TECHNICAL COMMUNICATION

At the undergraduate level, three technical communication programs are offered in the department of English and technical communication: a bachelor of science in technical communication, a minor in technical communication, and a certificate in technical writing.

The technical communication degree offers you an entry into a growing profession that communicates information about the purpose and operation of human tools. Technical communicators work at the interface of technical experts and product users. Consequently, technical communicators provide an essential service to national and global societies by facilitating technology transfer.

You should bring to the program a love of writing and a curiosity about technology. The interdisciplinary nature of the Missouri S&T degree enables you to acquire the qualifications you need to be competitive and flexible in an ever-changing technological environment. When you graduate, you will have a solid technical background in computer-enhanced information systems, an understanding of how organizations function, and strong communication skills. Areas employing technical communicators include computer manufacturing and software development, consumer electronics, banking and financial institutions, telecommunications, chemical and pharmaceuticals, hospitals and research labs, and academic institutions and libraries.

You will study both the theory and practice of communication in written, oral and visual forms. Specifically, you will study and practice the production of a variety of technical documents in print, electronic, and digital forms. You will have experience with the process of project management in a user community and become adept in audience analysis, needs assessment, document design, and team building.

In Missouri S&T’s unique environment, you will have opportunities to work alongside engineers and scientists in undergraduate research and design projects. Also, you are strongly encouraged to do summer internships or co-ops with companies before you graduate. At Missouri S&T, you will work with first-class faculty, associate with excellent students from around the country and the world and benefit from the world-class computer environment. Your theoretical and practical education will prepare you for full-time employment and lifelong learning.

Bachelor of Science
Technical Communication

The technical communication degree requires 33 credit hours of core courses: ENGLISH 2410, TCH COM 2540 (or ENGLISH 2540), TCH COM 2560 (or ENGLISH 2560), TCH COM 3440, TCH COM 4410, TCH COM 4520, TCH COM 4450, TCH COM 4550, TCH COM 5610, TCH COM 4085, ENGLISH 3560, ENGLISH 3302, TCH COM 3001, TCH COM 3010, TCH COM 4410, and five additional courses from the following list: TCH COM 2560 (or ENGLISH 2560), TCH COM 5620, TCH COM 3440, ENGLISH 2410, TCH COM 2540 (or ENGLISH 2540), and TCH COM 4410. It also requires 42 hours of general education courses, 36 hours of interdisciplinary courses (see note below), and 15 hours of free electives, for a total of 126 hours. Specific requirements for the bachelor’s degree are outlined in the sample program listed below.

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<tr>
<th>Freshman Year</th>
<th>First Semester</th>
<th>Credits</th>
<th>Second Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGLISH 1120</td>
<td>3</td>
<td>TCH COM 1600</td>
<td>3</td>
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<tr>
<td>MATH 1140</td>
<td>3</td>
<td>BIO SCI 1113, or 2223, or 2223, or 2263</td>
<td>3</td>
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Interdisciplinary courses (see note below), and 15 hours of free electives, and the student will select 36 hours of interdisciplinary courses from only two of the areas listed below, with no fewer than 15 credit hours per area: biological sciences, business, chemistry, computer science, economics, education, engineering management, English, finance, one foreign language, geology, history, information science and technology, management and information systems, mathematics, philosophy, physics, political science, psychology, speech and media studies, statistics, any area of engineering.

At least 12 of the 36 hours must come from courses numbered 2000-level or above. The student’s course selections must be approved by the department of English and technical communication’s technical communication committee.

Minor in Technical Communication

To complete this minor students must take TCH COM 1600, TCH COM 2540 (or ENGLISH 2540), and TCH COM 2560 (or ENGLISH 2560) plus six additional hours elected from the 4000-level or above technical communication courses.
Certificate in Technical Writing

Admissions Requirements
A student must meet Missouri S&T regular undergraduate admission requirements.

Certificate Requirements
- A student must have completed at least 60 undergraduate college-level transferable credit hours, 42 of which must meet Missouri S&T’s general education credit policy, https://ugs.mst.edu/media/administrative/ugs/documents/Missouri_ST_42GenEdCredit_Policy5.pdf.
- A student must have completed the following courses totaling 12 credit hours:
  - TCH COM 1600 Introduction to Technical Communication * 3
  - or ENGLISH 1600 Introduction to Technical Communication
  - TCH COM 2540 Technical Marketing Communication ** 3
  - ENGLISH 3560 Technical Writing ** 3
  - One 4000- or 5000-level course with the TCH COM designation, excluding 5000 and 4080 *** 3

* This course should be taken first if possible.
** The junior-standing prerequisite will be waived for a certificate student who has already taken TCH COM 1600 or ENGLISH 1600.
*** The ENGLISH 2540/TCH COM 2540 prerequisite will be waived for certificate students.

- Must have achieved at least a 2.5 average in the course work taken for the certificate

Other Stipulations:
- A student pursuing the technical communication minor may count the same courses for the minor and the technical writing certificate.
- A student who already has a bachelor’s degree from Missouri S&T may count relevant courses from that degree (e.g., TCH COM 1600) toward the technical writing certificate.
- The 12 credit hours of technical communication course work may not be counted toward the 60 credit hours of undergraduate college-level transferable course work.

Ed A. Malone, Professor
PHD Southern Illinois University Carbondale

Kathryn Michele Northcut, Associate Professor
PHD Texas Tech University

Michael David Wright, Associate Professor
PHD Oklahoma State University Main

TCH COM 1600 Introduction to Technical Communication (LEC 3.0)
Introduction to the role of the professional technical communicator in business and industry and practice in methods of developing technical documents. Prerequisite: English 1120. (Co-listed with English 1600).

TCH COM 2540 Layout and Design (LEC 3.0)
Theory and practice of layout and design for print and electronic media. Prerequisite: TCH COM 1600 or English 1600. (Co-listed with English 2540).

TCH COM 2560 Technical Marketing Communication (LEC 3.0)
An introduction to technical marketing communication with an emphasis on relevant genres such as (but not limited to) the data sheet, white paper, and technical demonstration. Prerequisites: English 1600 or Tch Com 1600 or English 1160. (Co-listed with ENGLISH 2560).

TCH COM 3000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

TCH COM 3001 Special Topics (LEC 0.0-6.0)
Discussion of current topics. Prerequisites: One semester of college composition or technical writing.

TCH COM 3440 Theory of Visual Technical Communication (LEC 3.0)
A study of the relationships between visual and conceptual elements of technical communication. Prerequisites: TCH COM 1600 or ENGLISH 1600; TCH COM 2540 or ENGLISH 2540.

TCH COM 3570 Writing in the Sciences (LEC 3.0)
This course is designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals, and a major project such as a research or analytical report or a procedures/instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. Prerequisites: English 1120 or equivalent.

TCH COM 4085 Internship (IND 0.0-6.0)
Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student’s background and the setting. Prerequisites: Must have completed 24 hours in the major core curriculum.

TCH COM 4410 Theory and Practice of Technical Communication (LEC 3.0)
This capstone course enables the student to work on individual and group projects that put into play the theories and practices of technical communication. Students are expected to develop professional portfolios. Prerequisites: Tch Com 1600 or English 1600; Tch Com 2540 or English 2540.

TCH COM 4450 International Dimensions of Technical Communication (LEC 3.0)
Examines complexity of communication of technical information worldwide. Includes topics such as graphics, icons, symbols; user interface design; intercultural communication. Students may not earn credit for both TCH COM 4450 and TCH COM 6450. Prerequisites: One semester of college composition or technical writing and undergraduate standing.

TCH COM 4520 Help Authoring (LEC 3.0)
Students will acquire the technological and rhetorical skills necessary for creating effective online help systems, including context-sensitive help for computer applications. Prerequisites: One semester of college composition or technical writing, or graduate standing.

TCH COM 4550 Proposal Writing (LEC 3.0)
Familiarizes students with many aspects of writing proposals for various purposes in academic, professional, and public spheres. Offers students opportunities to write documents to promote their academic, professional, or personal goals or those of their organization(s). Prerequisite: One semester of college composition or technical writing.
TCH COM 5000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

TCH COM 5001 Special Topics (LEC 0.0-6.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

TCH COM 5010 Seminar (RSD 0.0-6.0)
Discussion of current topics. Prerequisites: One semester of college composition or technical writing, or graduate standing.

TCH COM 5040 Oral Examination (IND 0.0)
After completion of all other program requirements, oral examinations for on-campus M.S./Ph.D. students may be processed during intersession. Off-campus M.S. students must be enrolled in oral examination and must have paid an oral examination fee at the time of the defense/comprehensive examination (oral/written). All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three (3) semester hours for resident students.

TCH COM 5099 Research (IND 0.0-15)
Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required.

TCH COM 5510 Technical Editing (LEC 3.0)
The principles and practices of technical editing, including usability, audience analysis, contextual editing, the conventions of scientific and technical communication, and the role of the editor in document development and publication. Students will also learn standard practices of copy editing and the use of style guides. Prerequisites: One semester of college composition or technical writing, or graduate standing.

TCH COM 5530 Usability Studies (LEC 3.0)
Students in this course will study and apply methods used by technical communicators to evaluate usability. Students will study methods used to evaluate human interaction with communication tools and how to make those products more suitable for human use. Prerequisites: One semester of college composition or technical writing, or graduate standing.

TCH COM 5540 Advanced Layout and Design (LEC 3.0)
Advanced theory and practice of layout and design for print and electronic media. Students who have taken TCH COM 2540 may not take this course for credit. Prerequisite: Graduate standing.

TCH COM 5550 Advanced Proposal Writing (LEC 3.0)
Familiarizes graduate students with many aspects of writing proposals for various purposes in academic, professional, and public spheres. Offers opportunities to write documents to promote their academic, professional, or personal goals or those of their organization(s). Credit will not be given for both TCH COM 4550 and TCH COM 5550. Prerequisites: Graduate standing.

TCH COM 5560 Web-Based Communication (LEC 3.0)
Covers such topics as advanced writing and editing for the web; the creation of rhetorically effective websites; the use of blogs, wikis, and other web genres to communicate technical information. Prerequisites: One semester of college composition or technical writing, or graduate standing.

TCH COM 5610 History of Technical Communication (LEC 3.0)
Introduction to the roles of the technical communicator and the technologies of communication from ancient cultures to the present. Prerequisites: One semester of college composition or technical writing, or graduate standing.

TCH COM 5620 Research Methods in Technical Communication (LEC 3.0)
Students learn essential research methods in technical communication, including audience analysis, interviewing techniques, working with subject matter experts, and experimental research design. Prerequisites: One semester of college composition or technical writing, or graduate standing.