

UNDERGRADUATE HANDBOOK FOR FIRST YEAR STUDENTS ENTERING FALL 2017

MECHANICAL ENGINEERING DEPARTMENT
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UPDATED JULY 2017

WELCOME TO THE M.E. DEPARTMENT!

Dear Mechanical Engineering Student,

Now that you have entered the undergraduate program, you will be associated with this department for the next two to five years. During this time, you will have many questions. This handbook is intended as a resource that includes program information and contact info for the staff and faculty. I also encourage you to visit the ME website for student resources and program information.

Program staff and faculty are here to support you! Please do not hesitate to stop by the ME office if you have any questions. The office is open weekdays from 8:30 to 4:30. Additionally, you can always email or call your advisor or any of the contacts included in this handbook with any questions.

Every effort has been made to reflect RIT's official policies in this handbook. However, 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.

Again, Welcome to RIT and the ME Department!

Sincerely,

A handwritten signature in cursive script that reads "Risa Robinson".

Risa Robinson, Ph.D.
Professor and Department Head

PROGRAM EDUCATIONAL OBJECTIVES

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:

- Practice mechanical engineering in support of the design of engineered systems through the application of the fundamental knowledge, skills, and tools of mechanical engineering.
- Enhance their skills through formal education and training, independent inquiry, and professional development.
- Work independently as well as collaboratively with others, while demonstrating the professional and ethical responsibilities of the engineering profession.
- 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 Master's degree in a five-year period. A student in this option completes four co-op work-blocks, and three courses count toward both BS and Master's degree

STUDENT OUTCOMES

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.

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 its first BS degrees in electrical and mechanical engineering.

In 1969 ABET accredited the electrical and mechanical engineering BS programs. The industrial engineering department was established in 1970 and the College of Applied Science changed its name to the College of Engineering in 1971. 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.

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. During the 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 2006. The last 10 years have seen a growth in the enrollment of women and minorities and the college is enjoying an increase in retention. In 2008, the RIT mechanical and electrical programs launched master's programs in Dubai followed up in 2010 with bachelors of science degree programs in ME and EE which received their first ABET accreditation in 2015. In 2013, the Rochester Institute of Technology converted from quarters to semesters. In 2014, the College of Engineering launched its PhD in Engineering, a program which has enjoyed success beyond expectations in terms of enrollment, diversity and faculty financial support from external funding.

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 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.

ME PROGRAM OPTIONS

Students may select a number of course options to gain specialized study in a particular discipline of mechanical engineering. Options include aerospace engineering, automotive engineering, bioengineering, and energy and environment. Participation in one of these options is not required. However, they are offered for those students who seek to pursue a career in one of these specialized fields of mechanical engineering. Students must maintain a GPA of at least 2.0 within the option sequence of courses to remain in the option.

Students may elect to complete the major without an option and instead customize their academic study in support of their career plans. The mechanical engineering major is relatively flexible and allows students to pursue options, minors, and even multiple degrees.

Aerospace Engineering Option

The aerospace engineering option allows for specialized study in the engineering aspects of air- and space-borne vehicles and starts with a course introducing students to the aerospace field. The sequence starts in the third year with students taking a variety of electives focused on aerospace. In addition, students are expected to work on an aerospace engineering design project in Multidisciplinary Senior Design I and II (MECE-497, 498) and to pursue co-op employment in a related field.

Automotive Engineering Option

The automotive engineering option offers a series of specialized professional elective courses during the fourth and fifth years that provide an introduction to vehicle power plants, dynamics, and control systems. In addition, students are expected to work on an automotive senior design in the fifth year and to pursue co-op employment in a related field.

Bioengineering Option

The bioengineering option provides an introduction to engineering sciences and design based on a foundation of biological sciences. The course sequence starts with a biological science elective, which counts as a free elective. Students are expected to work on a bioengineering design project in their fifth year and to pursue co-op employment in a related field.

Energy and Environment Option

This 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. This option increases the number of opportunities students have for careers in the fields of building energy systems, alternative and renewable energy, and direct energy conversion. Students are expected to work on an energy systems design project in senior design and to pursue co-op employment in a related field.

Accelerated Dual Degree Options

Three accelerated dual degree options are available for outstanding mechanical engineering students who wish to earn both a bachelor's and a master's degree within approximately five years.

A Bachelor of Science plus a Master of Science in Mechanical Engineering has a strong research focus and is primarily directed toward students who plan to continue their education in the pursuit of a

doctoral degree, students who are interested in conducting independent research before seeking employment.

A Bachelor of Science plus a Master of Engineering in Mechanical Engineering has a strong career and project leadership focus for students who plan to seek employment immediately after graduation.

A Bachelor of Science in Mechanical Engineering plus a Master's of Science in Science, Technology, and Public Policy has a public policy research focus and is designed for students interested in using their technical preparation as an engineer to help shape future policy decisions.

All students enrolled in the dual degree options are required to complete a graduate thesis or capstone project. The bachelor's degrees and the master's degrees are awarded simultaneously. A student may apply for admission to the dual degree option during their second year of study. A transfer student may apply after completing one semester of study at RIT. Admission is based on a cumulative grade-point average of at least 3.5, letters of recommendation from faculty, and a letter of application from the student. Students are admitted first to the Masters of Engineering option but may change to the Master of Science option upon approval of a thesis proposal. While pursuing a dual degree option, students are required to maintain a cumulative grade-point average of at least 3.2.

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 and spring semesters of their first and 2nd year. Late in 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.

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).

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 potential of 50-60 weeks of experience. There is plenty of time allotted to meet the 48 week requirement, so students need not be concerned if they do not find a co-op job in a particular assigned term, have a late starting date, or an early ending date on a work block.

Semester overview

An example of the co-op block schedule is illustrated in the table below:

| | A Block | | |
|--------|-----------|-----------|--------------|
| | Fall | Spring | Summer |
| Year 1 | RIT Study | RIT Study | Vacation |
| Year 2 | RIT Study | RIT Study | Co-Op |
| Year 3 | Co-Op | RIT Study | Co-Op |
| Year 4 | Co-Op | RIT Study | Vacation |
| Year 5 | RIT Study | RIT Study | Begin Career |

| | B Block | | |
|--|-----------|-----------|--------------|
| | Fall | Spring | Summer |
| | RIT Study | RIT Study | Vacation |
| | RIT Study | RIT Study | Vacation |
| | RIT Study | Co-Op | Co-Op |
| | RIT Study | Co-Op | Co-Op |
| | RIT Study | RIT Study | Begin Career |

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.

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 semester 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 (EGEN 99) on 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
 - 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.

- Contact your advisor to be registered for co-op (MECE- 499) on SIS.
- Register with the Co-op office and input your employment information in the Co-op website.
- Use Co-op website 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: Email your academic advisor or call the Mechanical Engineering Office at (585) 475-5181.
 - Register on the co-op website and input your co-op information as soon as possible.
- If you are scheduled to go on co-op, but have not found a job:
 - Notify your academic advisor by the week prior to the start of the semester.
 - Continue your job search through the third week of the semester.

Following Completion of your Co-op job

Co-op is graded as Satisfactory, Incomplete, Waived, or Failed. 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 and an approval of the evaluations by your faculty advisor. Waiver 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.

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:
 - Email: swboce@rit.edu
 - 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) 475-5181
 - Fax: (585) 475-7710

ADMINISTRATIVE DETAILS

Change of Address

If you move, you should make sure that you change your address through RIT's SIS website (SIS.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 Hall (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, SIS 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 Gmail, 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

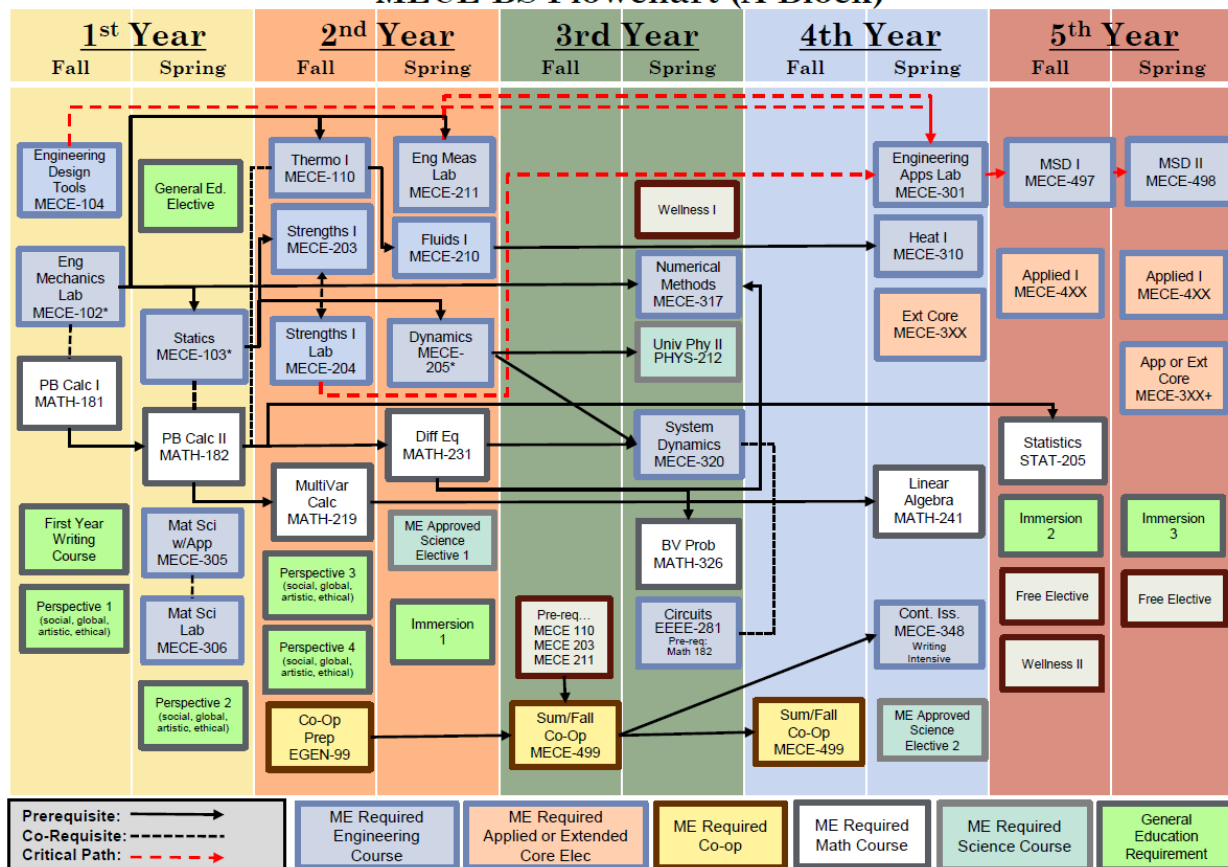
The Mechanical Engineering Department maintains two PC Labs, in ENG-1535, and GLE-2260, for instructional and open lab usage by Mechanical Engineering students. The Institute's computing service maintains two computing labs on the first floor of the James Gleason Hall: the Mechanical Design Lab and the 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 Hall, Nathaniel Rochester Hall, and the Wallace Library. Users agree to comply with the code of conduct (found in the *Student's 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

Prerequisites

Most courses in the Mechanical Engineering curriculum have prerequisites which must be satisfactorily passed prior to enrolling in the more advanced courses (please see the flow chart below-also available on the ME website). Some courses have co-requisites, which mean they are to be taken at the same time with these courses. All ME Courses require a D grade or better to progress to the next course in the sequence. Some service 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 may consider repeating the course. Students who earn multiple D grades over multiple academic terms should meet with their faculty advisor, to discuss whether completion of the BS/ME degree is a viable option. In order to register for Senior Design I, a student must have completed a significant portion of their co-op requirements, which demonstrates the student will be able to complete all requirements for graduation by the end of the following summer term.

MECE-BS Flowchart (A-Block)

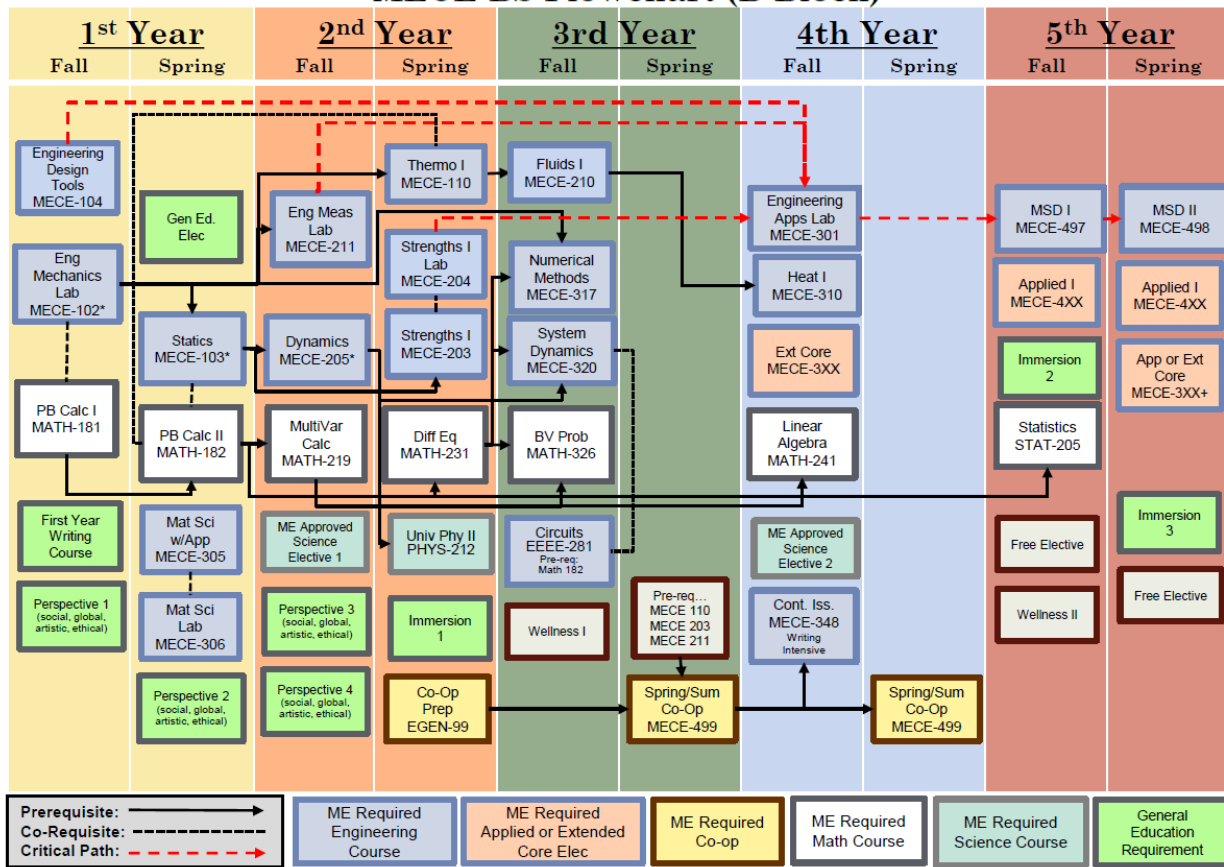


* C- or better required

Check your Academic Advising Report (AAR) in SIS to track your progress in meeting degree requirements

Revised 7/27/2017

MECE-BS Flowchart (B-Block)



* C- or better required **Check your Academic Advising Report (AAR) in SIS to track your progress in meeting degree requirements** Revised 7/27/2017

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 ADVISING FROM THEIR ACADEMIC OR 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 placed on their accounts for Fall term to ensure that they review their schedule with their academic advisors prior to enrolling. 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 SIS, for up-to-the minute information. It is to your advantage to check SIS periodically. We recommend that you print out your class schedule on the first day of the term to ensure that there have been no changes to your class times, instructors, or locations.

The drop/add period extends through the first seven class days each semester. You may drop courses online using the SIS. You may also add a course to your schedule using the SIS if the course is not full, however if the course is full you will need to add yourself to the waitlist. 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

Required Engineering Courses

- MECE 102 Engineering Mechanics Lab
- MECE 103 Statics
- MECE 104 Engineering Design Tools
- MECE 110 Thermodynamics I
- MECE 203 Strength of Materials
- MECE 204 Strength of Materials Lab
- MECE 205 Dynamics
- MECE 210 Fluid Mechanics I
- MECE 211 Engineering Measurements Lab
- MECE 301 Engineering Applications Lab
- MECE 310 Heat Transfer I
- MECE 317 Numerical Methods
- EEEE 281 Circuits 1 + Lab
- MECE 305 Materials Science
- MECE 306 Materials Science Lab
- MECE 320 System Dynamics
- MECE 348 Contemporary Issues
- MECE 497 Multidisciplinary Senior Design I
- MECE 498 Multidisciplinary Senior Design II

Your 5 Year Plan

Upon entry into the program, each student receives an electronic 5 Year Plan. This document is created by the academic advisor and outlines each course required for graduation and the semester each course should be taken. Students and their advisors consult with, and edit if necessary, this document each semester as they plan for the upcoming term. The department also utilizes the Five Year Plan when conducting pre-certification prior to the start of a student's 5th year and certification of degree requirements upon graduation.

SAMPLE 5 YEAR PLAN/COURSE SEQUENCE-A BLOCK

| A Block | | | | | | | |
|----------------------|--------------|------------------------------|---------------|--------------|--|------------|-----------|
| Fall | | | Spring | | | | |
| Year 1 | | First Year Writing Course | 3 | | General Education Elective | 3 | |
| | MATH-181 | Project-Based Calculus I | 4 | MATH-182 | Project-Based Calculus II | 4 | |
| | | Perspective I | 3 | | Perspective II | 3 | |
| | MECE-102 | Engineering Mechanics Lab | 3 | MECE-305 | Materials Science | 3 | |
| | MECE-104 | Engineering Design Tools | 3 | MECE-306 | Materials Science Lab | 1 | |
| | | | | MECE-103 | Statics | 3 | |
| Total | | | 16 | Total | | | 17 |
| Year 2 | | Perspective III | 3 | | Immersion I | 3 | |
| | | Perspective IV | 3 | MATH-231 | Differential Equations | 3 | |
| | MATH-219 | Multivariable Calculus | 3 | | Science Elective I | 3 | |
| | MECE-203 | Strengths of Materials I | 3 | MECE-210 | Fluid Mechanics I | 3 | |
| | MECE-204 | Strengths of Materials I Lab | 1 | MECE-205 | Dynamics | 3 | |
| | MECE-110 | Thermodynamics I | 3 | MECE-211 | Engineering Measurements Lab | 2 | |
| | EGEN-99 | Co-op Prep | 0 | | | | |
| Total | | | 16 | Total | | | 17 |
| Year 3 | MECE-499 | Summer/Fall Co-op | | PHYS-212 | Physics II | 4 | |
| | | | | MATH-326 | Boundary Value Problems | 3 | |
| | | | | MECE-320 | System Dynamics | 3 | |
| | | | | MECE-317 | Numerical Methods | 3 | |
| | | | | EEEE 281 | Circuits I | 3 | |
| | | | | | Wellness I | 0 | |
| Total | | | 0 | Total | | | 16 |
| Year 4 | MECE-499 | Summer/Fall Co-op | | MECE-348 | Contemporary Issues in ME | 3 | |
| | | | | MECE-3xx | ME Extended Core Elective I | 3 | |
| | | | | MATH-241 | Linear Algebra | 3 | |
| | | | | | Science Elective II | 3 | |
| | | | | MECE-310 | Heat Transfer I | 3 | |
| | | | | MECE-301 | Engineering Applications Lab | 2 | |
| Total | | | 0 | Total | | | 17 |
| Year 5 | MECE-497 | Senior Design I | 3 | MECE-498 | Senior Design II | 3 | |
| | MECE-4xx | ME Applied Elective I | 3 | MECE-4xx | ME Applied Elective II | 3 | |
| | | Immersion II | 3 | MECE-xxx | ME Applied Elective III (or Ext Core II) | 3 | |
| | STAT-205 | Statistics | 3 | | Immersion III | 3 | |
| | | Free Elective I | 3 | | Free Elective II | 3 | |
| | | Wellness II | 0 | | | | |
| | Total | | | 15 | Total | | |
| Program Total | | | | | | 129 | |

SAMPLE 5 YEAR PLAN/COURSE SEQUENCE-B BLOCK

| B Block | | | | | | | |
|----------------|----------|------------------------------|---------------|--------------|--|---|-----------|
| Fall | | | Spring | | | | |
| Year 1 | | First Year Writing Course | 3 | | General Education Elective | 3 | |
| | MATH-181 | Project-Based Calculus I | 4 | MATH-182 | Project-Based Calculus II | 4 | |
| | | Perspective I | 3 | | Perspective II | 3 | |
| | MECE-102 | Engineering Mechanics Lab | 3 | MECE-305 | Materials Science | 3 | |
| | MECE-104 | Engineering Design Tools | 3 | MECE-306 | Materials Science Lab | 1 | |
| | | | | MECE-103 | Statics | 3 | |
| Total | | | 16 | Total | | | 17 |
| Year 2 | | Perspective III | 3 | | Immersion I | 3 | |
| | | Perspective IV | 3 | MATH-231 | Differential Equations | 3 | |
| | MATH-219 | Multivariable Calculus | 3 | PHYS-212 | Physics II | 4 | |
| | | Science Elective I | 3 | MECE-203 | Strengths of Materials I | 3 | |
| | MECE-205 | Dynamics | 3 | MECE-204 | Strengths of Materials I Lab | 1 | |
| | MECE-211 | Engineering Measurements Lab | 2 | MECE-110 | Thermodynamics I | 3 | |
| | | | | EGEN-99 | Co-op Prep | 0 | |
| Total | | | 17 | Total | | | 17 |
| Year 3 | MECE-210 | Fluid Mechanics I | 3 | MECE-499 | Spring/Summer Co-op | | |
| | MATH-326 | Boundary Value Problems | 3 | | | | |
| | MECE-320 | System Dynamics | 3 | | | | |
| | MECE-317 | Numerical Methods | 3 | | | | |
| | EEEE 281 | Circuits I | 3 | | | | |
| | | Wellness I | 0 | | | | |
| Total | | | 15 | Total | | | 0 |
| Year 4 | MECE-348 | Contemporary Issues in ME | 3 | MECE-499 | Spring/Summer Co-op | | |
| | MECE-3xx | ME Extended Core Elective I | 3 | | | | |
| | MATH-241 | Linear Algebra | 3 | | | | |
| | | Science Elective II | 3 | | | | |
| | MECE-310 | Heat Transfer I | 3 | | | | |
| | MECE-301 | Engineering Applications Lab | 2 | | | | |
| Total | | | 17 | Total | | | 0 |
| Year 5 | MECE-497 | Senior Design I | 3 | MECE-498 | Senior Design II | 3 | |
| | MECE-4xx | ME Applied Elective I | 3 | MECE-4xx | ME Applied Elective II | 3 | |
| | | Immersion II | 3 | MECE-xxx | ME Applied Elective III (or Ext Core II) | 3 | |
| | STAT-205 | Statistics | 3 | | Immersion III | 3 | |
| | | Free Elective I | 3 | | Free Elective II | 3 | |
| | | Wellness II | 0 | | | | |
| Total | | | 15 | Total | | | 15 |

Program Total 129

Required Engineering Elective Courses

The BS degree in mechanical engineering requires completion of 4 mechanical engineering elective courses. One of these courses must be chosen from the menu of extended core courses, two must be chosen from the menu of applied courses and the fourth course can be either an extended core or an applied course. Extended core courses involve a continuation and extension of material covered in the required core ME courses to achieve greater depth in that area of study. Applied courses are upper level electives which build upon and apply material covered in the required core and extended core courses. For students in the aerospace, automotive, biomedical or energy and environment options, we have included a table below that indicates those courses that will count towards your option. A contemporary issues course is required of all students. For students in an option, there is an option specific contemporary issues course, while students not in an option may take any contemporary issues course.

| REQUIRED COURSES - pick by option (if no option, select any 'flavor') | | Related Option | Aero | Auto | Bio | EE | Term Offered |
|--|---|----------------|------|------|-----|----|-----------------------|
| MECE-348 | Cont Issues in Aerospace Engineering | Aero | X | | | | SP |
| MECE-348 | Cont Issues in Energy and Environment | EE | | | | X | FA |
| MECE-348 | Cont Issues in Automotive Engineering | Auto | | X | | | FA |
| MECE-348 | Cont Issues in Mechanical Engineering | No Option/Bio | | | X | | FA/SP |
| EXTENDED CORE COURSES - pick 1 from menu by Option (if no option, select any course listed below) | | | | | | | |
| MECE-350 | Strengths of Materials II | Aero/Auto | X | X | | | FA/SP |
| MECE-352 | Thermodynamics II | EE | | X | | X | FA |
| MECE-355 | Fluid Mechanics II | Bio/EE | | | X | X | FA/SP |
| MECE-360 | Advanced Computational Techniques | Aero/Bio | X | | X | | FA |
| MECE-389 | Special Topics: Dynamics II | Aero/Auto/Bio | X | X | X | | SP 2175 |
| APPLIED COURSES - pick 2 from menu by Option (if no option, select any two from the list below) | | | | | | | |
| MECE-401 | Refrigeration and Air-conditioning | EE | | | | X | SP |
| MECE-402 | Turbomachinery | EE | | | | X | FA |
| MECE-403 | Propulsion | Aero | X | | | | SP (ODD AY)** |
| MECE-404 | Robotics | | | | | | FA |
| MECE-406 | Advanced Computer Aided Design | | | | | | FA |
| MECE-407 | Biomedical Device Engineering | Bio | | | X | | FA |
| MECE-409 | Aerodynamics | Aero | X | | | | FA |
| MECE-410 | Flight Dynamics | Aero | X | | | | SP |
| MECE-411 | Orbital Mechanics | Aero | X | | | | FA |
| MECE-412 | Aerostructures | Aero | X | | | | SP |
| MECE-421 | Internal Combustion Engines | Auto | | X | | | SP |
| MECE-520/620 | Introduction to Optimal Design | | | | | | SP |
| MECE-523/623 | Powertrain Systems and Design | Auto | | X | | | FA |
| MECE-524/624 | Vehicle Dynamics | Auto | | X | | | SP |
| MECE-529/629 | Renewable Energy | EE | | | | X | FA |
| MECE-543/643 | Classical Controls | Aero/Auto | X | X | | | FA/SP |
| MECE-544/644 | Intro to Composite Materials | Aero/Auto | X | X | | | FA |
| MECE-557/657 | Applied Biomaterials | Bio | | | X | | SP (ODD AY)** |
| MECE-558/658 | Introduction to Engineering Vibrations | Aero | X | | | | FA |
| MECE-589/689 | Special Topics: Alternative Propulsion Systems | Auto/EE | | X | | X | SP 2175 |
| MECE-589/689 | Special Topics: Biomechanics & Biorobotics | Bio | | | X | | SP (EVEN AY)* |
| MECE-589/689 | Special Topics: Computational Gear Design | Auto | | X | | | SP (EVEN AY)* |
| MECE-589/689 | Special Topics: Manufacturing Processes & Engineering | | | | | | FA (ODD AY)** |
| BIME-510 | Bioanalytical Microfluidics | Bio | | | X | | SP |
| APPLIED COURSES - (BS/ME and BS/MS) | | | | | | | |
| MECE-605 | Finite Elements | | | | | | FA |
| MECE-606 | Systems Modeling | | | | | | SP |
| MCSE-610 | Applied Biofluid Mechanics and Microcirculation | Bio | | | X | | FA |
| MECE-731 | Computational Fluid Dynamics | Aero/Bio | X | | X | | SP (AY2017) |
| MECE-738 | Ideal Flows | Aero | X | | | | FA (AY2017) |
| MECE-739 | Alternative Fuels And Energy Efficiency | Auto/EE | | X | | X | FA (not offered 2171) |
| MECE-743 | Digital Control Systems | | | | | | SP |
| MECE-744 | Nonlinear Control Systems | | | | | | SP |
| MECE-751 | Convective Phenomena | | | | | | SP |
| MECE-752 | Tribology Fundamentals | Auto/Bio | | X | X | | SP (EVEN AY)* |
| MECE-758 | Intermediate Engineering Vibrations | | | | | | SP |
| MECE-785 | Mechanics of Solids | | | | | | FA |
| MECE-789 | Special Topics - Experimental Tribology | | | | | | SP (ODD AY)** |
| MECE-789 | Special Topics - Microscale Transport Phenomena | | | | | | SP |
| MECE-789 | Special Topics-Droplet based Microfluidics | | | | | | SP (EVEN AY)* |
| MECE-789 | Special Topics - Boiling and Condensation | | | | | | FA |
| MECE-789 | Special Topics - Nanobiotechnology Applications | Bio | | | X | | SP (ODD AY)** |

* Even AY: 2016-1017, 2018-2019, 2020-2021

**Odd AY: 2017-2018, 2019-2020, 2021-2022

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.

Science Requirements

Students entering RIT as First Year students must complete University Physics II and two science courses. Sciences include approved courses in Chemistry, Biology, Physics and Astronomy. Please refer to the Mechanical Engineering website under advising.

Mathematics Requirements

Students entering RIT as First Year students must complete a full year of Calculus (Calculus I, Calculus II) during their first year 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 remaining terms.

Free Elective Requirements

The Mechanical Engineering curriculum requires the completion of two free electives as part of the BS degree. 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.

Wellness Requirements

The Wellness Instructional Program is designed to assist students in making healthy decisions and choices to support their academics and social interactions in college and beyond. The learning experiences provided throughout the wellness curriculum are an integral part of the students' 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. General Education Requirements

General Education 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 General Education Requirements (for KGCOE students) consist of a total of six courses: a First Year Writing, a General Education Elective, and four Perspective Courses: Artistic, Ethical, Global & Social.

The *General Education Immersion* 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. A list of immersions is located on the Liberal Arts website. Students considering the dual degree BS Mechanical Engineering and MS in Public Policy must complete the public policy Immersion. Please consult with your advisor regarding the liberal arts requirement questions.

Academic Advising Report (AAR)

In addition to your 5 Year Plan, you can also view your Academic Advising Report (AAR) on SIS. The AAR is a helpful advising tool for students track progress toward degree completion.

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 129 credit hours.
2. Full payment or satisfactory adjustment of all financial obligations.
3. A minimum Program Cumulative Grade Point Average of 2.00 (a 'C' average).
4. A minimum of 30 semester 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 10 semester credit hours in absence in the final year of the degree. At minimum, 20 of the final 30 semester credit hours are to be completed in residence.

ACADEMIC POLICIES

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 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

An undergraduate student must maintain a cumulative GPA of 2.00 or above at RIT in order to remain in good academic standing. To help students maintain satisfactory academic performance, RIT has set academic standards that serve to identify, warn, and provide timely intervention to a student who is experiencing academic difficulty.

In addition to the university requirements outlined below, individual colleges and/or programs may define more rigorous requirements for maintaining good academic standing. This information must be approved by the dean, clearly defined within published college policy, communicated in the university bulletin, and communicated to the Provost’s Office. For programs housed outside the college structure, the approval of the director of the academic unit is required.

All probation and academic suspension actions are taken at the end of the fall, spring and summer terms.

Probation refers to the academic action taken when a student is not in good academic standing. A student placed on probation is expected to sufficiently raise his/her GPA in the succeeding term so that the probationary status can be removed. In some circumstances, a student will also be required to satisfy specific conditions required by the home department in the form of an academic contract in order to be removed from probation. Failure to meet the terms of probation may result in suspension.

Academic Suspension Rules

Suspension refers to the academic action taken when a student is not permitted to enroll in courses at the university for a period of one calendar year.

1. Any degree-seeking undergraduate student whose term or cumulative grade point average (see [D5.0-Grades](#), section G) falls below a 2.00 (C average) will be placed on probation.
2. Any student who is on probation according to A.1. above and who is not removed from probation in the two succeeding terms (including summer session) in which credit is attempted will be suspended from RIT for a period of one calendar year.
3. Any student who has been placed on probation after having been removed from probation and whose cumulative grade point average is below 2.00 will be suspended.
4. Any student who has been placed on probation after having been removed from probation and whose cumulative grade point average is 2.00 or above will be granted one term to be removed from probation before suspension from RIT.

5. Any student whose term grade point average falls below 1.00 will be suspended from RIT for a period of one calendar year.
6. Students who have been readmitted to their original program after having been suspended and then qualify for probation will be suspended from RIT.
7. A suspended student cannot enroll in any credit or non-credit course at the university while on suspension.
8. A suspended student may appeal a suspension decision. Individual colleges and/or programs may set limitations on the number of appeals a student can submit.
9. A suspension may be waived upon written appeal to the student's home program. Final suspension waiver requires dean (or designee) approval. For programs housed outside the college structure, the approval of the director of the academic unit in which the enrollment is requested is required.
10. A suspended student may be required to satisfy specific academic conditions imposed by the home department in order to be considered for readmission to his/her program.
11. A suspended student may be admitted to another program if it is approved by the dean (or designee) of the college in which enrollment is requested. For programs housed outside the college structure, the approval of the director of the academic program in which the enrollment is requested is required.
12. Students must apply through undergraduate admissions for re-admission at the end of their suspension. Such re-admission must be approved by the dean (or his/her designee) of the college for which they are requesting enrollment (this may be the original college or another). For programs housed outside the college structure, the re-admission must be approved by the director (or designee) of the academic unit for which they are requesting enrollment.

A student may petition the department for reconsideration of suspension. To do this, he/she must write a letter to the associate department head,(Dr. 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 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 and cumulative grade point averages (GPA):

| Grade | Description | Quality Points |
|--------------|-----------------------|-----------------------|
| A | Excellent | 4 |
| A- | | 3.67 |
| B+ | | 3.33 |
| B | Above Average | 3 |
| B- | | 2.67 |
| C+ | | 2.33 |
| C | Satisfactory | 2 |
| C- | | 1.67 |
| D | Minimum Passing Grade | 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 semester. The following descriptions provide a brief explanation. The official policy manuals and the catalog contain exact policies and procedures.

| Grade | Definition |
|--------------|--|
| _____ | Blank - that is, the grade has not yet been assigned or no grade is expected. |
| R | Registered - a permanent grade given in graduate thesis work. |
| W | Withdrawn - a grade that indicates an official course withdrawal has been processed. See policy D05.IV. |
| S | Satisfactory - (undergraduate) - A satisfactory grade may only apply to acceptable completion of cooperative work experience, internships, courses bearing course numbers of 099 or below, and study abroad courses offered by affiliated programs. |
| I | Incomplete - When an instructor observes conditions beyond the control of a student such that the student is unable to complete course requirements in the given term or session, the instructor may assign an Incomplete notation ("I") to a student. If the registrar has not received a "Change of Grade" form from the professor after two terms including summer session but excluding intersession, then the Incomplete becomes an "F" grade/ |
| WV | Waived courses - those courses eliminated from the list of requirements that a student must take to graduate. |
| X | 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. |
| AU | Audit - indicates a student has officially registered for the course for no credit. |

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 "AU" 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 cannot 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 (18credits) 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 twelfth week of the semester through RIT's SIS. Students are STRONGLY encouraged to meet with their academic and 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. If you wish to take a course at another university or college while you are away from RIT, check with Dr. Nye (for Mechanical Engineering, Math and Science courses)) 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.

Final Exam Policy

The Registrar's Office will provide the final examination schedule at the beginning of each term. Students can access their exam schedule on SIS once it is posted. At times, students may find that they have a conflict on their exam schedule. The conflict may include:

- a) Two or more exams scheduled for the same day/time *and/or*
- b) Three or more exams scheduled for the same day

In these cases, students should notify the ME office for assistance in resolving the conflict and scheduling an alternate exam time.

*Institute Policy D.11.0 indicates that “students have the right (if they wish) not to take three or more final exams in one day.”

Leave of Absence/Institute Withdrawal

A full-time student may withdraw from all courses in a term by applying to take a Leave of Absence or withdrawing from RIT (Institute Withdrawal). A leave of absence may be granted for a variety of circumstances (such as financial reasons, injury or accident, or other factors beyond the student's control) and cannot extend beyond 3 terms (including summer,) of the term 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 request** should be filed by students who are withdrawing from all classes in a term, but who intend to return to study at RIT within three terms. This will commonly be done for students facing illness or needing personal leave. A leave of absence will not be approved for the purpose of avoiding poor grades or avoiding consequences of misconduct sanctions. A leave of absence may require a re-entry plan prior to resuming classes.

An **Institute Withdrawal** should be filed by students who are withdrawing from all classes in a term, 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. The faculty advisor is Dr. Michael Schrlau.

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. The faculty advisor is Dr. Alan Nye.

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. Alan Nye.

Society of Women Engineers [SWE]

The Society of Women Engineers at RIT is a student-run organization. SWE organizes several functions each semester 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 Dr. Marca Lam.

Engineers of Color Creating Opportunities [ECCO Center]

The ECCO Center is the engineering diversity initiative dedicated to assisting in increasing the number of AALANA (African American, Latino American and Native American) engineering students that are typically underrepresented. The ECCO Center programs at RIT are committed to expanding the representation of AALANA engineers and preparing students for leadership roles within the engineering profession. ECCO organizes several functions each year such as accepted student overnight retreat in the spring, guest speakers, social events and events with other student organizations. The ECCO Center director is Dr. Venessa Mitchell.

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 faculty advisors are [Dr. Marcos Esterman](#) and [Dr. Ruben Proano](#).

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 [Dr. Reginald Rogers](#).

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 CONTACTS

The Mechanical Engineering Department views academic advising as an essential component of the undergraduate experience. Students are assigned a faculty advisor and a professional staff advisor to assist with academic, social and professional needs.

Mechanical Engineering Academic Advisor

Your Academic Advisor is responsible for implementation of the overall advising program for the department. You should see your Academic Advisor if you need assistance with course scheduling, academic performance issues, learning community schedules, transfer credit or life at RIT. Academic Advisors are available by appointment, or simply by dropping in for a visit to the office during normal business hours. The Academic advisors are not engineers so they are not in a position to provide technical advice on specific courses, or how those courses may relate to your professional career opportunities, but they are very knowledgeable about degree requirement and registration processes. Academic advisors are well versed in 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. Your academic advisor can help you to develop a strong professional relationship with your faculty advisor which will be very important, particularly as you progress in this program.

Mechanical Engineering Faculty Advisor

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 members 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 applied courses 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. Your faculty advisor can share perspective on what has helped them to be successful, and some of the things that other students have done to succeed in their engineering courses. 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 faculty advisor may be able to serve as a professional reference for you as you look for your first co-op, and apply for full time positions as you near graduation.

Which Advisor for which topic?

You, your faculty advisor and your academic advisor are an important team. As you go through your program of study, starting on your first day of orientation, and all the way through to graduation (and beyond) your advisors are here to help you. The table below provides some guidance on where to go for help with specific kinds of issues. The ● symbol indicates that this advisor probably has the type of information or referral that you need readily available. The ○ symbol indicates that this advisor is willing to help if they can, but may not have the most current or timely information for your needs. If a particular column is blank, that means this advisor is probably not the best resource to rely upon for this topic.

| I need help with this kind of topic... who do I go to? | Academic Advisor | Faculty Advisor |
|---|------------------|-----------------|
| I should share information about my career goals and aspirations with this advisor, so that they can help me make informed decisions about my future. | ● | ● |
| I want to adjust my schedule to take a different math, science, or liberal arts course. | ● | |
| I have AP or transfer credit that is not being accounted for in my records. | ● | |
| I am having trouble adapting to the workload at RIT, and need referrals for study skills. | ● | ○ |
| I am having problems interacting with other students in class, dorms, etc. | ● | |
| I miss my family, and need someone to talk to. | ● | |
| Where can I get tutoring assistance? | ● | ○ |
| Does this particular course satisfy my liberal arts requirements? | ● | |
| Does this particular course satisfy my mathematics requirements? | ● | ○ |
| Does this particular course satisfy my science requirements? | ● | ○ |
| Does this particular course satisfy my minor requirements? | ● | |
| Does this particular course satisfy my honors requirements? | ● | |
| Does this particular course satisfy my M.E. Option requirements? | ● | ○ |
| I just got back from co-op, and need to have my work report reviewed and approved. | | ● |
| Which extended and applied electives are best for my career aspirations? | | ● |
| I need a letter of reference for a job, graduate school, scholarship application, etc. | | ● |
| How does this math or science course relate to my ME program -- why am I studying this? | ○ | ● |
| Will this particular course help prepare me for my career goals? | | ● |
| What attributes should I look for in my first co-op job? | | ● |
| What attributes should I look for in a graduate program? | | ● |
| What is it like to work as an engineer? | | ● |
| I am applying for a security clearance for my jobs, and need to list references as part of the background investigation. | | ● |
| I am applying for licensure as an engineering intern or as a professional engineer, and need to list references as part of my application. | | ● |
| I got an Early Alert in a math, science, or engineering class and have to see my advisor. | ○ | ● |
| I got an Early Alert in liberal arts, wellness, or a free elective and have been told to see my advisor. | ● | ○ |
| I am thinking about withdrawing from a class during my first or second year, and want to know what implications this may have to my program of study. | ● | ○ |
| I am thinking about withdrawing from a class during my third, fourth, or fifth year, and want to know what implications this may have to my program of study. | ○ | ● |

MECHANICAL ENGINEERING STAFF

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Jennifer Kamish, Academic Advisor

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Student Mail Folders

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.

Faculty Mail Boxes

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.

FACULTY AND STAFF DIRECTORY

| NAME | PHONE | OFFICE | E-MAIL |
|---|-------|----------|----------|
| Risa Robinson, Dept. Head, Professor | 56445 | GLE/2107 | rjreme |
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| Michael Schrlau, Graduate Director | 52139 | GLE/2111 | mgseme |
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| Andrea Kirwan, Advisor | 55829 | GLE/2203 | agkiao |
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| Christie Leone, ME Student Services Coordinator | 57489 | GLE/2113 | chleme |
| Jan Maneti, Operations Manager | 57718 | GLE/2436 | jameme |
| Hillary McCormick, Advisor | 55788 | GLE/2115 | hemiao |
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| Amy Powell, Advisor | 56507 | GLE/1568 | alpio |
| Diane Selleck, Student Info Specialist | 52163 | GLE/2101 | dmseme |
| ME Bus Office Front Desk | 57503 | GLE/2103 | busofeme |
| FACULTY | | | |
| Margaret Bailey, Professor | 52960 | GLE/2061 | mbbeme |
| Stephen Boedo, Professor | 55214 | GLE/2031 | sxbeme |
| Robert Carter, Lecturer | 57098 | ENG/2507 | rncbme |
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| Surendra Gupta, Professor | 52158 | GLE/2071 | skgeme |
| William Humphrey, Lecturer | 55628 | ENG/2523 | waheme |
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| Sarilyn Ivancic, Lecturer | 56003 | GLE/2138 | srieme |
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| Timothy Landschoot, Principal Lecturer | 57439 | GLE/2134 | tpleme |
| Kate Leipold, Sr. Lecturer | 55372 | GLE/2136 | knleme |
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| Ali Ogut, Professor | 52542 | GLE/2015 | adoeme |
| Michael Schertzer, Asst. Professor | 55715 | GLE/2175 | mjseme |
| Robert Stevens, Assoc. Professor | 52153 | GLE/2167 | rjseme |
| Benjamin Varela, Assoc. Professor | 54737 | GLE/2012 | bxveme |
| P. Venkataraman, Assoc. Professor | 56975 | GLE/2021 | pvneme |
| John Wellin, Sr. Lecturer | 55223 | GLE/2014 | jdweme |