MECHANICAL ENGINEERING

The Kate Gleason COLLEGE OF ENGINEERING

GUIDEBOOK

FOR PROSPECTIVE STUDENTS

MECHANICAL ENGINEERING DEPARTMENT
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Mechanical Engineering – We Design the Future!

WELCOME TO THE M.E. DEPARTMENT

Dear Prospective Mechanical Engineering Student,

I am pleased that you have chosen to learn more about our program offerings as you consider options for your undergraduate degree. This guidebook will help you learn about our department, and the opportunities for growth available through our academic and extracurricular programs.

Here in the Mechanical Engineering department, we believe that engineers learn how to become engineers by "doing it, not just talking about it." This focus on applied, hands-on education is at the heart of our department's educational philosophy. We provide students with the strong basis in science and mathematics needed to compete in today's high technology workplace, ***and*** we help students learn how to apply that knowledge to real world applications.

Mechanical engineering is a broad discipline. A degree in mechanical engineering can help you prepare yourself for a wide range of career opportunities. Perhaps you want to work in the automotive industry – if so, then you should consider our automotive engineering option and participate in our internationally acclaimed SAE Formula Racing Team. Maybe you have a career focus on working in the aerospace industry – then consider our Aerospace option, and becoming a member of the aero design club. Maybe you haven't decided exactly what you want to do yet. Don't worry! Mechanical engineering offers a world of opportunities. You can use your M.E. degree to work in manufacturing, product design, bioengineering, fuel cells, medicine, robotics and automation, micro-systems, management, or entrepreneurism and business startup.

As a mechanical engineer, you can be a generalist, and practice in a wide range of technical fields. Or, as your interests become more specific, you can choose to specialize. Join our student sections of ASME, AIAA, SAE – get involved! If auto and aero racing aren't your bag, then try out our Human Powered Vehicle team, or the robotics club. Our students participate in a number of extracurricular activities ranging from Art and Music to Intramural and Intercollegiate Athletics.

The Mechanical Engineering program at RIT is a demanding one. You will have to work hard and be dedicated to earn your degree. The hard work is well worth it. Your personal sense of accomplishment and your value in the marketplace are just a couple of the rewards available to you as you pursue a degree in mechanical engineering from RIT.

Please take some time to visit our department, tour our world-class facilities and laboratories, and meet the students, staff, and faculty of our department. As you review the material in this guidebook, please feel free to contact myself or the mechanical engineering office staff with any questions you may have.

Thank you for considering the RIT mechanical engineering department in your college search, and best wishes to you as you move forward with your future academic plans!

Sincerely,

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, if they choose.

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 three 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.

RIT, THE KATE GLEASON COLLEGE OF ENGINEERING, AND THE M.E. 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 1885 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 was 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.

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 2013. 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.

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 B.S. degree. Our program requirements include 4 elective courses. This gives students an opportunity to focus in an area of interest. Options described below are available in Aerospace, Automotive, Bioengineering, and Energy and the Environment, and combined programs leading to both the BS and Master's 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 B.S. Degree.

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.

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

This option focuses on engineering aspects of airborne and space vehicles. You'll take an introductory course on contemporary issues in aerospace engineering followed by courses such as composites, fatigue, aerodynamics, aerospace structures, propulsion, and flight dynamics. For your senior design project, you are expected to work on an aerospace engineering project. Your co-op experiences will take place in the aerospace industry.

Automotive Engineering Option

Modern automotive engineering entails the design of engines and components such as braking and lighting systems, transmission, and fuel economy. This option includes an introduction to automotive design and manufacturing as well as courses in vehicle dynamics, internal combustion engines, controls, fuel cell technology, and tribology. Your senior design project will relate to automotive engineering as will your co-op experiences.

Bioengineering Option

This option consists of a Contemporary Issues in Bioengineering course, biological science electives, and a focus on areas such as artificial organs, biomechanics, biomaterials, biosensors, and biomicrofluidics. You will work on a bioengineering senior design project and pursue co-op employment in a related field.

Energy and Environment Option

This option allows you to focus on contemporary issues in the fields of energy and the environment and modern technologies such as wind turbines, solar energy, geothermal systems, fuel cell technology and alternative energy systems. You will work on an energy systems senior design project, and pursue co-op employment in a related field and will have the opportunity to participate in our Human Powered Vehicle competition team.

Accelerated Dual Degree Options

Three accelerated dual degree options are available for outstanding mechanical engineering students who wish to earn a 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, or 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 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.

PROGRAM OF STUDY

Mechanical engineers apply principles of physical science and mathematics to conceive, design, produce and operate the moving parts, components and machinery used in every aspect of modern life. From rockets, robots and automobiles to power plants, engines, air-conditioning equipment and biomechanical parts, mechanical engineers put energy and machines to work, and wherever there is motion, you'll find evidence of their innovations. Today, they often use computer-aided design and computer simulation to ensure their products are reliable, efficient and economically sound. The spectrum of professional activity for the mechanical engineer runs from research through design and development to manufacturing and sales.

In our program, you'll be encouraged to experiment in many areas, including thermal systems, applied mechanics, computer-aided-manufacturing, systems analysis, robotics, vibration and automotive and aerospace engineering. Because many courses require you to build a model or working prototype to demonstrate a particular concept, you will make extensive use of our well-equipped facilities. Our labs contain dynamic system simulators, spectrum analyzers and high-tech equipment for measuring fluid velocities and particle size.

Because of their comprehensive training and education, mechanical engineers are often called upon to assume management positions. It is not uncommon for the CEO of a Fortune 500 manufacturing company to have started his or her career as a mechanical engineer. When you graduate from RIT's mechanical engineering program, you'll join our successful alumni who work as researchers, prototype designers, product developers, automotive engineers, aerospace engineers, biomedical engineers, management consultants and in many other positions of leadership in every major industry.

The checklist below provides a list of the course requirements each student needs to complete along their way to the BS Degree in mechanical engineering.

MECE 102 Engineering Mechanics Lab	One year of differential and integral calculus; MATH 181/182
MECE 104 Engineering Design Tools	MATH 219 Multivariable Calculus
MECE 103 Statics	MATH 231 Differential Equations
MECE 110 Thermodynamics I	MATH 241 Linear Algebra
MECE 203 Strength of Materials	MATH 326 Boundary Value Problems
MECE 204 Strength of Materials Lab	STAT 205 Applied Statistics
MECE 205 Dynamics	Two Physical Science Electives
MECE 210 Fluid Mechanics I	PHYS 211 University Physics II w/ Lab: Electricity & Magnetism
MECE 211 Engineering Measurements Lab	Free Elective I
EEEE 281 Circuits 1 + Lab (from the EE Department)	Free Elective II
MECE 301 Engineering Applications Lab	Writing Seminar
MECE 317 Numerical Methods	Foundation Elective
MECE 305/306 Materials Science and Applications w/ Lab	Perspectives I (Artistic)
MECE 310 Heat Transfer I	Perspectives II (Ethical)
MECE 320 System Dynamics	Perspectives III (Global)
MECE 348 Contemporary Issues in Engineering	Perspectives IV (Social)
MECE 497 Senior Design I	Univ. A&S Immersion I
MECE 498 Senior Design II	Univ. A&S Immersion II
M.E. Extended Core Elective I	Univ. A&S Immersion III
M.E. Applied Elective I	Co-Op Preparation Course
M.E. Applied Elective II	Wellness Requirement I
M.E. Extended Core Elective II or Applied Elective III	Wellness Requirement II

Students are assigned to either A Block or B Block in terms of their schedule of classes versus co-op. The following Sample 5 Year Plans show the similarities and differences between the two blocks.

SAMPLE 5 YEAR PLAN/COURSE SEQUENCE-A BLOCK

A Block							
	Fall				Spring		
Year 1		First Year Writing Course	3			Foundation 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** **15**
							Program Total **129**

SAMPLE 5 YEAR PLAN/COURSE SEQUENCE-B BLOCK

B Block							
	Fall				Spring		
Year 1		First Year Writing Course	3			Foundation 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 Lat	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**

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 essentially from Labor Day to Memorial Day 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 are asked to complete at least two co-op blocks during the academic year, and no more than two co-op blocks during the summer session.

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.

RIT Mechanical Engineering students have access to hundreds of job openings each year through the co-op office. Students are also encouraged to seek out additional appropriate opportunities on their own. Most jobs available through the co-op office are in New York State and nearby areas. However, there are opportunities nationally and internationally. Being flexible is important for a successful search! Wages for most students on their first or second co-op period fall between $10 and $35 per hour; this typically increases in later co-ops. The average salary for all ME co-ops is approximately $17 per hour.

Some employers who have recently recruited M.E. Students

AEROSPACE & DEFENSE

Joint Warfare Analysis Center
NAVAIR
Raytheon Company
US Navy
US Marine Corps
US Air Force
Defense Intelligence Agency
BAE Systems
Aerospace Corp.
GE Gas Turbines
Amphenol Aerospace
Boeing (PA, WA & CA)
Hamilton Sundstrand
Kidde Aerospace
General Dynamics
Goodrich Fuel & Utility
Hexcel Pottsville Corp.
Lockheed Martin
Moog
Naval Air Warfare Ctr.
Northrup Grumman Corp.
Parker Hannifin
Pratt & Whitney
Raytheon Aircraft
NASA
SpaceX
Sikorsky Aircraft

AUTOMOTIVE

Harley Davidson
General Motors (Several locations)
Moog
Magna Drivetrain
TRW
Pratt & Miller Engineering
Polaris
Daimler Chrysler
Valeo
Tesla
Toyota
Honda R&D
Borg Warner
Robert Bosch Corp
Cummins Engine
Delphi Automotive
Ford
ITT Automotive
American Axle & Manufacturing
Orion Bus

ENERGY SYSTEMS

Con Edison
BME Associates
Pennsylvania Power & Light
Constellation Energy
Ostrow Electric
National Fuel Gas Company

OTHER

Everest VIT
Intel
DuPont Advanced Fiber Systems
Bose
Anheuser Busch
Procter & Gamble
General Mills
Fisher-Price

BIOENGINEERING/ BIOMEDICAL

Atlantic Testing Laboratories
McNeil Consumer & Specialty Pharmaceuticals
Wilson Greatbatch Technologies
Bausch & Lomb
Johnson & Johnson
Orthoclinical Diagnostics
B.G. Sulzle
Biophan Technologies
Cambrex Bio Science

MANUFACTURING

Remington Arms
Nu-Kote International
Gleason
Cannon Industries
Alstom Signaling
Eastman Kodak
Hansford Manufacturing
Black & Decker (Emhart Power)
General Electric
Harris Corporation
IBM (Several Locations)
INSA (France)
ITT/Goulds Pumps
Johnson Controls
Motorola
Raymond Corporation
Lexmark
Xerox Corporation
Novelis

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 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 Professor 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 America, 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 advisors are Marcos Esterman and 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 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 ADVISING

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.

Mechanical Engineering Points of Contact

Prospective students are encouraged to contact the Mechanical Engineering Department to learn more about the program. We would be very happy to arrange a time for you to meeting with Dr. Alan Nye, Associate Department Head, who regulary meets with prospective students. To set up an appointment, contact Senior Staff Assistant, Jill Ehmann, at 585-475-5181 or email Jill at jceeme@rit.edu.

Mechanical Engineering Faculty and Staff Directory

NAME	PHONE	OFFICE	E-MAIL
Risa Robinson, Dept. Head, Professor	56445	GLE/2107	rjreme
Alan Nye, Assoc. Dept. Head, Professor	56121	GLE/2109	ahneme
Agamemnon Crassidis, Graduate Coordinator	54730	GLE/2105	alceme
Fredda Bishop, Advisor	54595	GLE/2203	flbeen
Jill Ehmann, Sr. Staff Assistant	55181	GLE/2125	jceeme
William Finch, Sr. Systems Analyst	52964	GLE/2242	wgfiee
Andrea Kirwan, Advisor	55829	GLE/2203	agkiao
Robert Kraynik, Sr. Mech. Technician	54073	GLE/2436	rakeme
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
Venessa Mitchell, Admin & Fin. Services Coordinator	52162	GLE/2111	vmmeme
Craig Piccarreto, Sr. Mech. Technician	54295	GLE/2436	capeme
Amy Powell, Advisor	56507	GLE/1568	alpiao
Diane Selleck, Student Info Specialist	52163	GLE/2101	dmseme
ME Bus Office Front Desk	55703	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
Steven Day, Assoc. Professor	54738	INS/3107	swdeme
Elizabeth DeBartolo, Director, Senior Design Program	52152	GLE/4451	eademe
Gerald Fly, Lecturer	55269	GLE/2171	gwfeme
Alfonso Fuentes-Aznar, Assoc. Professor	52917	ENG/2541	afeme
Hany Ghoneim, Professor	56414	GLE/2011	hngeme
Amitabha Ghosh, Professor	52191	GLE/2041	angeme
Mario Gomes, Sr. Lecturer	52148	GLE/2189	mwgeme
Surendra Gupta, Professor	52158	GLE/2071	skgeme
Edward Hensel, Assoc. Dean for Research & Grad Studies	57684	HLC/2544	echeme
William Humphrey, Lecturer	55628	ENG/2523	waheme
Patricia Iglesias Victoria, Asst. Professor	57694	GLE/2179	pxieme
Sarilyn Ivancic, Lecturer	56003	GLE/2138	srieme
Satish Kandlikar, James E. Gleason Professor	56728	GLE/2001	sgkeme
Mark Kempski, Professor	52473	GLE/2091	mhkeme
Jason Kolodziej, Assoc. Professor	54313	GLE/2132	jrkeme
Marca Lam, Sr. Lecturer	56871	GLE/2191	mjleme
Kathleen Lamkin-Kennard, Assoc. Professor	56775	GLE/2185	kaleme
Timothy Landschoot, Sr. Lecturer	57439	GLE/2134	tpleme
Kate Leipold, Sr. Lecturer	55372	GLE/2136	knleme
Alexander Liberson, Assoc. Professor	56672	GLE/2051	asleme
Rui Liu, Visiting Assistant Professor	56819	ENG/2533	rleme
Ali Ogut, Professor	52542	GLE/2015	adoeme
Michael Schertzer, Asst. Professor	55715	GLE/2175	mjseme
Michael Schrlau, Asst. Professor	52139	GLE/2181	mgseme
Robert Stevens, Assoc. Professor	52153	GLE/2167	rjseme
Benjamin Varela, Assoc. Professor	54737	GLE/2012	bxveme
P. Venkataraman, Assoc. Professor	56975	GLE/2021	pnveme
Wayne Walter, Professor, PE	52925	GLE/2081	wweme
John Wellin, Sr. Lecturer	55223	GLE/2014	jdweme