

UNDERGRADUATE HANDBOOK

FOR FIRST YEAR STUDENTS

ENTERING FALL 2011

MECHANICAL ENGINEERING DEPARTMENT

76 LOMB MEMORIAL DRIVE

KATE GLEASON COLLEGE OF ENGINEERING

ROCHESTER INSTITUTE OF TECHNOLOGY

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WELCOME FROM THE M.E. DEPARTMENT

Dear Mechanical Engineering Student:

Now that you have entered the undergraduate program, you will be associated with this department for anywhere from two to five years. You will want to know who to contact for advice on selection of courses, adding/dropping courses, part-time work in the department, etc. or, you may want to know about some of the laboratories or opportunities to work on specific projects. You may look for answers to your questions in this handbook.

The Program Educational Objectives are broad statements that describe what graduates are expected to attain within a few years of graduation. The Program Educational Objectives of the Bachelor of Science degree program in mechanical engineering at Rochester Institute of Technology are to have graduates who will:

- EO1 practice mechanical engineering in support of the design of engineered systems through the application of the fundamental knowledge, skills, and tools of mechanical engineering.
- EO2 enhance their skills through formal education and training, independent inquiry, and professional development.
- EO3 work independently as well as collaboratively with others, while demonstrating the professional and ethical responsibilities of the engineering profession.
- EO4 successfully pursue graduate degrees at the Master's and/or Ph.D. level.

The ME Department achieves these objectives by:

- Integrating cooperative education into the program for all students,
- Providing a strong foundation in mathematics and science with a balance between liberal studies and technical courses,
- Establishing balance between the engineering science, an appropriate computational experience, experimental work, and engineering design components of the program,
- Incorporating a strong laboratory component in the program with outstanding laboratory facilities,
- Having a diverse faculty committed to engineering education,
- Making available a combined BS and Masters option to academically stronger students. This option allows a student to complete the requirements of both the BS and Masters degrees in a five-year period. A student in this option completes four co-op work-blocks, and three courses count toward both BS and Masters degrees.

One word of caution! Every effort has been made to reflect RIT's official policies in this handbook. In case of any discrepancy, RIT's official policies and/or the decision by the head of the Mechanical Engineering Department or the Dean of the College of Engineering will be final.

In any case, we hope that this handbook will provide you with information on these and many other topics.

Sincerely,

Dr. Edward Hensel, P.E.

Edward C. Hensel
Professor and Department Head

YOUR UNIVERSITY, COLLEGE AND DEPARTMENT

ROCHESTER INSTITUTE OF TECHNOLOGY

As noted in the RIT Archives at Wallace Library, Colonel Nathaniel Rochester and other Rochester community leaders founded the Athenaeum in 1829 as an association “for the purpose of cultivating and promoting literature, science, and the arts.” Later, in 1847, The Athenaeum merged with the Mechanics Literary Association, which had been founded in 1836 by William A. Reynolds (son of Abelard Reynolds), to form the Rochester Athenaeum and Mechanics Association. Distinguished speakers during this time period included Charles Dickens, Ralph Waldo Emerson, Oliver Wendell Holmes, and Frederick Douglass. The Athenaeum remains a viable program still today, focusing on educational and cultural experiences for RIT emeritus faculty and staff. As the Rochester Athenaeum and Mechanics Association matured, this led to the founding of the Mechanics Institute in as city leaders, Henry Lomb, Max Lowenthal, Ezra Andrews, Frank Ritter, William Peck and others sought a school to provide technical training for skilled workers for their growing industries. The first class offered at the newly formed Mechanics Institute was mechanical drawing, held in the evening on November 23, 1885. The community response is overwhelming with more than 400 students enrolled. Thus, our department heralds its roots back to the very first class on the very first day of the Mechanics Institute.

In 1903 the Institute consisted of five departments: Industrial Arts, Mechanic Arts and Sciences, language, mathematics, science, Manual Training, Domestic Science and Art, and the Department of Fine Arts with a total enrollment of 3,000. The cooperative education program began in 1912 and continues to be a key component of many RIT degree programs today. In 1916 the first president, Carleton B. Gibson, was appointed, serving until 1916. In 1940 classes were offered all day and all night to train thousands for jobs in the defense industry and enrollment reached 4,565. In 1942 evening classes were opened to women to aid in the war effort as well. In 1944 the institute adopted the name Rochester Institute of Technology.

RIT became the first technical school to offer an associate degree in applied science in New York State in 1950 and in 1955 the first Bachelor of Science degrees were awarded. The first masters degrees were awarded in 1960 (all were master of fine arts). The 1960s also saw a reorganization of the institute into six colleges and the decision to move from downtown Rochester to a new campus in Henrietta, NY.

KATE GLEASON COLLEGE OF ENGINEERING

Mechanical drawing classes were offered at the Mechanics Institute in 1885 with classes in electrical engineering following in 1896. In 1912 the department of industrial arts was established to include mechanical, electrical and chemistry courses. By 1940 two departments were established – electrical and mechanical and five years later RIT offered associates degrees in electrical and mechanical technology. In 1953 RIT offered it first BS degrees in electrical and mechanical engineering.

Dr. Edward T. Kirkpatrick was named the first dean of engineering in 1965 and in 1969 ABET accredited the electrical and mechanical engineering BS programs. Dr. Dick Reeve established the industrial engineering department in 1970 and the College of Applied Science changed its name to the College of Engineering in 1971 with Dr. Richard Kenyon as dean in 1972. By 1975 the college of engineering offered ABET accredited BS degrees in electrical, mechanical and industrial engineering, and MS degrees in electrical and mechanical. The year 1975 saw

the establishment of computer engineering in conjunction with the School of Computer Science, residing solely within the college of engineering by 1980. In 1987 ABET accredited the BS in computer engineering program and the newly established microelectronic program – the first of its kind in the world.

Dr. Paul Peterson was named dean in 1990 as the college began joint programs with other colleges at RIT—software engineering with the department of computer science, and design, development and manufacturing with the college of business. In 1998 the college was renamed the Kate Gleason College of Engineering and in 2000 Dr. Harvey Palmer became dean. During this first decade of the new century the college has enjoyed steady growth in enrollment and the establishment of a PhD program in Microsystems engineering – the first of its kind anywhere as well as the new BS degree programs in biomedical and chemical engineering. The engineering complex has expanded several times with the last expansion taking place in 2007. The last few years have seen a growth in the enrollment of women and minorities and the college is enjoying an increase in retention.

The Kate Gleason College of Engineering offers programs to prepare students for present-day industrial and community life, and to lay a foundation for graduate work in specialized fields. This is accomplished by offering curricula which are strong in fundamentals and maintain a balance among the liberal arts, the physical sciences and professional courses.

The College offers five, five-year cooperative education programs leading to the bachelor of science degree with majors in computer, electrical, industrial, mechanical and microelectronic engineering. Graduate programs leading to a Master of Science and/or a Master of Engineering degree are offered in all five departments. A Master of Science degree in Applied and Mathematical Statistics is also offered through the Center for Quality and Applied Statistics and a Master of Science in Materials Science and Engineering is offered jointly with the College of Science.

The departments maintain extensive laboratory facilities to provide students with ample opportunity to work with state-of-the-art equipment in their respective fields. The laboratories are equipped to provide meaningful practical experience, offer students the opportunity for independent projects and provide facilities for applied and fundamental research by students and faculty.

The Dean of the College is Dr. Harvey Palmer. He earned his Ph.D. at the University of Washington and was long associated with the University of Rochester before joining RIT in the summer of 2000.

DEPARTMENT OF MECHANICAL ENGINEERING

While the "mechanical department" was one of the original departments in the Mechanics Institute, we are a relatively young department when we consider the size of our program as it has evolved. For example, our Bachelor of Science degree program in Mechanical Engineering was first accredited in 1969, upon arrival at our new campus in Henrietta, now under the name of the Rochester Institute of Technology. More than 25% of our entire alumni cohort graduated in the nine year period from 2001 through 2009, and nearly half of our alumni base has graduated in the last 20 years. This suggests that we have a large population of alumni who are in early or mid-career stages of their career, and a relatively small population of alumni that have had opportunity to move into senior executive positions.

Mechanical Engineering is a broad discipline, covering such diverse topics as aerospace systems, bioengineering applications, energy systems, systems & controls, transportation, and vehicle systems engineering. The Mechanical Engineering Department at RIT offers a solid foundation in ME fundamentals as well as the opportunity for students to concentrate their studies in one of several specific areas of engineering. In ME classes, students will be exposed to a balance of theory, hands-on experiment, and design. Our laboratory facilities are primarily intended for student use, although most professors participate in ongoing research projects in these same labs. Undergraduate students can become involved with these projects through classes, co-op experiences, or through participation in the dual degree program which allows students to earn both Bachelor's and Master's degrees in a five-year period. With a faculty that includes several recipients of teaching awards, RIT has demonstrated commitment to excellence in education.

In order to help our graduates achieve the objectives of our academic program, we have adopted a number of educational outcomes. Every graduate is expected to demonstrate competency in each outcome by the time that they complete their B.S. degree. The outcomes of the career-oriented Bachelor of Science degree program in Mechanical Engineering at Rochester Institute of Technology are such that all graduates of the program will demonstrate:

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data
- (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) an ability to function on multidisciplinary teams
- (e) an ability to identify, formulate, and solve engineering problems
- (f) an understanding of professional and ethical responsibility
- (g) an ability to communicate effectively
- (h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (i) a recognition of the need for, and an ability to engage in life-long learning
- (j) a knowledge of contemporary issues
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The Mechanical Engineering Department offers programs at the undergraduate and graduate level. The undergraduate program is a five year (including one year of co-op) accredited program leading to a BS degree. Options described below are available in Aerospace, Automotive Engineering, Bioengineering, and Energy and the Environment, and combined programs leading to both the BS and Masters degrees simultaneously. At the graduate level, the department offers a Master of Science degree in Mechanical Engineering or a Master of Engineering degree in Mechanical Engineering. A Master of Science degree in Materials Science and Engineering is also offered jointly with the College of Science. Students may pursue a Master Science in public policy concurrently with their BS Degree.

The *Aerospace Engineering option* allows for specialized study in the upper-level undergraduate curriculum focusing on engineering aspects of air- and space-borne vehicles. Building on the fundamental courses completed by all mechanical engineering students, a balanced exposure to the aerospace area is gained through a sequence of three required core courses: Intro to Aerospace engineering, Aeromechanics lab, and Aerodynamics and three technical electives such as: Composite Materials, Aerostructures, Propulsion, Flight Dynamics, Orbital Mechanics, Fundamentals of Fatigue and Fracture Mechanics In addition, students choosing this option are expected to work

on an aerospace engineering design project in the Senior Design I and II multidisciplinary capstone design courses taken by all mechanical engineering students in the fifth year of study, and to pursue co-op employment in a related field. A decision to enroll in the aerospace option needs to be made *prior* to the start of your fourth year, and you may contact Professor Alan Nye for additional information.

The Mechanical Engineering Department also offers an *Automotive Engineering option*. This option is intended to increase the opportunities for students who want to work for the automotive industry both in co-op and upon graduation. It offers a series of specialized courses including Intro to Auto Design and Manufacturing, Powertrain Systems and Design, Vehicle Dynamics, IC Engines, Control Systems, Fuel Cell Technology, Fundamentals of Tribology and Lubrication, Design of Machine Systems, and High Performance and Vehicle Engineering. Students choosing this concentration are expected to work on a vehicle technologies senior design project in the Senior Design I and II multidisciplinary capstone design sequence taken in the fifth year of the program, and to pursue co-op employment in a related field. A decision to enroll in the automotive option needs to be made *prior* to the start of your fourth year, and you may contact Professor Alan Nye for additional information.

The *Bioengineering option* consists of one or more biological science electives, a free elective on Contemporary Issues in Bioengineering, and technical electives chosen from offerings such as Aerosol Mechanics in Respiratory Tract, Biomechanics, Biomaterials, Biomedical Device Engineering, Biosensors, and Bio-transport phenomena. Students choosing this option are expected to work on a bioengineering design project in the Senior Design I and II capstone design courses taken by all mechanical engineering students in the fifth year of study, and to pursue co-op employment in a related field. Students planning to study in this option should insure that they select science elective courses in the biological sciences during their first and second year. A decision to enroll in the bioengineering option needs to be made *prior* to the start of your fourth year, and you may contact Professor Nye, Dr. Lamkin-Kennard, Dr. Day or Dr Robinson for additional information.

The *Energy and the Environment option* provides students with exposure to a wide range of opportunities and careers associated with energy intensive systems, and how they relate to the environment. Students in this option are expected to complete Contemporary Issues in Energy and the Environment, and three of the following Advanced Thermodynamics, Fuel Cell Technology, Refrigeration and Air Conditioning, Internal Combustion Engines, and Sustainable Energy Management and the built environment. Students choosing this option are expected to work on an energy systems design project in the Senior Design I and II capstone design courses taken by all mechanical engineering students in the fifth year of study, and to pursue co-op employment in a related field. A decision to enroll in the energy and the environment option needs to be made *prior* to the start of your fourth year, and you may contact Professor Margaret Bailey or Robert Stevens for additional information.

Students may also attain a minor in many areas at RIT. Most of the departments in the KGCOE offer a minor. Other common minors are in the College of Liberal Arts, College of Science, and the College of Business. The Mechanical Engineering Department is proud to announce a new minor in Chemical Engineering Systems Analysis as well.

Students that perform particularly well in their academic studies may be invited to participate in a *Dual Degree Program*, which will enable them to earn both a Bachelor's and a Master's degree in approximately five years. Students enrolled in the dual degree program are required to successfully complete 228-231 quarter credit hours and must complete four co-op work blocks. Students can be nominated, or apply, for admission to the dual degree

program during the winter quarter of their second year. Students in this program begin their co-op experience in the summer at the end of the second year. Admission into the highly competitive dual degree program is based on the student's cumulative grade point average, three letters of recommendation from the faculty, and a personal interview. All students in this program are required to maintain a grade point average of at least 3.2. Additional details about the application process are provided to you during the winter quarter of your second year of study. Under the dual degree program students can complete their BSME degree and a Master of Engineering, Master of Science or a Master in Public Policy.

A transfer student who has completed at least one quarter at RIT and who has achieved a cumulative grade point average of at least 3.4 may apply for admission into the dual degree program.



CALENDAR CONVERSION

RIT will be transitioning from the Quarter-based academic year to a Semester-based academic year with the beginning of the Fall term in 2013. Since you are entering as a first year student in the Fall of 2011, you will complete your first two years of study under the quarter system, and the last three years of your program under the semester system, as illustrated in the Table below:

Year 1	AY 2011-12 Fall Quarter (RIT Study)	AY 2011-12 Winter Quarter (RIT Study)	AY 2011-12 Spring Quarter (RIT Study)	AY 2011-12 Summer Quarter (Vacation)
Year 2	AY 2012-13 Fall Quarter (RIT Study)	AY 2012-13 Winter Quarter (RIT Study)	AY 2012-13 Spring Quarter (RIT Study)	AY 2012-13 Summer Quarter (Vacation)
Year 3	AY 2013-14 Fall Semester (RIT Study or Co-op)		AY 2013-14 Spring Semester (RIT Study or Co-op)	AY 2013-14 Summer Semester (RIT Study or Co-op)
Year 4	AY 2014-15 Fall Semester (RIT Study or Co-op)		AY 2014-15 Spring Semester (RIT Study or Co-op)	AY 2014-15 Summer Semester (RIT Study or Co-op)
Year 5	AY 2015-16 Fall Semester (RIT Study)		AY 2015-16 Spring Semester (RIT Study)	AY 2015-16 Summer Semester (Graduated!)

The transition has been planned out very carefully, and you will be able to move seamlessly from quarters to semesters by following the advice presented herein, and working closely with your faculty and staff advisers during your program of study.

The faculty have developed a mapping plan for the courses, so that you will be able to complete your degree with a combination of quarter-based courses and semester-based courses. Under the quarter system, most of your courses will be 4 quarter credit hours (4 QCH), while under the semester system most of your courses will be 3 semester credit hours (3 SCH). A typical 4 QCH lecture course meets for nominally 4 hours per week, for 10 weeks, giving 40 contact hours; while a typical 3 SCH lecture course meets for nominally 3 hours per week, for 15 weeks, giving 45 contact hours. The BSME program consists of a total of 195 QCH or 129 SCH. In order to be on track for degree completion at the end of five years, you should have about 93 to 96 QCH (the equivalent of 60 to 64 SCH) completed by the time you leave campus at the end of the spring quarter of AY2012-13. During your last three years of the program, you will complete all of your co-op requirements and your remaining course work. By the end of the spring semester of AY2015-16, you should have compiled at least 129 SCH of course credits, and four semesters of co-op work experience. You will complete at least two academic year semesters of Co-op (Fall or Spring), and up to two summer semesters of Co-op, along with two semesters of study at RIT during Year 3 and Year 4. The Co-op program will be described in much more detail later in this handbook.

COOPERATIVE EDUCATION PROGRAM

The College of Engineering at RIT is firmly committed to a quality cooperative education program. The faculty and administration believe wholeheartedly in the value of cooperative work experience as it forms part of the undergraduate education at RIT. Cooperative education [co-op] gives students the opportunity to apply in the workplace what you learn in the classroom, and bring to the classroom what you learn in the workplace.

Students attend classes during the fall, winter and spring quarters of their first and second year. Following the completion of the second year, students will alternate periods of study on campus with periods of co-op employment. The philosophy of the co-op program is to integrate on-the-job work experience with in-the-classroom academic experience to achieve a more well-rounded education. Students entering RIT as first year students in the Fall of 2011 and later will complete their co-op portion of their degree in the semester-calendar format.

Co-op gives you many valuable opportunities. You will be able to undertake various mechanical engineering career options, which will help you make long-term decisions. While taking a break from the classroom, you will be earning a reasonable salary to help pay for your education. Students gain valuable expertise in areas such as oral and written communication, working in a team, and technical skills. Your co-ops will also provide networking opportunities which will give you an advantage when looking for a permanent position after graduation. More than half of our graduates are offered full time employment with one of their former co-op companies. In a recent survey, more than ninety percent of our alumni cited co-op as an excellent aspect of their career development.

LENGTH OF TIME REQUIRED FOR CO-OP IN THE KGCOE

We in the KGCOE recognize the considerable variability associated with the cooperative education opportunities available for our students, which may include double-blocks and a combination of single and double-blocks. In cases where students complete various combinations of different length blocks, programs should ensure that a minimum of 48 weeks of cooperative education are completed. For dual-degree programs (BS/MS or BS/MEng), students must complete a minimum of 40 weeks of cooperative education, in recognition of the significant experiential education component associated with the thesis or project work required for the Master's degree.

The Kate Gleason College recognizes the broad array of learning opportunities available to its students, such as study abroad, and the College is committed to providing strong advising to students in order to maximize their ability to take advantage of these special learning opportunities. However, enhancement programs such as study abroad, in which students are engaged in academic, credit-bearing activities in alternate locations, are not a replacement for cooperative education. Therefore, the College expects students who avail themselves of such opportunities to still complete at least 48 weeks of cooperative education (or at least 40 weeks for the dual degree BS/MS and BS/MEng programs).

On the semester-based calendar, the curricula for all of the B.S. degree programs in the Kate Gleason College of Engineering are designed to have cooperative education begin after two years of formal study in engineering, and to allow students to complete a minimum of four blocks of cooperative education experience: two semester blocks

lasting at least 15 weeks and two summer blocks lasting at least ten weeks, resulting in a total of 50-60 weeks of experience.

PROCEDURAL DETAILS ABOUT CO-OP IN THE KGCOE

The following sections describe the steps as student should take before, during, and after each co-op work experience.

IMPORTANT CO-OP CONTACTS

If you have questions at any time before, during, or after co-op, you may use these contacts for assistance:

- **Sarah Burke** is the Co-op Specialist for all Mechanical Engineering undergraduate students:
 - Voice (585) 475-7887
 - Fax: (585) 475-5476
- Main Office at Cooperative Education & Career Services:
 - Voice: (585) 475-2301
 - Fax: (585) 475-5476
- Mechanical Engineering Office:
 - Voice: (585) 475-2163
 - Fax: (585) 475-7710

BEFORE SEARCHING FOR YOUR FIRST CO-OP JOB

A co-op coordinator is assigned to assist mechanical engineering students with placement efforts. This process begins with a required orientation session during the second year in which students learn about resume building, contacting employers through the co-op office, and numerous details about scheduling, registration, and reporting. It is through your efforts, in cooperation with the Cooperative Education and Career Services Office, that you will obtain your co-op positions. Although academic credit is not given for cooperative work experience, satisfactory performance during cooperative work periods is considered a requirement for the degree and cooperative work reports are to be submitted to the department. Students should pay careful attention to how their co-op schedule will affect their academic schedule. Faculty advisors can assist students with planning their schedules so that they don't co-op during a quarter that they need to take a specific class or need to be on campus for a sports team, etc. Students should not plan to be off-campus for more than two consecutive semesters, otherwise, they will experience difficulty with course sequencing and scheduling.

- Register for the Co-op training course in SIS before starting your job search. This degree requirement will
 - help you understand how to get a job using RIT resources,
 - develop your resume
 - learn how to participate in an interview, and
 - be aware of your professional responsibilities while on the job.

FINDING A CO-OP JOB

It takes hard work and effort on behalf of the students to locate employers who participate in co-op programs, and meet the student's specific needs in regard to career development and professional objectives. A successful

program requires the cooperation of all parties involved. Students are encouraged to consider co-op placements in a variety of locations and corporate settings, so that they get a range of exposure to professional opportunities.

- Register for co-op (0304-499-01) on InfoCenter.
- Register with the Co-op office at <http://www/rit.edu/~964www/> and input your employment information in the JOB ZONE.
- Use Job Zone and other resources to apply for openings, and participate in interviews.
- Participate in the RIT Career Fair in the Fall and Spring.


DURING YOUR CO-OP JOB

- Attend the new employee orientation provided by your employer, and do your very best to have a positive work and educational experience.
- Go to work every day, on time, and look for opportunities to provide value to your employer. Do all of your work in timely fashion, and to the best of your ability.
- If you are on co-op and have forgotten to:
 - Register for co-op: Call the Mechanical Engineering Office at (585) 475-2163.
 - Register on the co-op website: go to job zone and input your co-op information as soon as possible.
- If you are registered for co-op and have not found a job:
 - Continue your job search through the third week of the quarter.
 - If you still do not find a position, notify the Mechanical Engineering Office so that you can be withdrawn from the co-op course.

FOLLOWING COMPLETION OF YOUR CO-OP JOB

Co-op is graded as Satisfactory, Incomplete, Credit by Experience, or Failing. A satisfactory grade requires completion of the work block, a supportive review by the employer, and a work report by the student, filed upon completion of the co-op block. Credit by experience is used for those cases when students have professional work experience that has been approved by the department that does not fit the structure of a traditional co-op block.

- Complete the work report form. You will receive an e-mail while on co-op concerning this form. The form is found at: <http://webapps.rit.edu/students>. Complete one online work report form for each semester that you were on co-op. Double blocks with the same employer require two work report forms.
- It is the responsibility of the student to verify that the employer's evaluation has been returned to RIT. If it has not, the student must contact the employer and remind the employer that the forms need to be sent to complete the grade.

- Meet with your faculty advisor to discuss your co-op experience, and how that perspective may influence the rest of your academic studies, and your professional plans for your career.
 - An incomplete for a co-op will be awarded if all necessary paperwork is not received by the end of finals week of each semester. An "I" grade will turn into an "F" if the paperwork is not turned in within two semesters.
 - A failing grade is assigned when the work report is not completed within two terms, or when the student does not successfully complete the work block.
 - If you have worked for the semester and registered on SIS for co-op, but when you return to RIT you realize that you forgot to inform the co-op office, please notify the co-op office immediately by logging onto the Job Zone on the co-op website in order for your employer to receive an evaluation form.
 - Upon successful completion of ROTC Field Training after their first year, ROTC students may request to waive one co-op block requirement for their field training experience.
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ADMINISTRATIVE CONVENIENCES

CHANGE OF ADDRESS

If you move, you should make sure that you change your address through RIT's Infocenter website (infocenter.rit.edu) so that you continue to receive important communication from RIT and the Mechanical Engineering Department.

RIT IDENTIFICATION CARDS

RIT ID cards are permanent. To replace a lost or damaged card, go to the Registrar's Office, located on the first floor of the Eastman Building (Building 1) with a driver's license or another form of legal photo ID.

RIT COMPUTING SYSTEM ACCOUNT

All RIT students should activate their account on the RIT computer system at <http://start.rit.edu>. This user name will be used on a variety of computer environments across campus, and will provide you with access to public labs, RIT email, Infocenter (formerly known as the Student Information System), and departmental computing facilities. The department staff will send messages using EMAIL on the RIT computer system and, at times, your instructors will also contact you in this manner.

If you plan on using an alternate e-mail account such as hotmail, AOL, etc., make sure that you have your RIT e-mail forwarded to your account. You can contact the help desk for information on forwarding your mail. Please note that several students have had difficulty in receiving mail from RIT through their forwarded accounts, since they may be filtered. We recommend that you check your native RIT email account regularly.

COMPUTING ENVIRONMENT

The Mechanical Engineering Department maintains three PC Labs, in 17-1535, 09-2271, and 09-2260, for instructional and open lab usage by Mechanical Engineering students. The Institute's computing service maintains two computing labs on the first floor of the James Gleason Building (09): the Mechanical Design Lab and the Gleason Users Computing Center. A variety of other computing resources are available at RIT ranging from application-specific microcomputers to central multi-user systems. You will find other user centers in the Ross building, Nathaniel Rochester Hall, and the Wallace Library. Users agree to comply with the code of conduct (found in the *Students Rights and Responsibilities Handbook*) and procedures defined by administrators of the computing resources. Consistent with this code, administrators may develop and publish specific guidelines for computer use, and file and software access philosophies for their college or department systems. Systems administrators also delete files and review accounts to ensure effective use of and access to computing resources and to enforce computer use roles. You should disclose misuses of computing resources or potential loopholes in computer systems' security to appropriate authorities and cooperate with systems administrators in their operation of computer systems and investigation of abuse.

REGISTERING FOR COURSES AND RELATED MATTERS

PRE-REQUISITES

Most courses in the Mechanical Engineering curriculum have prerequisites which must be satisfactorily passed prior to enrolling in the more advanced courses. Some courses have co-requisites, which means they are to be taken at the same time with these courses. Most ME Courses require a D-grade or better to progress to the next course in the sequence. Some courses, particularly math and science, require a C-grade or better to progress to the next course in the sequence. Students receiving a D grade (minimum passing grade) in any course required in the Mechanical Engineering curriculum should consider repeating the course because a grade of D does not indicate the level of proficiency that is needed in order to progress through the program. Students who earn multiple D-grades over multiple academic terms should meet with their faculty advisor, to discuss whether completion of the BSME degree is a viable option. In order to be registered for Senior Design I, a student must have completed all but one of their co-op requirements and fill out a course checklist, which demonstrates the student will be able to complete all requirements for graduation by the end of the following summer term.

REGISTRATION FOR MATRICULATED STUDENTS

To be officially registered at RIT, a student must be academically eligible, properly scheduled for courses, and have made the required financial commitment. **ALL STUDENTS SHOULD SEEK ACADEMIC ADVISING FROM THEIR FACULTY ADVISOR BEFORE SELECTING COURSES** to make sure that all prerequisites are met and appropriate courses are scheduled to meet future prerequisites. Consult the schedule of courses for specific dates and registration procedures. First-year students will have holds (noted as “Dean’s Holds”) placed on their accounts for winter and spring terms to ensure that they review their schedule with their academic advisors. All students are encouraged to meet with their faculty advisor at least two times per year during the entire program of study.

SCHEDULE CHANGES

Please refer to the Infocenter, for up-to-the minute information. It is to your advantage to check Infocenter periodically. We recommend that you print out your class schedule on the first day of the quarter to ensure that there have been no changes to your class times, instructors, or locations.

The drop/add period extends through the first six class days each quarter. You may drop courses online using the Infocenter. You may also add a course to your schedule using the Infocenter if the course is not full, however if the course is full you will need permission from the instructor. Please be sure to check your schedule after any changes to make sure that the Drop or Add has taken place and you are enrolled in the correct courses. Courses which are changed during the add/drop period do not appear on the student transcript. Course changes after the add/drop period will show up as a "W" grade on the student transcript.

REQUIREMENTS FOR THE BS DEGREE

The BS program requires that you learn mechanical engineering fundamentals and their applications to practical engineering problems, and that you acquire experiences in laboratory work, computation, and engineering design. The course numbers, descriptions, and pre-requisites are published in the online edition of the Undergraduate Bulletin. A checklist of courses is available in the Mechanical Engineering department office and on the website. Since you will be going through the transition from quarters to semesters you will work with staff and faculty advisors to prepare a personalized plan of study to ensure that you are on track to meet degree requirements. All KGC OE students are required to complete co-operative education work experience as part of their BS degree, as outlined in the chapter on Cooperative Education.

KATE GLEASON COLLEGE OF ENGINEERING WRITING REQUIREMENT

A writing test is required after you have completed two years in the program. You are required to take the writing test even if you have not completed the Liberal Arts Writing course. The Mechanical Engineering Department will notify you when the test will be scheduled. The test will be graded by the English Department. Grades will be assigned as P = pass (to indicate that the writing requirement is satisfied), or CF = Conditional fail (to indicate that the student must work with the instructors at the Academic Support Center until writing competency is satisfied). Please contact the Mechanical Engineering Department if you have questions about the writing exam.

WELLNESS REQUIREMENTS

The wellness requirement is built on the premise that the attainment of good health and fitness is a basic element in the pursuit of excellence in many aspects of life. The learning experiences provided through the human performance curriculum are an integral part of the total educational experience at RIT. BS Degree Candidates who enter RIT as first year students and transfer students must successfully complete two *different* wellness or activity courses. Students who enter the program after the age of 25 or who have been on military active duty are exempt from wellness and activity requirements. For more information and special circumstances contact the Center for Intercollegiate Athletics and Recreation. Students entering during the Fall 2011 will take two one-credit courses entitled "Discovery" and "Pathways" during their Fall and Winter quarters, respectively.

GENERAL EDUCATION REQUIREMENTS

LIBERAL ARTS REQUIREMENTS

RIT recognizes the importance of a well-rounded education. Moreover, potential employers look for graduates who are able to write and speak in a cohesive, constructive manner and who can think and judge critically from a range of intellectual perspectives. The courses within the liberal arts curriculum at RIT are developed to equip students with the necessary knowledge as well as the skills to solve human and work-related problems in a professional manner. The *Liberal Arts Core* (for KGC OE students) consists of a total of six courses. Under the quarter system, the *Liberal Arts Core* courses are referred to as Writing, Arts of Expression, two humanities courses, and two social science courses. Under the semester system, the *Liberal Arts Core* courses are referred to as Writing, Freshman Seminar, and University Perspectives I, II, III, IV.

The *Liberal Arts Concentration* is taken after completion of the *Liberal Arts Core*, and consists of three related courses chosen by the student from the list of approved courses. Under the quarter system, this course sequence is called the *Liberal Arts Concentration*. Under the semester system, this course sequence is called the *University Arts & Sciences Concentration*. Students considering the dual degree BS Mechanical Engineering and MS in Public Policy must complete the public policy concentration. Please consult with your advisor to handle the liberal arts requirements as we transition from quarters to semesters.

SCIENCE REQUIREMENTS

Students entering RIT as First Year students in Fall 2011 must complete College Chemistry and University Physics I, II, and III under the quarter system during their first two years of study. Any student who does not complete these four courses before the transition to semesters should work with their advisor to ensure that their science course requirements are satisfied.

MATHEMATICS REQUIREMENTS

Students entering RIT as First Year students in Fall 2011 must complete a full year of Calculus (Calculus I, II, III) under the quarter system during their first two years of study. Students are advised to take differential equations and multi-variable calculus during their second year. Students should complete courses in linear algebra, boundary value problems, and applied statistics during their third and fourth year (under semesters).

FREE ELECTIVE REQUIREMENTS

The Mechanical Engineering curriculum requires the completion of two free electives as part of the BS degree. The free electives may be completed under either the quarter system or the semester system. The purpose of the free electives is to allow students to broaden their educational experience. Thus, if courses are chosen in departments/topical areas which are not part of the required curricula, then introductory courses are appropriate. If courses are chosen in departments or topical areas which are part of the required curricula, then the level of the free elective courses must be at or above the level of the required courses. For example, M.E. students cannot take an introductory trigonometry course after they have already completed the calculus sequence. Free electives may be used to complete advanced study, participate in minors, participate in study abroad, or simply satisfy a student's interest. If there is a question regarding the appropriateness of the course, please check with your advisor.

MECHANICAL ENGINEERING REQUIREMENTS

All mechanical engineering courses are listed with the prefix 0304- under the quarter system, and with the prefix MECE- under the semester system. The courses listed here are given by topical name. You will need to complete each of these topical courses, whether you complete them under the quarter or semester system. For example, if you happen to take Statics under the quarter system, then you may move on to Strength of Materials under the semester system.

REQUIRED ENGINEERING COURSES

- (Materials Processing and Engineering Design Graphics) **OR** (Engineering Design Tools)
- (Problem Solving w/ Computers and Meas. Instrum. & Controls) **OR** (Engineering Mechanics Lab)
- Statics
- (Mechanics and Lab) **OR** (Strength of Materials and Lab)
- Dynamics
- Thermodynamics I
- Fluid Mechanics I with Lab
- Heat Transfer I
- Numerical Methods
- Circuits 1 + Lab (from the EE Department)
- Materials Science And Applications with Lab
- System Dynamics
- Engineering Applications Lab
- Senior Design I
- Senior Design II

REQUIRED ENGINEERING ELECTIVE COURSES

Students entering RIT as First Year mechanical engineering students in Fall 2011 must complete two lower division M.E. electives (LDE), and three upper division M.E. electives (UDE). Students completing a particular option will be restricted in their choices of LDE and UDE.

Lower Division Electives (select two courses from the list below)

- Automotive Engineering Option Required LDE's
 - (Intro to Auto Design & Manufacturing) **OR** (Contemporary Issues in Automotive Engineering)
 - (Design of Machine Elements) **OR** (Machine Design I)
- Energy & Environment Option Required LDE's
 - Contemporary Issues in Energy & Environment
 - Thermodynamics II
- Bioengineering Option Required LDE's
 - Contemporary Issues in Bioengineering
 - Biomaterials
- Aerospace Engineering Option Required LDE's
 - Introduction to Aerospace Engineering
 - Aerodynamics
- General Lower Division Electives
 - Advanced Computational Techniques
 - (Transport Phenomena) **OR** (Fluid Mechanics II)

Upper Division Electives (select three courses from the list below)

Aerospace Engineering Option

- Propulsion
- Flight Dynamics
- Orbital Mechanics
- Aerostructures
- Composite Materials
- Classical Control Systems
- Applications of Finite Element Analysis

Bioengineering Option

- Biomedical Device Engineering
- Biological Applications of Fluids
- Computational Fluid Dynamics
- Classical Control Systems

Energy & Environment Option

- Refrigeration and Air Conditioning
- Turbomachinery
- Renewable Energy Systems
- Sustainable Energy Management
- Fuel Cell Technology
- Classical Control Systems
- Wind Power Engineering
- Engineering Economics (IE Dept.)

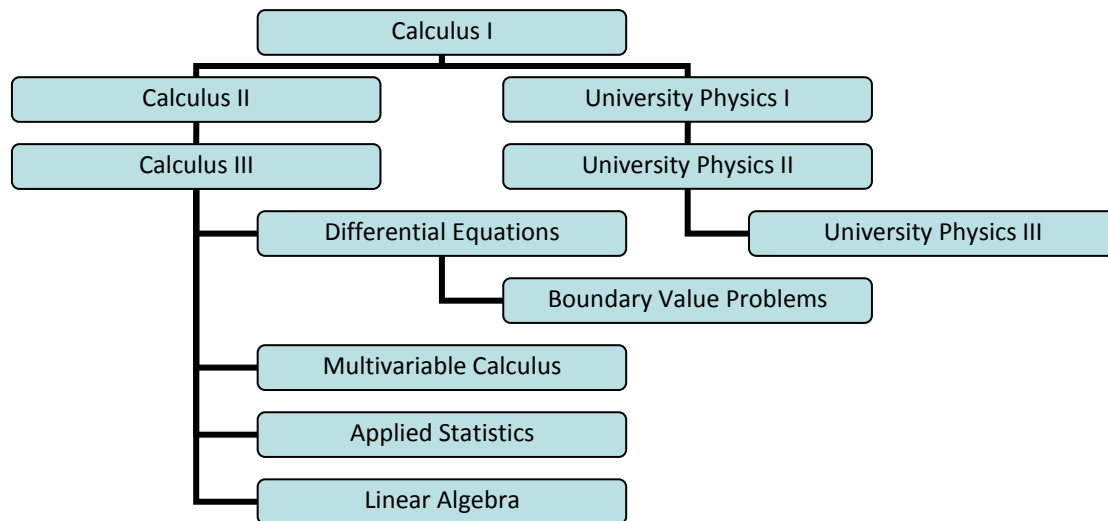
Automotive Engineering Option

- Internal Combustion Engines
- High Performance Vehicle Engineering
- Powertrain Systems and Design
- Vehicle Dynamics
- Design of Machine Systems
- Applications of Finite Element Analysis
- Advanced Solid Modeling and Design
- Robotics
- Fuel Cell Technology
- Classical Control Systems
- Introduction to Optimal Design
- Introduction to Engineering Vibrations

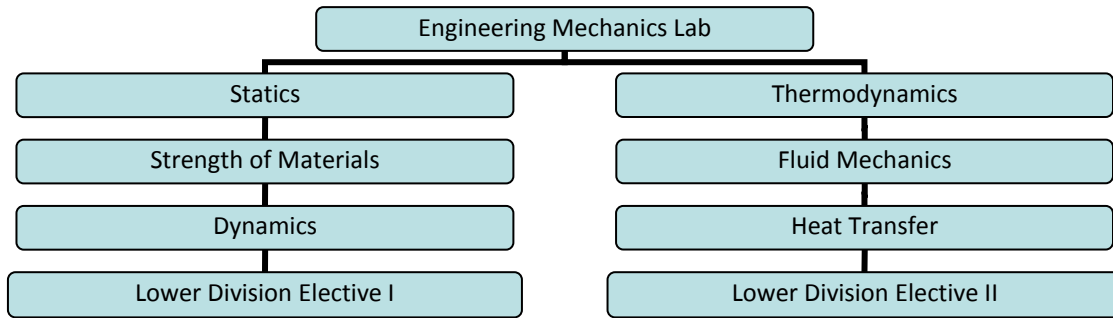
COURSE SEQUENCES

The ME curriculum includes many courses that are designed to be taken in sequence. The specific course pre-requisites are listed in the undergraduate bulletin. The graphic below is intended to help you understand the general intent of how you should move through the course sequences, and is *not a rigorous checklist of specific course pre-requisites*. In particular, these sequences are dependent upon one another.

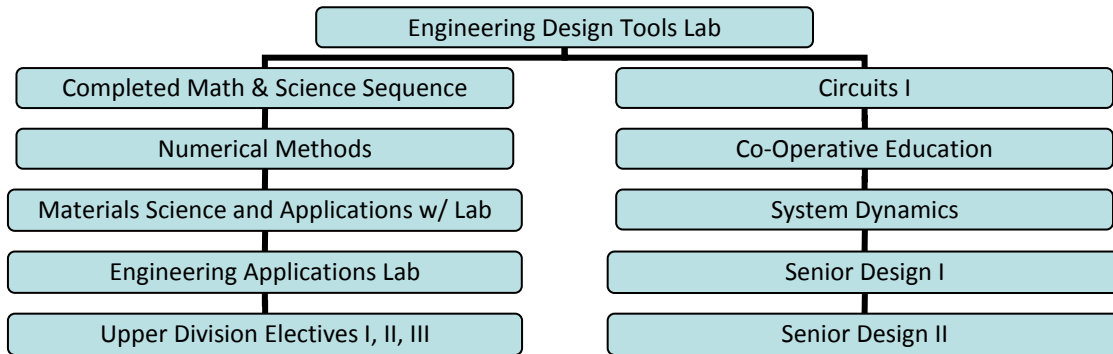
The math and science sequence is illustrated below:



The Engineering Science portion of the M.E. Curriculum is illustrated below:



The Engineering Design portion of the M.E. Curriculum is illustrated below:



CO-OPERATIVE EDUCATION

All KGCOE students are required to complete co-operative education work experiences as an integral part of their BS degree. Please see the chapter on Cooperative Education for full details about this aspect of the degree. Students must complete nominally one year of co-operative education work experience as a degree requirement. Students are scheduled for four semesters of co-op, to achieve at least 48 weeks of work experience. Many students exceed the one year minimum requirement.

GENERAL REQUIREMENTS FOR BS DEGREE CERTIFICATION

1. Successful completion of all required courses of the Institute and College, including cooperative education, activity or wellness courses, earning a minimum of 195 quarter credit hours or 129 semester credit hours (or an equivalent combination thereof).
2. Students must also pass the KGCOE writing requirement.
3. Full payment or satisfactory adjustment of all financial obligations.
4. A minimum Program Cumulative Grade Point Average of 2.00 (a 'C' average).
5. A minimum of 45 quarter credits shall be successfully completed in residence at the Institute. If the student has successfully completed the residence requirement, a petition may be submitted to the Dean to study 15 quarter credit hours in absence in the final year of the degree. At minimum, 30 of the final 45 quarter credit hours are to be completed in residence.

BS DEGREE CHECKLIST

The checklist below should help you keep track of your degree requirements. The registrar maintains all official records for your degree. Please work closely with an academic advisor to ensure that you meet all degree requirements. **Please note that course numbers are still being updated as of August 2011.**

Course Names / Topics (Quarters) OR (Semesters)	Please list the courses you took here:
One year of differential and integral calculus (Calc I, II, III) OR (Calc 1, 2)	
Differential Equations	
Multi-Variable Calculus	
Linear Algebra	
Boundary Value Problems	
Applied Statistics	
One year of University Physics (Physics I, II, III) OR (Physics 1, 2)	
College Chemistry	
(Materials Processing and Engineering Design Graphics) OR (Engineering Design Tools)	
(Problem Solving w/ Computers and Meas. Instrum. & Controls) OR (Engineering Mechanics Lab)	
Statics	
(Mechanics and Lab) OR (Strength of Materials and Lab)	
Dynamics	
Thermodynamics I	
Fluid Mechanics I with Lab	
Heat Transfer I	
Numerical Methods	
Circuits 1 + Lab (from the EE Department)	
Materials Science And Applications with Lab	
System Dynamics	
Engineering Applications Lab	
Senior Design I	
Senior Design II	
M.E. Lower Division Elective I	
M.E. Lower Division Elective II	
M.E. Upper Division Elective I	
M.E. Upper Division Elective II	
M.E. Upper Division Elective III	
Free Elective I	
Free Elective II	
Freshman Writing	
Arts of Expression OR Freshman Seminar	
Humanities I OR Perspectives I	
Humanities II OR Perspectives II	
Social Sciences I OR Perspectives III	
Social Sciences II OR Perspectives IV	
Lib. Arts Conc. I OR Univ. A&S Concentration I	
Lib. Arts Conc. II OR Univ. A&S Concentration II	
Lib. Arts Conc. III OR Univ. A&S Concentration III	
KGCOE Writing Exam	
Co-Op Preparation Course	
48 weeks of Co-Op Work Experience and Work Reports (with at least two blocks during the AY)	
Wellness Requirement I	
Wellness Requirement II	

ACADEMIC STATUS

ACADEMIC HONESTY POLICY

RIT is committed to the pursuit of knowledge and the free exchange of ideas. In such an intellectual climate it is fundamentally imperative that all members of this academic community behave in the highest ethical fashion possible in the manner by which they produce, share, and exchange this information. In the case of students, Academic Honesty demands that at all times student work be the work of that individual student, and that any information which a student uses in a work submitted for evaluation be properly documented. Any violation of these basic standards constitutes a breach of Academic Honesty and hence becomes Academic Dishonesty.

KATE GLEASON COLLEGE OF ENGINEERING HONOR PRINCIPLE

“RIT Engineering faculty, staff and students are truthful and honorable, and do not tolerate lying, cheating, stealing or plagiarism”

All members of our community are expected to abide by these principles and to embrace the spirit they represent. We each have a responsibility to address any unethical behavior we observe; either through direct discussion with the offending party, or by discussion with an appropriate faculty or staff member. Allowing unethical behavior to continue unchallenged is not acceptable.

KATE GLEASON COLLEGE OF ENGINEERING ACADEMIC HONESTY POLICY

The College of Engineering has set a high standard of academic excellence for the students we serve. Our goal is to prepare students as highly skilled and talented engineers by providing a quality education which includes lectures, laboratory experience, and exams. It is for this reason that the College of Engineering has adopted the following academic honesty policy.

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.

This KGCOE policy is intended to apply to all academic pursuits at RIT, including courses taken outside of the KGCOE (with additional adherence to the policies of the relevant academic unit).

ACADEMIC DISHONESTY

Academic Dishonesty falls into three basic areas: cheating, duplicate submission and plagiarism.

1. **CHEATING.** Cheating is any form of fraudulent or deceptive academic act, including falsifying of data, possessing, providing, or using unapproved materials, sources, or tools for a work submitted for faculty evaluation.
2. **DUPLICATE SUBMISSION.** Duplicate submission is the submitting of the same or similar work for credit in more than one course without prior approval of the instructors for those same courses.
3. **PLAGIARISM.** Plagiarism is the representation of others ideas as one's own without giving proper credit to the original author or authors. Plagiarism occurs when a student copies direct phrases from a text (e.g. books, journals, internet) and does not provide quotation marks, or paraphrases or summarizes those ideas without giving credit to the author or authors. In all cases, if such information is not properly and accurately documented with appropriate credit given, then the student is guilty of plagiarism.

CONSEQUENCES OF ACADEMIC DISHONESTY

Any act of Academic Dishonesty will incur the following possible consequences. After notifying and presenting the student with evidence of such misconduct, the instructor has the full prerogative to assign an "F" for the offense, or to assign an "F" for the entire course. The instructor will inform the student (and if possible meet with the student) of the decision reached on the "F" for the offense, or the "F" for the entire course. A student may be brought before the Academic Conduct Committee of the College in which the alleged offense occurred, and may face academic suspension or dismissal from the Institute. The Student has the right to appeal any disciplinary action. Note that students must remain in good academic standing to participate in co-curricular clubs and activities in the ME Department.

ACADEMIC PROBATION RULES

1. Any student whose program quarterly grade point average falls below a 2.00 or whose cumulative grade point average in the principal field of study (based on at least 20 credit hours attempted in the principal field at RIT) falls below 2.00 will be placed on probation.
2. Any student who has been placed on probation according to Rule 1 is removed from probation for achievement of both a 2.00 quarterly GPA and a 2.00 Cumulative GPA in the principal field of study, (based upon at least 20 credit hours attempted in the principal field at RIT).

ACADEMIC SUSPENSION RULES

1. A student who has been placed on probation, and is not removed from probation in the two succeeding periods of study. in which credit is earned, will be suspended from RIT.

2. Any student who has been placed on probation after having been removed from probation and whose program cumulative grade point average is below 2.00 will be suspended. Any student who has been placed on probation after having been removed from probation and whose program cumulative grade point average is 2.00 or above will be granted one quarter to be removed from probation or he/she will be suspended from RIT.
3. Any student whose program quarterly grade point average falls below 1.00 will be suspended from RIT.
4. Any student who has been readmitted to his or her original program after having been suspended, and is placed on probation for a second time, will be suspended from RIT.

A student may petition the department for reconsideration of suspension. To do this, he/she must write a letter to the associate department head, Professor Nye, requesting a waiver of the suspension, explaining the circumstances that led to the suspension and detailing how his or her performance in the future will lead to academic success.

RIT GRADING POLICIES

RIT GRADE DEFINITIONS

For each degree or diploma credit hour, the following number of quality points will be awarded based upon the grade received and will be calculated in the current term (quarter or semester) and cumulative grade point averages (GPA):

<u>Grade</u>	<u>Quality Points</u>
A-Excellent	4
B-Good	3
C-Satisfactory	2
D-Minimum Passing	1
F-Failure	0

There are nine other viable evaluations of a course, which do not affect GPA calculations. Only I, R and S can be assigned by individual faculty members at the end of a quarter. The following descriptions provide a brief explanation. The official policy manuals and the catalog contain exact policies and procedures.

- R means Registered, and is generally used for graduate level thesis work.
- I means Incomplete. This grade is given where the professor observes conditions beyond the control of the student such that the student is not able to complete course requirements in the given quarter. This is a temporary grade which reverts to an 'F' grade if the registrar's office has not received a 'Change of Grade' form from the professor by the end of the second succeeding quarter. Professors generally require the completion of the work in a much shorter time period, however.
- W means official withdrawal from course(s) between weeks 2 and 8.
- Z means Audit, indicating a student has audited a course. Audited courses do not count toward the residence requirement.

- S means Satisfactory. This applies only to acceptable completion of the co-operative work experience, P.E. Courses, courses bearing course numbers of 099 or below and internships. These courses and co-op work experience do not count toward the residency requirement.
- X means Credit by Examination or Credit by Experience, assigned for the successful completion of various external or Institute examinations provided such examinations cover or parallel the objectives and content of the indicated course. Often times, students will earn an X grade for credit awarded due to AP courses taken in high school before entering RIT.

AUDITING COURSES

When you audit a course, you do not earn any credit. This means only that the student has attended a given course. A grade of 'Z' will be assigned and the student need not take exams. You must obtain permission to audit a course from the Mechanical Engineering Department before you register. Any changes between credit and audit must be accomplished by the end of the drop/add period. There is a reduced tuition charged for audited courses, unless it is part of a full time load.

CHANGING GRADES

Once a faculty member has reported a grade, the grade cannot be changed unless an actual error has been made in computing or recording it. If an error has been made, the faculty member must complete the appropriate form, which after obtaining the appropriate approvals, is forwarded to the Registrar's Office to be entered into the student's official record. Grade changes may take a couple of weeks.

WAIVED COURSES

Waived courses are courses eliminated from the list of requirements that a student must take to graduate. For undergraduate students, Physical Education courses and cooperative work blocks may be waived, based upon appropriate documentation, because of previously completed experience and for-credit courses.

REPEATING COURSES TO RAISE LOW GRADES

An undergraduate student may repeat a course to raise an undergraduate course grade. If a student repeats a course, the last grade earned will be used to compute the student's GPA. The original course grade will still appear on the student's transcript, but it will have an "RE" designation next to the grade. If a student repeats a course and receives a lower grade, the lower grade stands as the final grade.

Grades from other institutions can not be included in an RIT GPA, so students should plan to repeat courses at RIT if they hope to increase their GPAs.

GRADE EXCLUSION

An undergraduate student who changes their program of study here at RIT may process a Grade Exclusion form for up to six courses or (24 credits) for courses that they want to eliminate from their GPA. The new department must review the form with the student to determine specifically which courses may be excluded since the student cannot exclude courses that can be used toward their new degree.

COURSE WITHDRAWAL

A student may withdraw from a course at any time from the end of the drop/add period until the end of the eighth week of the quarter through RIT's Infocenter. Students are STRONGLY encouraged to meet with their faculty advisor to assess the impact of the dropped course on their overall graduation plan before withdrawing from a course. Unlike a "dropped course" a "withdrawn course" becomes a permanent part of your official academic records and a grade of "W" is recorded on your transcript.

TRANSFER CREDIT

Students may be able to transfer some course credits taken at another accredited college or university. Any questions regarding transferring into Mechanical Engineering from another program at RIT, or transferring credit from another institution, etc. should be directed to Associate Department Head, Dr. Nye. When you wish to take a course at another university or college while you are away from RIT, check with Dr. Nye (for Mechanical Engineering major) or the College of Liberal Arts (for Liberal Arts courses) before registering for such a course regarding the transferability of credits. A grade of 'C' or better is required to qualify for transferring the credits for the course. Please note that the course itself is transferred, but the grade is not. Thus, taking a course at another institution will help you complete degree requirements, but will not increase or decrease your RIT GPA.

LEAVE OF ABSENCE/INSTITUTE WITHDRAWAL

A full-time student may withdraw from all courses in a quarter by taking a Leave of Absence or withdrawing from RIT (Institute Withdrawal). Generally, we recommend that students file a Leave of Absence rather than an Institute Withdrawal so that they can return to RIT more easily if they need to. A leave of absence cannot extend beyond five quarters (including summer quarter,) of the quarter in which the student was most recently registered. If a longer period is needed, the student should withdraw from the Institute and re-apply through the Admissions Office when appropriate.

A **Leave of Absence** should be filed by students who are withdrawing from all classes in a quarter, but who intend to return to study at RIT within five quarters. This will commonly be done for students facing illness or needing personal leave.

An **Institute Withdrawal** should be filed by students who are withdrawing from all classes in a quarter, and do not intend to return to RIT. Students must apply for readmission if they wish to return to RIT.

LEAVING CAMPUS FOR MILITARY SERVICE

Students who have to leave campus for military service may have special considerations. Please contact the ME department office if you have to leave campus due to military service obligations. We will be happy to work with you during your deployment, and to provide assistance with your transition back to campus upon your return.

MECHANICAL ENGINEERING STUDENT ORGANIZATIONS

Pi Tau Sigma

Pi Tau Sigma is the mechanical engineering national honor society. Membership, by invitation, is open to men and women ranked in the upper third of the class in their fourth and fifth years at RIT. Chapter activities are tailored to foster high ideals in the engineering profession, support departmental activities, and promote professionalism. Service activities are supported by fund-raising and social events. Professor Walter is the advisor.

Tau Beta Pi

This national engineering honor society was founded to mark in a fitting manner those who have conferred honor upon their Alma Mater by distinguished scholarship and exemplary character as students in engineering, or by their attainments as alumni in the field of engineering, and to foster a spirit of liberal culture in engineering colleges. Election to Tau Beta Pi is one of the highest honors that can come to an engineering student from his or her peers. Professor Nye is the advisor.

American Society of Mechanical Engineers [ASME]

The student chapter of ASME offers educational, technical, and social activities. It develops leadership skills and leads to contacts with engineers in industry and students at other colleges within the region. The student chapter is active and works closely with the senior section in Rochester. The faculty advisor is Professor Timothy Landschoot.

Society of Automotive Engineers [SAE] and FSAE Competition Team

The purpose of the RIT Society of Automotive Engineers is to give students the opportunity to meet with senior engineers in industry and provide students a chance to apply their classroom knowledge in various projects. The faculty advisor is Dr. Nye.

Society of Women Engineers [SWE]

The Society of Women Engineers at RIT is a student-run organization. SWE organizes several functions each quarter such as guest speakers, high school outreach, community activities, tours, social events and events with other student organizations. The RIT chapter is strongly committed to the encouragement of women in pursuing a career in engineering or related fields. The faculty advisor is Professor Lam.

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. The advisor is Rohan Palma.

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. The advisor is David Watson.

Aero Design Club

The student chapter is dedicated to promoting careers and opportunities in the aerospace industry. The faculty advisor is Dr. Jason Kolodziej

MECHANICAL ENGINEERING CONTACT INFORMATION

MECHANICAL ENGINEERING ADVISING

The Mechanical Engineering Department views academic advising as an essential component of the undergraduate experience. Students are assigned a faculty advisor (listed on the Student Information System (SIS) as the first advisor) and a staff advisor (listed on the Student Information System (SIS) as the second and/or third advisor) to every student to assist with academic, social and professional needs.

Your faculty advisor is your first point of contact for anything that is related to the mechanical engineering field. You should see your faculty advisor for assistance with course selection, co-ops, course content or career choices. Faculty are available during posted office hours and by appointment to discuss your advising questions. Each faculty member is an engineer, and they can help you to put some professional perspectives on your academic studies. In particular, your faculty advisor can help you select the appropriate technical electives and options that will help you achieve the personal and professional goals that you have established for yourself. Your faculty advisor has been through the courses you are taking, and may be able to suggest study skills and approaches to help you be successful. If you experience any problems related to your coursework, remember that the best time to see your advisor is before problems get big, so that the two of you can decide on a course of action to solve them while they are more easily manageable.

Your staff advisor is responsible for providing resources for faculty advisors and implementation of the overall advising program for the department. You should see your staff advisor if you need assistance with course scheduling, academic performance issues, learning community schedules, transfer credit or life at RIT. The staff advisors are not engineers, but they understand the RIT registration processes and degree completion requirements. Staff advisors can often answer most logistical questions that you may encounter related to registration. Staff advisors are not in a position to provide technical advice on specific courses, or how those courses may relate to your professional career opportunities. Staff advisors are well aware of the various resources available around the campus, and can help you connect with study centers and assistance resources of both an academic and personal nature.

MECHANICAL ENGINEERING STAFF POINTS OF CONTACT

Edward Hensel is the Department Head of Mechanical Engineering. He is responsible for the overall direction and management of the department and its programs in Rochester and Dubai. Dr. Hensel supervises all faculty and staff in the department, manages all cases of academic misconduct in the ME department, and also is responsible for recognitions of outstanding performance.

Alan Nye is the Associate Department Head for outreach and experiential learning. He is responsible for all transfer students, 2/3 students with combined study between two campuses, and all questions related to change of program in to and out of mechanical engineering. Dr. Nye manages the spring accepted student open houses, RIT First Look, and transfer student open house. Dr. Nye regularly meets with prospective students who are considering RIT as their destination for study. Dr. Nye oversees the co-operative education program and must approve any co-op opportunity not listed through job-zone. Dr. Nye is in charge of the study abroad program in mechanical engineering, and can help you with any question you may have about studying at our RIT Dubai

campus, or another location. Dr. Nye manages the AP articulation, Project Lead the Way, International Baccalaureate, and transfer credit evaluation for incoming freshman.

Risa Robinson is the Associate Department Head for undergraduate education. She manages the core undergraduate course offerings in mechanical engineering and also serves as the coordinator for the Engineering Science Core Curriculum. Dr. Robinson is responsible for all outcomes assessment and accreditation issues in the department. Dr. Robinson manages the fall prospective student open houses.

Diedra Livingston is the Mechanical Engineering Student Services Coordinator. She oversees first and second year programs for the Mechanical Engineering Department and works closely with faculty advisors to help student stay on track for the completion of their degree. Diedra work closely with Diane Selleck, the ME Student Information Specialist. Sherill Anderson is a staff advisor in the ME department. Diane maintains graduate and undergraduate student records and is responsible for data entry related to registration. Between Diedra, Diane, Sherill and your faculty advisor, you should be able to find an answer to almost any degree completion question that you may have. Diedra coordinates the Mechanical Engineering Learning Communities and registration and advising for first and second-year students.

Venessa Mitchell is the Mechanical Engineering Administrative Financial Service Coordinator. She maintains the financial records for the mechanical engineering department. She provides departmental budget information and tracks all students employed in our department. Venessa works with all faculty members who hire students for their classes and labs, all purchasing related to student clubs, and purchasing related to research projects. If you have a question about anything financial, Venessa is your point of contact.

David Hathaway the Mechanical Engineering Operations Manager, assisted by Rob Kraynik and Jan Maneti is responsible for maintenance and repair of the equipment in all of our labs. Dave supervises the student technicians who work in the Machine Shop and PC Lab and he is responsible for all use of the machines in the shop area. Before any project work is done in the Machine Shop, please see Dave. Dave, Rob, and Jan teach materials processing labs and will work with you on prototypes and fabrication throughout your academic careers.

William Finch is the Systems Administrator for the Department. He is in charge of the ME computer labs, their maintenance and upkeep. Bill also is the supervisor for the lab assistants who work in the computer labs.

Every mechanical engineering student has a mail folder outside the Mechanical Engineering Office. Any messages for you will be placed in your mail folder. Memos from the Co-op Office, Mechanical Engineering Office, Dean's Office, instructors, and general information regarding the program will be put into your mail folder. Faculty members may hand papers back to your mail folders. Important notices and information will be posted above the mail folders. **YOU SHOULD CHECK YOUR MAIL FOLDER REGULARLY IN ORDER TO RECEIVE INFORMATION IN A TIMELY MANNER.**

All faculty members have their own mailboxes, and the ME office staff will deliver information from you to the faculty mailboxes. If you have any messages for your faculty member, want to submit late homework assignments, etc., please hand submit them to the front desk in the Mechanical Engineering office and have it date stamped, *unless instructed otherwise by your professor*. Make sure that the instructors' name and your name are clearly visible so that your paperwork is filed in the correct mailbox.

MECHANICAL ENGINEERING FACULTY AND STAFF DIRECTORY

Mechanical Engineering Faculty and Staff	RIT ext.	Bldg/Room	E-mail
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Mr. Tim Landschoot	57439	09/2134	TPLEME
Ms. Kate Leipold	55372	09/2136	KNLEME
Mr. Alexander Liberson	56672	17/3605	ASLEME
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Dr. Risa Robinson	56445	09/2041	RJREME
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Dr. P. Venkataraman	56975	09/2175	PNVEME
Dr. Wayne Walter	52925	09/3213	WWWEME
Mr. John Wellin	55223	09/2014	JDWEME