Accelerated MS in Telecommunications Programs

These degree programs may be taken as part of an accelerated MS in Telecommunications Program with three undergraduate degree programs: BS in systems engineering, computer science, information technology, and integrative studies. The four accelerated MS/BS programs are described below.

BS in Systems Engineering/ Accelerated MS in Telecommunications

Students in the BS in Systems Engineering Program may elect to enter an accelerated MS in Telecommunications Program while they are undergraduate students. The program is designed for qualified undergraduate students in the systems engineering program who would like to proceed directly into the MS program, completing the two degrees with 144 credits. Students must satisfy requirements for the BS (120 credits) and the MS (30 credits), with 6 credits of overlap permitted. The MS is on an accelerated track, with 6 credits taken as an undergraduate and 24 credits completed as a graduate student. The 6 undergraduate credits must be selected from those given in the listing that follows. Applicants must be Mason undergraduate students who preferably have chosen to take the systems engineering of telecommunications elective sequence. Other students will be considered on their individual merit. Students may apply for the accelerated program during a semester after which they will have completed 90 or more credits applicable toward the BS in systems engineering as an undergraduate. Students must have an overall GPA of at least 3.25 to apply for the program. Students who have not yet finished 90 credits may be accepted provisionally subject to satisfactory completion of 90 credits. Criteria for admission are identical to criteria for admission into the MS in Telecommunications Program, except that students do not need to have completed an undergraduate degree prior to admission into the accelerated program. Accepted students must maintain a minimum 3.25 GPA in the undergraduate segment of the accelerated program and a 3.00 GPA in the graduate segment. That is, students who have been accepted into the program must maintain a 3.25 average until they have satisfied all requirements for the BS in systems engineering. They must then maintain a minimum 3.00 GPA in the graduate segment. Should their GPA fall below 3.00 while a graduate student, they will be dropped from the accelerated program to the regular program. Those graduate telecommunications courses taken and applied to the BS program will no longer be admissible for the MS in telecommunications. If students are dropped from the accelerated program and have taken and applied telecommunications core courses toward the BS degree, then they do not need to repeat those courses for the regular MS in Telecommunications Program if they earned a grade B or above in those courses. But they will need to take elective courses in their place to satisfy the 30-credit requirement for the regular MS in telecommunications. Similarly, if students are dropped from the accelerated program and have taken and applied noncore telecommunications courses toward their BS degree, then they do not need to repeat those courses for the regular MS in Telecommunications Program if they earned a grade of C or higher for those courses. Elective courses will be required to replace telecommunications courses already taken and dropped from the program. Note: Up to 6 credits of a combination of C or B- grades may be carried in portions of the regular telecommunications program. A minimum GPA of 3.00 is required to graduate with an MS in telecommunications. Students must complete all requirements for the BS in systems engineering. Students in the accelerated program must apply to have the BS degree conferred the semester before they expect to complete the BS requirements. The MS in telecommunications is granted on completion of all requirements for the accelerated degree. Telecommunications courses that may be taken as a systems engineering undergraduate student as part of the accelerated program are TCOM 500, 530; OR 541; and SYST 530 and 573. SYST 573, if taken, replaces TCOM 521 in the telecommunications core requirements.

BS in Information Technology/ Accelerated MS in Telecommunications
Students in the BS in Information Technology Program may elect to enter the Accelerated MS in Telecommunications (MS in TCOM) Program while they are undergraduate students. The accelerated program is designed for qualified undergraduate students in the information technology program who would like to proceed directly into the MS in TCOM Program, completing the two degrees with 144 credits. Students must satisfy requirements for the undergraduate degree (120 credits) and the MS degree (30 credits), with 6 credits of overlap permitted. The MS in TCOM is on an accelerated track, with 6 credits taken as an undergraduate and 24 credits as a graduate student. The 6 undergraduate credits must be selected from those given in the listing that follows and will be substituted for BS degree concentration electives, subject to prior approval by an advisor.

Students may apply for the accelerated program during the semester after which they will have completed 90 or more credits applicable toward the BS degree. Students must have an overall GPA of at least 3.25 to apply for the program. Students who have not yet finished 90 credits may be accepted provisionally subject to satisfactory completion of 90 credits. Criteria for admission into the accelerated program are identical to criteria for admission into the MS in TCOM Program, except that students do not need to have completed an undergraduate degree prior to admission. Accepted students must maintain a minimum 3.25 GPA in the undergraduate segment of the accelerated program and a 3.00 GPA in the graduate segment. That is, after students have been accepted into the accelerated program, they must maintain a 3.25 GPA until they have satisfied requirements for the undergraduate degree. They must then maintain a minimum 3.00 GPA in the graduate segment of the accelerated program. Should their GPA fall below 3.00 while a graduate student, they will be dropped from the accelerated program to the regular program, and those graduate TCOM courses taken and applied to the BS in information technology will no longer be admissible for the MS in TCOM. If students are dropped from the accelerated program and have taken and applied TCOM core courses toward the BS degree, then they need not repeat those courses for the regular MS in TCOM Program if they obtained a grade of B or higher in those courses. But they will need to take elective courses in their place to satisfy the 30-credit requirement for the regular MS in TCOM. Similarly, if students are dropped from the accelerated program and have taken and applied noncore TCOM courses toward the BS degree, then they do not need to repeat those courses for the regular MS in TCOM Program if they obtained a grade of C or higher for those courses. Elective courses will be required to replace TCOM courses already taken and dropped from the program. Note: Up to two C grades may be carried in the regular TCOM program in nonmandatory core courses. A minimum GPA of 3.00 is required to graduate with an MS in TCOM. Students must complete all requirements for the BS degree. Students in the accelerated program must apply to have the BS degree conferred the semester before they expect to complete the BS requirements. The MS in TCOM is granted on completion of all requirements for the accelerated degree. TCOM courses that may be taken as an undergraduate student as part of the Accelerated BS in Information Technology/MS in TCOM Program are noted in the listing below. Note: All of the prerequisite courses indicated below must be passed with a grade of B or higher.

**Telecommunications courses:**

- TCOM 500 Modern Telecommunications
- TCOM 504 Asynchronous Transfer Mode Network (prerequisites: TCOM 530, IT 341, or equivalent)
- TCOM 505 Networked Multicomputer Systems (prerequisite: TCOM 530, IT 341, or equivalent)
- TCOM 510 Client Server Architectures and Applications (prerequisite: TCOM 505)
- TCOM 530 Data Communications Fundamentals (prerequisite: acceptance into the Accelerated BSIT/ MS TCOM Program)
- TCOM 535 The TCP/IP Suit of Internet Protocols (prerequisites: TCOM 530, IT 341, or equivalent)
- TCOM 551 Digital Communication Systems (prerequisite: TCOM 500 or equivalent)
- TCOM 607 Satellite Communications (prerequisite: TCOM 551, ECE 463, or equivalent)
- TCOM 608 Optical Communications Systems (prerequisite: TCOM 500 or equivalent)
- TCOM 631 Voice over IP (prerequisites: TCOM 535, IT 341, or equivalent)

**Note:** Students in the accelerated program who have passed IT 341 with a grade of B or higher will not be required to take TCOM 530 in the MS in TCOM core and may take an elective instead.

**BIS/ Accelerated MS in Telecommunications**
Students who are in the Bachelor of Individualized Study (BIS) Program may elect to enter an Accelerated MS in TCOM Program while they are undergraduate students. The accelerated program is designed for qualified undergraduate students in the BIS Program who would like to proceed directly into the MS in TCOM Program, completing the two degrees with 144 credits. Accelerated students must satisfy requirements for the BIS (including 120 credits) and the MS (30 credits), with 6 credits of overlap permitted. The MS in TCOM is on an accelerated track, with 6 credits taken as an undergraduate and 24 credits as a graduate student. The 6 undergraduate credits must be selected from those given in the table that follows and will be substituted for BIS concentration courses, subject to prior approval by a BIS advisor. Note: Accelerated students must take ECE 301 or 303 as one of their BIS concentration courses. Applicants must be Mason undergraduate students in the BIS Program. Students may apply for the accelerated program during the semester after which they will have completed 90 or more credits and 15 Mason resident credits applicable toward the BIS as an undergraduate. Students must have an overall GPA of at least 3.25 to apply for the program. Students who have not yet finished 90 credits may be accepted provisionally subject to satisfactory completion of 90 credits. Criteria for admission are identical to criteria for admission into the MS in TCOM Program, except that students do not need to have completed an undergraduate degree prior to admission into the accelerated program. Students who have been accepted into the accelerated program must maintain a minimum 3.25 GPA in the undergraduate segment of the accelerated program and a 3.00 GPA in the graduate segment. That is, after students have been accepted into the accelerated program, they must maintain a 3.25 GPA until they have satisfied all requirements for the BIS degree. They must then maintain a minimum 3.00 GPA in the graduate segment of the accelerated program. Should their GPA fall below 3.00 while a graduate student, they will be dropped from the accelerated program to the regular program, and those graduate TCOM courses taken and applied to their BIS Program will no longer be admissible for their MS in TCOM degree. If students are dropped from the accelerated program and they have taken and applied TCOM core courses toward their BIS degree, then they do not need to repeat those courses for the regular MS in TCOM Program if they obtained a grade of B or above in those courses. But they need to take elective courses in their place to satisfy the 30-credit requirement for the regular MS in TCOM. Similarly, if students are dropped from the accelerated program and they have taken and applied noncore TCOM courses toward their BIS degree, they do not need to repeat those courses for the regular MS in TCOM Program if they obtained a C grade or above for those courses. Elective courses will be required to replace TCOM courses already taken and applied to the BIS Program. Note: Up to two C grades may be carried in the regular TCOM Program in nonmandatory core courses. A minimum GPA of 3.00 is required to graduate with an MS in TCOM. Students must complete all requirements for the BIS degree. Students in the accelerated program must apply to have the BIS degree conferred the semester before they expect to complete BIS requirements. The MS in TCOM is granted on completion of all requirements for the accelerated degree. TCOM courses that may be taken by a BIS undergraduate student as part of the accelerated program are given in the table below. Note: All of the prerequisite courses indicated below must be passed with a grade of B or higher. Telecommunications courses:

- TCOM 500 Modern Telecommunications
- TCOM 504 Asynchronous Transfer Mode Network (prerequisites: TCOM 530, IT 341, or equivalent)
- TCOM 505 Networked Multicomputer Systems (prerequisites: TCOM 530, IT 341, or equivalent)
- TCOM 510 Client Server Architectures and Applications (prerequisite: TCOM 505)
- TCOM 530 Data Communications Fundamentals (prerequisite: acceptance to accelerated program)
- TCOM 535 The TCP/IP Suit of Internet Protocols (prerequisites: TCOM 530, IT 341, or equivalent)
- TCOM 551 Digital Communication Systems (prerequisite: TCOM 500 or equivalent)
- TCOM 607 Satellite Communications (prerequisites: ECE 463, TCOM 551, or equivalent)
- TCOM 608 Optical Communications Systems (prerequisite: TCOM 500 or equivalent)
- TCOM 631 Voice over IP (prerequisites: TCOM 535, IT 341, or equivalent)

Note: Accelerated students who have passed IT 341 with a grade of B or higher will not be required to take TCOM 530 in the MS in TCOM core. They may take an elective instead. Other TCOM courses may be approved on a case-by-case basis. Required Credits:

- BIS Concentration: 34–46
- BIS 300/390/490/491: 10
- ECE 301 Digital Electronics or ECE 303: 3
- IT 212 How Computers Work: 3
- IT 341 Network/Operating: 3
- TCOM 500 Modern Telecommunications: 3
- Additional 500-level TCOM course: 3

Plus an additional 9 to 21 credits to reach required number.

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