INTRODUCTION

The masters of science degree in Telecommunications Engineering Technology (MS-TCET) is offered by the Department of Electrical, Computer, and Telecommunications Engineering Technology (ECTET) in the College of Engineering Technology (CET)\(^1\). The MS-TCET program accommodates individuals with technical baccalaureate degrees who are seeking graduate education to help them advance into managerial and technical leadership roles in the dynamic telecommunications environment. RIT currently provides this opportunity only through traditional on-campus education.

Telecommunications graduate courses are generally offered during the day. A full-time student usually completes their degree in approximately 2 – 2.5 years. Part-time students, taking 1-2 courses a semester, should be able to complete the degree in 3-4 years. The time for degree completion varies with each student and their specific needs and circumstance.

Faculty members in the department are dedicated professionals who possess a great wealth of industrial and academic research experience. There are many exciting opportunities for qualified graduate students to work with the faculty on research projects.

GENERAL INFORMATION

Applicants for admission are reviewed and processed throughout the academic year. Application is made online by selecting the “Telecommunications Engineering Technology MS” link at:


Graduate Enrollment Services
Rochester Institute of Technology
Bausch & Lomb Center
58 Lomb Memorial Drive
Rochester, New York
14623-5604

Entrance Requirements

**Undergraduate Degree**

Applicants should have a baccalaureate degree in engineering technology, engineering, or a related degree from an accredited institution and a minimum cumulative grade point average of 3.0 (B). Applicants with a related degree must submit two professional recommendations. The professional recommendations for applicants without engineering technology or engineering degrees should address how the applicant has obtained the competencies required for the engineering technology or engineering baccalaureate degrees. More specific details for other requirements is available at the Graduate Enrollment Services web site above.

Bridge Courses

\(^1\) Formerly called the College of Applied Science and Technology, the college was renamed in June, 2018, to the College of Engineering Technology.
Bridge courses are available for applicants without required experience who do not have engineering technology or engineering degrees. Although bridge courses do not count toward degree completion, they can form a foundation for successful academic work for those students who lack the appropriate background as they progress through the program.

**Transfer Credits**

A student may ask to transfer up to 6 semester hours of graduate credits from another university or RIT program with grades of ‘B’ or better. The TCET-MS Graduate Program Director evaluates transfer credit requests. Official transcripts are submitted as part of the online application process.

**GRE Scores**

Applicants from universities outside of the U.S. must submit Graduate Record Examination (GRE) scores. The GRE score is also recommended for those whose undergraduate grade point average is less than 3.0. Official GRE scores are submitted as part of the online application process.

**TOEFL Scores**

Applicants whose native language is other than English must take the Test of English as a Foreign Language (TOEFL). A score of at least 88 (Internet based) is required. Applicants with a lower TOEFL score may be admitted conditionally with a prescribed remedial program in English and a reduced academic program course load.

**Financial Aid, Employment Opportunities and Scholarships**

**Costs**

Information on the cost of graduate tuition can be found at:

[http://www.rit.edu/grad](http://www.rit.edu/grad)

**Financial Aid, Scholarship & Student Employment**

- The ECTET department offers scholarship money for qualified students. Students are reviewed at the time of admission and at the end of spring semester each year during their program of study.
- Students may earn money by gaining student employment on campus. For information regarding student employment, visit the Office of Student Employment in the University Services Center USC-1350.
- ECTET offers a limited amount of graduate assistantships every year. They range in content and purpose depending on the needs of the department and faculty.

**CURRICULUM**

The MS in TCET is 33 credit hours. All students complete the Comprehensive Exam Track unless approved to complete the Capstone Project Track or the Capstone Thesis Track. Curriculum requirements change from time to time. The specific requirements for each student depend upon the year in which they enter the program. For students accepted and matriculated in fall of 2018, the following core curriculum applies. Students who entered the program in other years should consult with their academic advisor on the curriculum requirements for their degree.
2018 Core Courses
TCET-601 Programming & Problem Solving in Telecommunications
TCET 710 Principles of Telecommunications
TCET 720 Telecom Concepts
TCET 740 Fiber Optic Telecom Technology
TCET 741 Fiber Optic Telecom Technology Lab
TCET 747 Next Generation Networks
TCET 750 Wireless Infrastructure & Policy
TCET 760 Network Planning & Designs
GRCS 701 Research Methods

For your convenience, a curriculum checklist for the year in which you entered the program is available at the ECTET department’s web site to help you keep track of your academic progress. You should keep your checklist up to date and bring a copy with you to any meetings with your academic advisor. The online checklist and information in this handbook is for your convenience only. The information in the university’s Graduate Bulletin and the Student Information System (SIS) is the final authority on whether you have met all graduation academic requirements. See the SIS “Academic Requirements” section in SIS for details.

Comprehensive Exam Track
Three Electives with at least two electives (6 semester credit hours) from the list of advanced departmental electives. (9 credits total). You should sit for the Comprehensive Exam as soon as you complete all core course requirements. The Comprehensive Exam tests only the core course requirements. Passing the Comprehensive Exam requires a minimum grade of 80% on a maximum of two attempts. The exam is generally offered early in both fall and spring semesters.

Project Track
Two Electives with at least one elective (3 semester credit hours) from the list of advanced departmental electives (6 credits total)
Capstone Project (3 credits)

Thesis Track
One Elective (3 credits)
Thesis (6 credits)

Project/Thesis Approval
Students identify a prospective member of RIT faculty and propose a topic for the thesis or capstone project and prepare a project/thesis proposal. Usually the proposal will be developed in collaboration with their prospective faculty advisor in an area of mutual interest. After the student and faculty advisor agree on the topic and scope, the proposal is reviewed for final approval by the TCET-MS Graduate Program Director, currently Professor William P. Johnson.

All electives must be approved by the Graduate program Director. A complete list of approved electives is available on the program web site.

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2 TCET 601 is a three (3) credit required bridge course. Bridge courses do not count toward degree requirements. All new students who are present on campus for the program orientation have the opportunity to sit for a competency exam during orientation week. Successful completion of the competency exam waives this course requirement.
Minimum Grade

Any student who received a grade less than “C” (i.e. “C-” or lower) in a course must repeat that course after petitioning for approval to repeat. If the course is part of the core curriculum, the student cannot use a different course to replace the original course. When a course is repeated, both grades are used to compute the graduate GPA. The old grade is NOT removed.

CPT Cooperative Education

Although graduate students are eligible for co-op work, it is not required as part of the MS in Telecommunications Engineering Technology. Students are responsible for securing their own co-op and ECTET does not assure co-op placement. Co-op positions must be reported to the Office of Cooperative Education and career Services. In order to receive an “S” (“Satisfactory” grade on transcript), work evaluations must be completed by both the employer and the student for each term that co-op is taken.

It is important to note that accepting a job offer, verbally or in writing, constitutes a binding contract, which may not be rescinded.

International students must complete two full semesters of course work immediately prior before beginning co-op work. International students are allowed to co-op for up to 364 days using CPT if granted approval by International Students Services and ECTET.

Probation and Suspension

Any matriculated graduate student whose Program Grade Point Average falls below a 3.0 after 9 credit hours or subsequently will be placed on probation and counseled by their academic advisor concerning continuation in the graduate program. Those students placed on probation must raise their Program Cumulative GPA to the 3.0 level within 9 credit hours or risk suspension from the program. Should it be necessary to suspend a graduate student for academic reasons, the student may apply for and justify for readmission. Re-admission after suspension is NOT guaranteed.

Comprehensive Exam, Project, or Thesis

The culmination of the master’s program is the comprehensive exam. A graduate thesis or a capstone project, if so approved, are alternative exit strategies. Before registering for thesis or project, students must obtain a faculty project/thesis advisor and complete an acceptable project or thesis proposal. The proposal must be approved by the faculty project/thesis advisor and the graduate program director. The proposal form must be signed and turned into the ECTET office before the department will register the student for project/thesis. It is the student’s responsibility to register for the Comprehensive Exam as soon as they complete the core classes. Refer to the catalog course description in the Student Information System (SIS).

MS Project or Thesis

In order to register for the graduate project or thesis, you must have an approved project proposal form submitted and on file with the ECTET office. Once this has been completed, the ECTET office will register you for the appropriate course and section of
project or thesis. If you register for the project and do not complete it in one semester, you will receive an “I” grade. Then, you MUST register for a Thesis or Project Continuation (1 Credit tuition charged) each and every semester thereafter, including summer. Summer tuition charges are always waived, but fall/spring tuition will appear on your account. You may request a one-time tuition waiver for the first semester continuation. Once the project is complete, the “I” grade will be changed to your new grade. Projects with “I” grades automatically roll to an “F” after two semesters. If you successfully complete the project, the grade will be changed as determined by the faculty advisor for the project. Therefore, it is important that you register for the project and make timely progress to complete the project once registered. If you choose a thesis and do not complete it within one semester, you will receive an “R” grade. This indicates that your thesis is in progress. Once completed, the “R” grade remains and the title of your thesis is posted to the RIT system, indicating completion of your thesis. Additional tuition and fee charges apply to all continuations. Avoid the extra costs by completing the work in the semester in which you first register.

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**Checklist for the Defense**

When the graduate project or thesis is complete, the one step remaining is the presentation or defense. The defense should be discussed with your faculty advisor as you approach the completion of your work. Depending upon the specific requirements of the faculty advisor, the defense is usually about 50 minutes long including time for questions and is open to the RIT community. Typically TCET faculty members, the TCET-MS Graduate Program Director, and ECTET Department Chair are in attendance.

**The student is required to:**

- Provide your project/thesis advisor with a copy of the written project/thesis report well before your presentation. You must make any suggested and necessary changes to the satisfaction of your faculty advisor before you schedule the defense.
- Schedule the defense with the ECTET department office. Please submit 3 possible dates and times that work so that the office can make sure all TCET faculty are available. The request for scheduling should be made at a minimum of two weeks in advance.
- Once scheduled, ensure that the room where the presentation is scheduled has all audio/visual equipment that you will need. If additional equipment is needed please see the ECTET office staff.
- Check with your academic advisor that all necessary paperwork is complete.
- Prepare any handouts that you will need.

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**Deliverables**

You are responsible for submitting the following materials for your project/thesis.

- Electronic PDF of your report, including a title page with the following information
  - Title of Thesis/Project
Date presented/defended
- Academic Program
- Rochester Institute of Technology
- Rochester, NY
- “Thesis/project submitted in partial fulfillment of the requirements of the degree of Master of Science in Telecommunications Engineering Technology”
- Approval signatures of: TCET-MS Graduate Program Director, ECTET Department Chair, thesis/project advisor, and yourself

- Paper copy of your final paper

All students completing a thesis must submit their thesis to ProQuest/UMI for publication and register their thesis title with the RIT registrar. Please see http://library.rit.edu/services/graduate-student-support.html for more information.

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**Full-time Equivalency**

Continued, active registration at RIT may be important for students who must maintain full-time status, such as international students or students with loans. Students are only eligible for FTE when registered for their project or thesis or continuation of project/thesis or completing all required courses in that semester.

To be considered a full-time student, you must complete a “full-time equivalency” form. The university allows no more than 3 semesters of full-time equivalency during your degree program. Please contact Kathy Alhart or one of the other staff in the ECTET office to complete this form.

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**MISCELLANEOUS INFORMATION**

Information on the MS in Telecommunications Engineering Technology and the ECTET department can be found online at: https://www.rit.edu/engineeringtechnology/ectet/ms-telecommunications-engineering-technology Program checklists, answers to frequently asked questions, and a variety of other information are available in the “Additional Information” tab.

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**TET Graduate Student Mail Folders**

Mail folders are located outside of the main ECTET Office. Please check your folder regularly.

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**ECTET Main Office**

The main ECTET Office is located in building ENT, Engineering Technology Hall in room 2110. The phone number is 585-475-2179. The office is open Monday-Friday from 8:30am-4:30pm. If you have questions regarding your curriculum, department or RIT policies or anything else, please feel free to come to the office. Forms for change-of-program, program extension, and full-time equivalency are available in the department office. You will complete an application for graduation through your account on SIS.

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**Electronic Mail**

The ECTET faculty and staff use RIT email accounts to communicate with students. Please check your RIT email on a regular basis. When emailing any request to a faculty member,
or staff member at RIT you should always use your RIT email address. **When requesting assistance by email to multiple staff members, please CC all parties on a single email so that multiple people are not working on the same request.** When emailing about a specific course, always include the course number in your email subject line.

### The 7-year Rule for Completing a Degree

You may not use courses as part of the MS in Telecommunications Engineering Technology that were taken more than seven years ago. This rule does not apply to bridge courses. In cases where the fulfillment of degree requirements extends beyond the 7 year limit and there is a good reason for the extension, you will need to discuss the situation with the TCET-MS Graduate Program Director. If your case can be supported, TCET-MS Graduate Program Director will petition the college dean for a formal extension.

### Academic Dishonesty

Academic Dishonesty falls into three basic areas: cheating, duplicate submission and plagiarism. 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 and, if possible, meet with the student concerning the decision reached on the “F” for the offense, or the “F” for the entire course. A student may be brought before the college Academic Conduct Committee in which the alleged offense occurred, and may face academic suspension or dismissal from the university.