consult with your academic advisor to be sure that you are registering for the courses appropriate for you. You may register in several ways, however the best way to ensure you get all your classes is to register by SIS or by phone.

Student Information System (SIS) – Computerized registration

Plan your schedule in advance and have backup sections available in case your preferred sections are already filled to capacity (closed).

- Log in on the RIT computer network with your student account number during the registration dates designated in the Schedule of Courses booklet. Dates vary according to year-level.
- Select "SIS" from the menu.
- Follow the screen prompts to register.

— OR —

- Log in on the RIT home page at http://www.rit.edu/.
- Click on the Student tab and select Student Information System (SIS).
- Follow the screen prompts to register.

Touchtone telephone registration

- Plan your schedule in advance and have backup sections available in case your preferred sections are already filled to capacity (closed).
- See the Schedule of Courses for instructions and a helpful worksheet.
- Call 475-6717 during dates designated in the Schedule of Courses booklet.
- Follow the instructions you will hear.

Mail a completed registration form, during the time designated in the Schedule of Courses to:

Rochester Institute of Technology
Bursar's Office
George Eastman Building
25 Lomb Memorial Dr.
Rochester, NY 14623-5603

Fax a completed registration form during the time designated in the Schedule of Courses to (585) 475-7005. You will not be registered for sections that are closed (filled to capacity).

In-person registration

Submit a completed registration form during the time designated in the Schedule of Courses to the Registrar's Office on the first floor of the Eastman Building.

3.6 Overloads

To graduate on time, you should complete 16-18 credit hours each quarter. You incur in an overload if you register for more than 20 credit hours in a given quarter.

If you are a student at level 3 or above and your Grade Point Average (GPA) is 3.2 or higher, you can register for up to 20 credit hours without permission from the department. If your GPA is below 3.2 you must get departmental permission to register for more than 18 credit hours.

If you are a student at level 2 or lower, regardless of your GPA, you must seek permission from the department to register for more than 18 credit hours. In this case, you must use an Add / Drop form to register for those extra credits.

Other than students in the Honors Program, matriculated students registering for over 20 credit hours will be charged full-time tuition plus the applicable credit hour rate for each credit hour over 20.

3.7 Confirmation of registration

You will receive a Confirmation of Registration from the Registrar's Office prior to the beginning of each quarter. Check it carefully to be sure that it is accurate: course numbers, course sections, and credit hours. Occasionally there may be unavoidable changes made to the meeting times and locations of a course after you register. These changes will appear on the confirmation, and you will have adequate time to resolve any conflicts.

Two to three weeks after the beginning of each quarter, you will receive another Confirmation of Registration showing your current course schedule. You are responsible academically and financially for all courses listed on this confirmation. Review it carefully to make sure you are attending the courses and sections listed. If there are any discrepancies, they must be corrected immediately. See your academic advisor for any questions about your schedule.

3.8 Adding and dropping courses

You may change your schedule by adding or dropping courses at any time during the registration period (touchtone and SIS registration) or during the first six days of each quarter by filling out an Add/Drop form that can be obtained from the department's main office.

3.9 Withdrawing from courses

After the add/drop period and prior to the end of the eight week of the quarter, you may withdraw from a course by completing a Course Withdrawal Request Form and obtaining the appropriate signatures. Failing to attend a class does not constitute an official withdrawal. Unless you officially withdraw from a course, you will remain registered for it and the instructor must give you a grade whether or not you attend. Check with your academic advisor for specific procedures related to withdrawal. If you withdraw from a course, your official transcript will show a grade of **W**.

For details about RIT's course withdrawal policy, visit the RIT Policies and Procedures website under Section D6.0, Withdrawal and Refund Policy.

3.10 Repeating a course

An undergraduate student may repeat a course to raise a **D** or **F** grade. The last grade earned will replace the previous grade. Repeated courses are noted on the official transcript. Students may want to check with financial aid to confirm that their financial aid is not affected when they repeat courses previously completed with a "D" or better.

3.11 Independent study

To earn credit through independent study, you must first find a faculty sponsor. The faculty sponsor will work with you to develop and write an independent study plan. You both must sign the plan before filing it for approval in the department's office. If approved, your student advisor will sign on the plan and will send you a notification. A copy of the signed plan will be returned to you. You will also be notified if the plan is rejected. In this case, you have the option to revise it and resubmit for approval.

For details on independent study, you can visit the RIT Policies and Procedures webpage under Section D3.0, Registration.

4 Student related forms

4.1 Student Worksheet

This is probably the most important form you will use at RIT. It is your record of the courses you have taken and the credits you have earned. It also is a list of all the courses you are required to take for your degree. You will be provided with this worksheet when you enter RIT. If you are a transfer student, it will be filled out with all the transfer credits you receive. You should take this form along with you when you see any advisor, and it is your responsibility to keep your worksheet up-to-date. You can download the worksheet from the department's website under the *Forms* tab.

4.2 Application for graduation

Students should submit their Application for Graduation and undergo a degree audit roughly four to six academic quarters before they intend to graduate and receive a degree. The Application for Graduation is an official RIT form. The degree audit process calls for you to submit an up-to-date copy of your SE worksheet as well as a copy of your current Liberal Arts worksheet obtained from the Liberal Arts Office of Student Services (06-2210). Your advisor will use the results you bring in from this process to determine your remaining requirements for graduation. A completed Remaining Graduation Requirements form will be returned to you, either confirming your understanding of your remaining degree requirements or noting discrepancies. If you disagree with the listed requirements, arrange to see your academic advisor. By filling out this application four to six quarters before you plan to graduate, you can avoid many last-minute hassles over transfer credits, degree requirements, the acceptability of specific courses, etc.

4.3 Declaration of a minor or concentration

The Liberal Arts Department permits minors, which are relatively new at RIT. There is a specific form available for this, and procedures are given in a document describing Liberal Arts minors and concentrations. Mathematics now offers minors and other departments may propose minors in the future, so be sure to see the department sponsoring the minor for the appropriate form and information. Students may also elect to complete a concentration in Liberal Arts, which they may register for online through SIS.

4.4 Declaration of application domain

By the beginning of the third year all software engineering majors must choose an application domain. An application domain is a series of three upper-level courses in a specific area of study. Please be sure to check the prerequisite for each course before attempting to register to take it. In order to declare a domain and get credit for it, you must complete an Application Domain

Declaration form which can be obtained from our department's website under the *Forms* tab. You must submit the form for approval in the department's office.

Table 1 shows all approved application domains at the time this document was revised. When you are ready to select yours, please check the department's website for an updated list.

> If there is an application domain that might interest you, but which you cannot find in the department's approved application domains, you ***must*** still file an Application Domain Declaration form where you can describe the application domain you intend to pursue. Though students decide ***which*** application domain to take, it is the department's responsibility to decide ***what*** application domains are suitable for our students. An up-to-date listing of approved application domains with instructions can always be found in the department's website under the ***Application Domains*** tab. You are urged to check the website for current information in this respect.

The actual courses included in each application domain can be found in the department's website.

Artificial Intelligence	Foundations of Entertainment Design
Business Applications (Economics, Entrepreneurship, Finance, Management, Marketing)	Industrial and Systems engineering
Cognitive Science and Human-Machine Interaction	Information assurance
Computer Engineering	Mechanical Engineering
Computer Graphics	Scientific & Engineering Computing

Table 1 *Application domains.*

4.5 Tracks of study

Your program of study includes 14 elective courses distributed as follows:

- 2 science electives
- 1 math/science elective
- 3 application domain electives
- 3 engineering electives
- 2 software engineering electives
- 3 free electives

By choosing your elective courses carefully you can shape your program of study to enhance your academic experience. Though advisory in nature, tracks of study offer guidance to help you make informed and cohesive choices for the places where the curriculum offers the flexibility in the form of elective courses. Most tracks center around an application domain, a minor, or both. A track description includes the following:

- A general explanation of the track's domain.
- Suggestions for related software engineering courses.
- Suggestions for courses from other programs.
- Related minors you might want to consider.
- Prerequisite sequencing and other constraints.

Tracks facilitate the long-term planning of your education at RIT as they can help you organize your coursework around an area of interest. As of the writing of this document we have identified seven tracks: *Enterprise applications*, *Entrepreneurship*, *Entertainment-centric software development*, *Hardware*, *User-centric software development*, *Software product management*, and *Bio/Medical Informatics*. Details can be found on the department's website.

4.6 Request for re-evaluation of transfer credit

Available from the Registrar's office, this is the form to use if you think the credits you received for courses taken before you came to RIT are inappropriate. You can try to get credit for a course that received no credit, or try to get a course to count in a different area. Details on transferring credits from another university to RIT can be found under *Graduation Requirements* in Section D of RIT's Policies and Procedures Manual.

4.7 Transferring courses from another college

If you plan to take a course at another college while a student at RIT, you must obtain written approval from the Software Engineering Office prior to taking the course. For liberal arts courses, you must obtain prior approval from the College of Liberal Arts advising office. A minimum grade of **C** is required for transfer credit. An official transcript must be sent directly from the transfer college to the Registrar's Office at RIT at the address below before transfer credit is granted. Grades for courses transferred to RIT from another university are not calculated in your RIT grade point average.

Rochester Institute of Technology
Registrar's Office
George Eastman Building
27 Lomb Memorial Dr.
Rochester, NY 14623-5603

Details on transferring credits from another university to RIT can be found under *Graduation Requirements* in Section D of RIT's Policies and Procedures Manual.

4.8 Student transfer credit evaluation form

As part of the application process, transfer students receive a written evaluation of their transfer credit on a Student Transfer Credit Evaluation form. It is the responsibility of the department's student advisor to complete and process this form. This form will show all credit awarded: transfer credit for all course work already completed, and pending credit for course work in progress. If this form shows pending credit, you must request that a final transcript from your former school be sent directly to the Registrar's Office at RIT. Upon receipt of this transcript, another evaluation will be done on a Change of Academic Record form. Be sure to keep your copies of all forms.

5 Forms for changing status

Change of Program Application Form – You would use this form to change your major. This is an application only; the major to which you are trying to transfer into must accept you before the transfer is completed. While you may be taking some SE courses that are not required by the

program you are attempting to change to, failing grades in these courses may lessen your chances of being accepted by this program. Under these circumstances, consider withdrawing from courses you are doing poorly in and seek advice from your academic advisor and the appropriate major you are trying to change to.

Leave of Absence or Institute Withdrawal Form – This is the form to use if you want to leave RIT for any length of time. A leave of absence may not extend beyond five quarters and when you return, it is as if you never left. A withdrawal from RIT means that if you wish to return, you must reapply for admission.

Change of Off-Campus Address – Whenever you move, you should fill out this form. This form allows you to change your permanent home address, your local address (if you are not living in the dorms), or the address of your next of kin. You can also make these changes using SIS.

Change of Social Security Number and/or Name – This form is used if your name or social security number is recorded incorrectly on RIT records, or must be changed for some other reason. Note that this is done through the Registrar's office, and requires the appropriate supporting documentation.

6 Programs of study

When you applied to RIT, you probably received an "Official RIT Undergraduate Bulletin", which included a summary of all the academic programs on campus. In this section we will give you more detailed coverage of the curriculum for the Undergraduate Software Engineering program. Before taking some RIT courses, you may be required to successfully complete one or more prerequisite courses. When a course is designed, it is determined what prior knowledge is necessary in order for students to succeed in that course. Occasionally, a course may be listed as a co-requisite for another course, meaning that both courses may be taken concurrently. You may find out information regarding these kinds of requirements in the numerous printed and online sources of information that describe courses, list schedules, etc. Heed prerequisites or co-requisites – they are put in place to help you succeed, and you may be dropped from courses if you have not satisfactorily completed their prerequisites.

If you are an entering student with Advanced Placement credit or a transfer student, or if you fall a course behind, your schedule will look somewhat different. Our plans assume that students take four courses per quarter, but not all students adhere to that scheme. Although this handbook contains considerable information, it does not address every situation. See your academic advisor when you have questions or just to sound them out about your plans for an upcoming quarter.

6.1 Liberal arts Core and concentration Requirements

RIT is committed to graduating professionals with a well-rounded education. Potential employers seek graduates who are able to communicate logically and coherently, who can make critical assessments from a variety of perspectives, and who have a broad understanding of contemporary cultures. The courses within the liberal arts curriculum at RIT equip students with the necessary knowledge and skills to understand the crucial issues in the application of technology, and ultimately, to approach one's work in a thoughtful and reflective manner. A summary of the SE liberal arts requirements can be found in the department's official flowchart, available in our website.

Detailed information about RIT's liberal arts requirements can be found under the "Current Students" tab in the College of Liberal Arts website which you can access from RIT's main webpage.

6.2 Math and science electives

To satisfy the curriculum's *basic science* requirement, you must take three science courses, one of which must be University Physics I (1017-311). The remaining two science courses are elective and, subjected to prerequisites, you can choose any combination from those listed on Table 2. Normally you would take your three basic science courses during the Fall, Winter, and Spring quarters, respectively, of your second year.

In addition, sometime during your third year you must take an extra math/science course from the list given in Table 2 under "Math / Science Elective".

Basic Science Requirement (prerequisites apply)
University Physics I – This course is required
Biology
1001-201 General Biology I + Lab (1001-205)
1001-202 General Biology II + Lab (1001-206)
Chemistry
1011-215 General and Analytical Chemistry I + Lab (1011-205)
1011-216 General and Analytical Chemistry II + Lab (1011-206)
Physics
1017-312 University Physics II
1017-313 University Physics III

Math/Science Elective (prerequisites apply)
Any remaining Biology, Chemistry, or Physics course not used in satisfying the basic Science Elective Requirement
1001-203 General Biology III + Lab (1001-207)
1011-217 General and Analytical Chemistry III + Lab (1011-207)
1016-306 Differential Equations
1016-331 Matrix Algebra
1016-365 Combinational Mathematics
1016-467 Theory of Graphs and Networks

Table 2. *Basic Science & Math/Science Elective Courses.*

Choosing the right science sequence is an important decision and if you need help making this decision, you should seek advice from your academic advisor. Note that the program requires you to take three engineering electives (see Section 6.3); your choice of science electives may have an impact on the engineering electives you will be able to take as some engineering courses have physics or differential equations as a prerequisite. For example, if you are interested in mechanical engineering, you would need to take University Physics I, II, and III prior to registering for many of the Mechanical Engineering courses. By way of contrast, if your interest is in Industrial Engineering, a good number of courses offered by the department of Industrial and Systems Engineering do not have physics as a prerequisite. In that case, you could take a mix of Chemistry, Biology and Physics courses without impacting your engineering electives.

6.3 Engineering electives

The software engineering curriculum requires that you take three engineering elective courses. You are most likely to take these courses during your 4th or 5th year. Your choice of science and math/science electives could have an impact on the type of engineering courses you will be able to take. In general, most upper level engineering courses have physics as a pre-requisite while other courses may require differential equations as well. We advise you to think carefully and/or seek advice before you decide which engineering courses you will be taking so you take the right science electives earlier in the program. Table 3 lists the programs from where you can choose

engineering electives. Please note that due to accreditation issues, you cannot replace an engineering elective with say, a science course even though they may look similar. The three engineering elective courses must all come from the programs listed on Table 3.

Program Name
Computer Science (See list of approved courses on website)
Computer Engineering
Industrial & Systems Engineering
Mechanical Engineering
Microelectronic Engineering
Software Engineering

Table 3. *Programs from which you can choose Engineering Electives.*

6.4 Physical education

Physical education is the concrete embodiment of RIT's belief in the value of life-long health and fitness. The Center for Intercollegiate Athletics and Recreation – is the RIT division that coordinates the wellness (or instructional) program, intercollegiate athletics, recreational activities, and intramurals.

First Year Enrichment (FYE) is a no-fee 1-credit course that must be taken during the Fall and Winter quarters of the freshman year by all entering students who are transitioning from high school. Students who earn an F in FYE may elect to complete an independent study during the following Spring quarter.

Activity courses involve participation in such varied categories as aerobics, karate, scuba diving, or cross country skiing. All software engineering students must successfully complete two different activity courses.

Transfer students entering with first or second year status must successfully complete the Wellness for Life course and two different Wellness Activity courses. Transfer students entering with third, fourth, or fifth year status must successfully complete the Wellness for Life course and one Wellness Activity course. Transfer students may (if approved by their home department) apply course work successfully completed at previous institutions to Wellness Education requirements.

We encourage students to complete their Wellness Education requirements within their first two years at RIT. We also encourage students, on a space available basis, to take additional Wellness Activity courses. The Wellness Education requirements apply to both full-time and part-time students. Exceptions to the Wellness Education requirements are made for students who are 25 or older when they first enter RIT, who have military service, participate in intercollegiate athletics, have permanent medical excuses, or are non-matriculated. Questions regarding Wellness Education requirements, exceptions and transfer issues should be directed to the Associate Director for the Center for Intercollegiate Athletics and Recreation (23-1212; 475-2620-V/TTY).

6.5 Accelerated computer science

If you received Accelerated Placement (AP) credit for computer science courses, you may be placed on a slightly different computer science course sequence designed to better meet your academic needs. Table 4 summarizes the SE department's Computer Science AP credit placement policy.

Exam	Score	Course Given Credit	Credits Awarded	Placement
A	3	none	0	4003-231 (CS1)
A	4 or 5	4003-231 (CS1)	4	4003-232 (CS2)*
AB	3	4003-231 (CS1)	4	4003-232 (CS2)*
AB	4	4003-231 (CS1) 4003-232 (CS2) *Substituted*	4	4003-232 (CS2)* or 4003-236 (CS for AP Students)*
AB	5	4003-231 (CS1) 4003-232 (CS2)	8	4003-236 (CS for AP Students)

Table 4. *Computer science credit for AP courses.*

a) If you received a 4 or 5 on the *A* exam or a 3 on the *AB* exam we advise you to take the CS Placement Exam, so you may enroll in *4003-232 Computer Science 2*. If you elect not to do this and start with CS 1, you **will not** receive AP credit for computer Science.

b) If you received a 4 on the AB exam we advise you to take the CS Placement Exam, so you may enroll in *4003-232 Computer Science 2* or even in *4003-236 Computer Science for AP Students* depending on your score in the Placement Exam. If you elect not to follow this advice and start with CS 1, you **will not** receive AP credit for computer Science.

c) If you received a 5 on the AB exam you may take *4003-236 Computer Science for AP Students* without taking the CS Placement Exam. Please contact your academic advisor at lana@se.rit.edu to reserve a seat. Alternatively, you may elect to receive less AP credit and start with *4003-232 Computer Science 2*.

d) If you elect to take *Computer Science for AP Students* and complete it successfully

- Four hours of AP credit will be awarded for CS 1.
- If you scored 5 in the AB exam, four hours of AP credit will be awarded for CS 2.
- If you scored 4 in the AB exam, CS 2 is *substituted* and in its place you are required to take an extra Computer Science elective. In this context, a *substituted* course only allows you not to take that course, but you are still responsible for the course's credits. The SE department's policy requires that you take a Computer Science technical elective.
- *If you successfully complete Computer Science for AP Students* the grade you earn in that course will be used in place of CS3.

e) If you are eligible for Computer Science AP credit (AB 4 or 5) and if you elect not to take *Computer Science for AP Students* and instead elect to start with CS 1, then you **will not** be awarded AP credit for Computer Science.

f) If you are eligible for Computer Science AP credit (AB 4 or 5) and if you elect not to take *Computer Science for AP Students* and instead you elect to start with CS 2, then you **will** be awarded credit for CS1 only.

If you receive a W, D or F in *CS for AP Students* you must take CS 2 or CS 3 after consulting with your academic advisor.

6.6 Honors Program

RIT invites a small number of students from among the top entering first-year class to apply for admission to the Honors Program. Once accepted, students must continue to meet published criteria at selected progress points in order to remain in the Program. There are provisions for students to gain late entry to the Honors Program in their first or second year at RIT.

The Honors Program offers students numerous advantages, such as opportunity to live in special honors housing, early registration, smaller class sizes (for honors courses), and scholarships. The Honors Program attempts to enhance a student's educational experience through three components: modified versions of Liberal Arts and General Education courses, experiential education or complementary learning activities, and professional opportunities through a student's college or department. A search for Honors Program from the RIT Home Page will lead you to web pages that contain further information, as well as links to contact individuals. You can find more information on this topic at http://www.honors.rit.edu/.

6.7 Study abroad

RIT Continues to develop more and more opportunities for students to study abroad. RIT students may study at numerous centers around the world, fulfilling Liberal Arts, General Education and Professional degree requirements. A search for Study Abroad from the RIT Home Page will lead to web pages that contain further information, as well as links to specific study abroad programs and contact information. There is a process to follow in order to learn more details and to help your planning. You must meet with your academic advisor to make sure that the courses you select will count towards your degree requirements. You can find more information at http://studyabroad.rit.edu/.

6.8 Cooperative education requirements

Cooperative education gives you the opportunity to apply what you learn in the classroom to real problems in industry. Co-op is a hallmark of the RIT engineering programs, and all software engineering students are required to complete four quarters of co-op prior to graduation. In fact, completion of all co-op requirements is a prerequisite to register for Senior Projects I (4010-561), the first of the two course capstone project sequence.

You become eligible to start your co-op after completion of Engineering of Software Systems (4010-362). Co-op typically alternates with quarters of on-campus academic work. It is suggested that students begin their co-op job search approximately nine months in advance. Students who have not done co-op before must attend a mandatory orientation session. These sessions are normally held early in the fall, winter, and spring quarters.

As you progress through your education you are likely to find many opportunities to perform professional work. While we encourage our students to engage in professional activities that allow them to practice what they learn in our courses, we also advise them on which activities can or cannot be counted as co-op experience. The following guidelines should help you decide when activities.

1. The work you perform as co-op should be commensurate with your level of education and abilities as a software engineering student. The work should require that you practice the skills described in the Software Engineering Program Outcomes.
2. You should have a paying job for at least 35 hours per week for at least 10 weeks. Co-op credit will not be given for part-time work, or work performed while you attend classes.

3. C-op credit will not be awarded for work performed prior to your successfully completing 4010-362, Engineering of Software Subsystems.
4. You should be employed in a standard work environment with an immediate supervisor or technical lead in regular contact with you to observe and evaluate your performance.
5. For a first co-op, you could collaborate with other software professionals who could provide guidance and support.
6. If you have documented full-time employment as a software professional for at least five years prior to beginning the software engineering program, you may petition in writing to the department chair for up to two blocks of co-op credit for this work experience.
7. A request for credit for any non-traditional co-op (i.e., work not in a standard work environment with an immediate supervisor or technical lead overseeing your work) must be made in writing by the end of *week six* of the term prior to the beginning of the co-op block. Any request for retroactive credit after work has begun or after work has been completed will be denied without review.

Co-op is administered by the Cooperative Education and Career Services Office in the Bausch and Lomb Building (77). Prior to your first co-op block, an advisor from the Co-op office will contact you to help you prepare for co-op. The Software Engineering Department will not approve a co-op assignment unless you have attended the co-op orientation session. You can find more information on this topic at http://www.rit.edu/~964www/.

6.9 Advanced Placement (AP) credit

An increasing number of students come out of high school with "advanced placement" (called AP for short) credit in various fields. AP credit is awarded to you if you have attained a satisfactory grade (generally 3 or better) on the AP test for an area applicable to your degree. Students typically receive AP credit for courses in Computer Science, Mathematics, Science, and various Liberal Arts areas. AP credit for Liberal Arts courses (for example, Writing and Literature or History) is awarded by Liberal Arts; consult them directly for information about those exams. A transcript must be submitted to RIT from the College Testing Center to receive AP credit. When we award AP course credits to you, you should consider them to be provisional. For instance, if you received a "4" on the "AB" Math test, but you don't want to take Project Based Calculus II right away, you may take Project Based Calculus I if you feel more comfortable. If you decide not to accept AP course credits that we offer, please let us know, so we can submit the necessary paperwork to remove the AP credits from your official RIT transcript. After evaluation you will be informed as to the credit assigned. AP courses are not included in your RIT GPA. Details on how we may award credits depending on AP courses taken and grades obtained can be found in our website under the "Prospective Students" tab.

7 Grades

RIT uses a single letter grading system upon which the program quarterly, institute cumulative, and principal field of study grade point averages are based.

Grade	Meaning	Quality Points Earned
A	Excellent	4
B	Good	3
C	Satisfactory	2
D	Minimum Passing	1
E*	Conditional Failure	0

F	Failure	0
* Temporary grade given in first or second quarter of a 2- or 3-quarter sequence of courses. If sequential course is passed with a "D" or above, the "E" is changed to a "D." If an "F" is earned, the "E" is changed to an "F."		

Table 5. *Grades and their meanings.*

A grade of **I** (Incomplete) may also be given when the instructor observes conditions beyond the control of the student that prevent the student from completing the course requirements in a particular quarter. The student has the two quarters immediately following the quarter in which the **I** is given to complete the course requirements. At that time, the instructor assigns a permanent grade and submits a Change of Grade Form to the Registrar's Office. The **I** is a temporary grade, which will automatically become an **F** unless the student completes the course requirements within the prescribed time and the instructor submits a Change of Grade Form.

You can find RIT's grade policy in the RIT Policies and Procedures webpage under Section D05, Grades.

7.1 Grade reports

Grade reports are distributed to you via your department student mail folder at the end of fall and winter quarters. A duplicate copy is also sent to your home address at the end of fall and winter quarters. Grade reports are mailed to your home address at the end of spring and summer quarters. Make sure that your home address is correct in the Student Information System (SIS) and in the Software Engineering Office records.

7.2 Grade Point Average (GPA)

RIT computes undergraduate GPAs using three methods:

Institute-Quarterly, Yearly Cumulative	Reflects all course work completed at RIT within an academic quarter or year.
Program-Quarterly, Yearly and Cumulative	Reflects course work completed at RIT applicable to graduation in a student's current academic program within an academic quarter or year.
Undergraduate Principal Field of Study	Reflects course work completed in a student's specialized field of study.

For details on GPA and its computation you can visit the RIT Policies and Procedures webpage under Section D5.0, Grades.

7.3 Dean's list

Matriculated students are eligible for the Dean's List in a particular quarter if they earn at least 12 credit hours in that quarter, have a quarterly GPA of 3.40 or higher, have not been placed on probation due to a low cumulative grade point average, and do not have any grades of **I**, **D**, **E**, or **F**. A thorough discussion of RIT's Dean's List policy can be found in the RIT Policies and Procedures webpage under Section 5.0, Grades.

7.4 Academic probation and suspension

A student is placed on probation if he/she fails to maintain a **C** average (2.0) in courses in one of several categories. Probation can lead to suspension from the Institute if it is of long duration or if the grade point average for a quarter is extremely low. A student is placed on probation when either of the following occurs:

1. The grade point average for a quarter is less that a 2.0
2. The grade point average in courses in the Profession Field of Study (PFOS) is less than 2.0 after 20 credit hours have been completed.

Students are removed from probation upon achieving a quarterly GPA and PFOS over 2.0.

A student placed on probation may be suspended under any of the following conditions:

1. The quarterly grade point average is less than 1.0.
2. Then student has been on probation for three consecutive quarters during which classes were taken.
3. The student has been on probation in the past, has been removed from probation, and is placed on probation again with a program cumulative grade point average under 2.0.
4. The student has been on probation in the past, and is placed on probation for two consecutive quarters.

Suspension is typically for one academic year, after which the student may apply for readmission. The decision to readmit is ultimately in the hands of the Dean of the College in which the student wishes to enroll

8 Honor societies

Tau Beta Pi

This national engineering honor society has members of distinguished scholarship and exemplary character. Election to Tau Beta Pi is one of the highest honors that can come to an engineering student from his or her peers. You can learn more about this society at www.rit.edu/~tbpwww/.

8.1 Student chapters of professional organizations

National Society of Black Engineers (NSBE)

The student chapter of the National Society of Black Engineers is dedicated to the retention, recruitment, and successful graduation of its members. You can learn more about this society at www.rit.edu/~nsbewww/.

Society of Hispanic Professional Engineers (SHPE)

The Society of Hispanic Professional Engineers is an association of professionals and students in engineering, science, technology, business, and other related disciplines at RIT. SHPE's basic thrust is to identify and promote professional growth opportunities for Hispanics (08-2206; 475-6529). You can learn more about this society at www.rit.edu/~shpewww/.

Society of Women Engineers (SWE)

The Society of Women Engineers at RIT is a student-run organization. Its members belong to engineering and engineering technology majors. The RIT chapter is strongly committed to the encouragement of women in pursuing a career in engineering or related fields (09-2117; 475-2971). You can learn more about this society at www.rit.edu/~sweeng/.

9 Support services

Center for Religious Life (Schmitt Interfaith Center)

Campus ministers for various religious traditions are available for religious services, personal counseling, and many program activities. For more information, call 475-2135-V/TTY.

Campus Safety (Grace Watson Hall)

The Campus Safety Department is open 24 hours a day and provides escort service, lost and found, vehicle registration, medical/handicap parking permits, and public safety programs. For more information, call 475-2853-V or 475-6654-TTY. For emergencies, call 475-3333-V or 475-6654-TTY.

Counseling Center (August Center)

The Counseling Center offers many services: personal and career counseling; alcohol/drug counseling and education; and rape education and counseling. The services of the center are confidential and free. For more information, call 475-2261-V or 475-6897-TTY.

Disabled Students' Service (Eastman)

The Office of Special Services offers specific services and support to students with short or long-term physical or learning disabilities. The goal of this office is to provide the necessary academic and personal support that will enable students who qualify to fully realize their potential and to successfully complete their college career. Eligibility for the program is determined by financial aid, physical or learning disability, and first generation college status. For more information, call 475-7804-V or 475-6988-TTY.

English Language Center (Eastman)

The English Language Center offers courses of study of English as a second language to non-native speakers on a full and part-time basis. Program offerings include conversation, grammar, writing, vocabulary, reading, presentation skills, business communication, and TOEFL preparation. For more information, call 475-6684-V/TTY.

International Student Program (Student Alumni Union)

The Office of International Student Affairs assists international students on visas with immigration regulations and travel documents as well as adjustment to the academic and cultural expectations in the US. It works closely with on-campus international student clubs, International House (a special-interest house in the residence halls for both international and American undergraduates), and the Rochester International Friendship Council, which extends friendship in the Rochester community to international students. For more information, call 475-6943-V/TTY.

Minority Engineering Student Program (Gleason)

The mission of the Minority Engineering Program is to increase the enrollment and retention of African-Americans, Hispanic Americans, Native Americans, and Asian-Americans studying engineering. For more information on this program visit the program's website at http://www.rit.edu/~630www/advising/minorities.htm or call 475-2918.

Student Health Service (August Center)

The Student Health Service, staffed by physicians, nurse practitioners, registered nurses, an interpreter for the deaf, and a health educator, provides primary medical care on an outpatient basis. You may be seen on a walk-in basis during designated hours Monday through Saturday;

except for allergy, psychiatric, and gynecological services, which are available by appointment. For more information, call 475-2255-V/TTY or 475-5515-TTY.

Wallace Library

Wallace Library provides information in many forms including print, compact disks, microfilm, and microfiche. An on-line computer catalog, computerized searching capabilities, and interlibrary loan provide access to virtually all publicly available material. Reference librarians are available to assist in the use of these resources. For more information, call 475-2562-V or 475-2962-TTY.

WISE: Women Intent on Success in Engineering (Gleason)

WISE has been developed to increase the enrollment and improve the retention rate of female students in engineering. Services such as group course registration, HEADS UP course, study groups and monthly luncheons are available to all interested students. For more information, contact the office of the Assistant Dean for Student Services at 475-2971-V or 475-2145-TTY.

Support Centers

Software Engineering

This lab is located in the software engineering area and is designed to help software engineering students with questions related to the first year computer science sequence. Help is also available on mathematics, physics, and assembly language (70-1670).

Engineering Learning Center

Engineering faculty and students provide free tutoring for most first and second year engineering, calculus, physics, and chemistry courses. It is a place to ask questions about course work or homework. You are encouraged to drop in to the center for help or use it as a study facility. Hours are posted each quarter outside the door. The center is adjacent to the Erdle Commons in the Gleason Building (09-1000).

Academic Support Center

The Academic Support Center (ASC) offers a variety of services including the College Skills Program and the College Restoration Program. The College Skills Program offers workshops, classes, and labs for instruction in reading, writing, mathematics, and study skills. The College Restoration Program is designed for students who have experienced academic difficulty and suspension. For more information, call 475-6682-V/TTY or drop in to the ASC in the Eastman Building (01-2309).

Math Help Sessions

Free tutoring is provided by mathematics faculty for most math courses taken by all students on campus. If you have difficulty understanding the course work or have questions about homework, you are encouraged to attend the help sessions. Hours are Monday through Thursday, 4 to 6 pm in the Gosnell Building (08-2365). For more information and location, contact the Department of Mathematics and Statistics in the College of Science, 475-2498.

Math Help Laboratory

Math faculty and students provide free tutoring for all levels of mathematics in conjunction with the ASC. It is a place to ask questions about course work or homework. You are encouraged to drop in the center for help or use it as a study facility. Hours are posted each quarter outside the door in the Eastman Building (01-1302).

Physics Study Center

Physics faculty and students for physics courses taken by all students on campus provide free tutoring. If you have difficulty understanding the course work or have questions about the homework, you are encouraged to stop in the center for help. Watch for notices posted in the engineering building for hours and location. For more information, contact the Department of Physics in the College of Science (08-3300; 475-2421).

10 RIT educational policies

10.1 Confidentiality

RIT complies with the Family Rights and Privacy Act of 1974, which governs access and release of information from student educational records. This statute, in part, permits you to inspect your educational records, provides the opportunity for you to challenge such records as inaccurate, and limits disclosure of non-directory information such as grades and class schedules to persons outside of the institute without your written permission.

RIT views all students under 21 years of age as dependents of their parents unless the student provides proof of financial emancipation. Parents of dependent students have full access to their son's or daughter's educational record including grades.

10.2 Academic honesty

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, including the use of all or parts of computer programs created by others, or the 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 taken 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.

10.3 Discrimination and harassment policy

The RIT community is committed to a diverse and dynamic learning, working, and living environment. RIT will not discriminate in terms and conditions of employment, admission, and participation in programs or residential life. RIT prohibits discrimination and harassment on campus, or at any RIT activity off campus, by its administrators, faculty, staff, students and student organizations, as well as external organizations and individuals in their operations with RIT.

RIT defines discrimination as behavior, which uses age, citizenship, color, creed, culture, disabilities, gender, marital status, national origin, political affiliation or preference, race, or sexual orientation as a basis for:

- making hiring or admissions decisions at RIT,
- determining participation in programs at RIT or sponsored by RIT,
- academic standing, or access to any benefit or privilege at RIT,

- administering disciplinary processes, except where distinctions are bona fide or otherwise permitted or required by law.

RIT defines harassment as unwelcome physical contact, conduct, or communication, which has the purpose or effect of:

- Unreasonably interfering with an employee's or student's work, academic activities or residential life at RIT, or participation in RIT-sponsored programs or events
- Creating an intimidating, hostile, or abusive environment for an employee or student at RIT or in RIT-sponsored programs or events, as determined by RIT policy.

RIT is committed to an environment which encourages, promotes, and protects free inquiry and free expression. Members of the RIT community have the right to hold, express vigorously, defend, and openly promote their ideas and opinions. The RIT policy prohibiting discrimination and harassment is not intended to restrict freedom of speech or any form of artistic or visual expression.

The policy is also not intended to restrict discussion and debate in the classroom or academic forum. Protecting these values does not include protecting acts of discrimination or harassment. Making an intentionally false charge of discrimination or harassment or retaliating against someone who has made a charge is as serious an offense as discrimination or harassment and is prohibited.

11 The Society of Software Engineers

Organized and led by software engineering students, the Society of Software Engineers is our official liaison with our students. While the society's primary focus is to help our majors with academic matters through mentoring, study sessions, and exam review activities, it often organizes fun events. Over the last few years the Society has sponsored Super Bowl parties, Winter Balls, trips to Darien Lake, and computer game competitions. The Society is also a great resource to get to know other students and to learn about co-op and permanent job opportunities. You can get to the Society's webpage from our department's website or by entering http://sse.se.rit.edu/ in your Web browser.

12 Faculty and staff

The faculty and staff of the Software Engineering department are here to help with any issues that might impact your success here at RIT. Table 6 shows our staff and faculty contact information.

Software Engineering Main Office			
Dr. J. F. Naveda *Department Chair*	70-1698	5-5048	fernando.naveda@se.rit.edu
Ms Sarah Mittiga *Sr. Staff Specialist*	70-1690	5-5461	sarah.mittiga@se.rit.edu
Mrs. Lana Verschage *Sr. Professional Advisor*	70-1694	5-2012	lana.verschage@se.rit.edu
Mr. Kurt Mosiejczuk *Systems Administrator*	70-1527	5-5999	kurt.mosiejcuz@se.rit.edu
Software Engineering Faculty			
Dr. Mark A. Ardis	70-1551	5-2949	mark.ardis@se.rit.edu
Mr. Kenn Martinez	70-1555	5-5152	kenn.martinez@se.rit.edu
Dr. J. Scott Hawker	70-1569	5-2705	scott.hawker@se.rit.edu
Dr. Stephanie Ludi	70-1557	5-7407	stephanie.ludi@se.rit.edu

Mr. Michael Lutz	70-1573	5-2472	mike.lutz@se.rit.edu
Dr. Raghu Reddy	70-1537	5-7609	raghu.reddy@se.rit.edu
Mr. Thomas Reichlmayr	70-1571	5-2852	tom.reichlmayr@se.rit.edu
Dr. Lei Wu	70-1535	5-4663	lei.wu@se.rit.edu
Dr. James Vallino	70-1559	5-2991	jim.vallino@se.rit.edu
Dean's Office			
Dr. Jorge Diaz-Herrera - Dean	70-1000	5-4796	jdiaz@gccis.rit.edu

Table 6. *Software Engineering Staff and Faculty.*

13 Answers to common questions

Table 7 will help you determine the best way to find answers to most questions on the topics listed. If you have a question on a topic not included in this list, please stop by the department's main office where one of our staff will point you in the right direction.

Need Information About	SE Advisor	RIT Office	Other
Academics/Program Requirements	a		
Billing (tuition, fees, scholarships, loans etc.)		Bursar 01/ 1st floor 475-6186 (V) 475-2080 (TTY)	
Career Counseling	a	Counseling Center 23/2100 475-2261 (V) 475-6879 (TTY)	
Change of Address		Registrar 01/1st floor 475-2811 (V/TTY)	SIS (Student Information System on VAX)
Change of Program	a		
Course Information	a		Course instructor, *Undergraduate Bulletin*, or SE website
Credit (AP, Transfer, Experience)	a		
Emergency		Campus Safety 475-3333 (V) 475-6654 (TTY)	
Escort Service		Campus Safety 475-2853 (V) 475-6654 (TTY)	
Financial Aid		Financial Aid 77/2nd fl. 475-2186 (V) 475-6909 (TTY)	
Illness		Student Health Ctr. 23/1st floor 475-2255 (V / TTY) 475-5515 (TTY)	
Library Skills Help		Wallace Library Reference Desk 475-2563 (V / TTY)	
Lost & Found		Campus Safety 475-2853 (V/TTY)	SE main office – 70-1690

Need Information About	SE Advisor	RIT Office	Other
Parking Permit		Parking Office 25/1160 475-2074 (V / TTY)	
Personal Counseling		Counseling Center 23A/2100 475-2261 (V / TTY)	
Support for Women Engineering Students			Assist. Dean for Student Services 09/2117 475-2971 (V) 475-2145 (TTY)

Table 7. ***Common RIT Contact Numbers*** **.**