Technical Communications - CPS (TCC)

TCC 1990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

TCC 2200. Introduction to Technical Writing. 3 Hours.
Presents the elements of technical writing: performing audience analysis, conducting content-focused research, planning and structuring content, and designing documents/media for targeted audiences. Applies the output of content development, the results of information-gathering techniques, and the structure of content to a variety of media such as printed and electronic documents, Web content, and instructional materials. Offers students an opportunity to practice organizing, designing, researching, authenticating, formatting, writing, and editing content used in a variety of technical documents/media and for a variety of technical/nontechnical audiences; to examine a variety of technical documentation/media types; and to describe objects, mechanisms, or processes.

TCC 2990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

TCC 3200. Digital and Social Communication Technologies. 3 Hours.
Identifies and examines social media monitoring tools, language translation systems, document storage technologies, and content and learning management systems. Examines Internet (Web) delivery systems and describes social media platforms. Explores usability issues, digital file management fundamentals, and digital file naming systems. Offers students an opportunity to perform basic Web-oriented coding (HTML+); to describe the Web and the role of social media; to compare and contrast major Web technologies, content, and learning management systems; and to explore usability issues.

TCC 3210. Technical Editing. 3 Hours.
Examines the role of the technical editor in business, industry, the sciences, and within organizations. Identifies technical editing tools: proofreading, correcting grammar and syntax, correcting spelling, and researching technical terms and methods available for the analysis and critique of manuscripts/media. Describes working with authors, technical writers, and subject-matter experts (SMEs) such as scientists and engineers. Offers students an opportunity to practice technical editing skills, project editing, creating a consistent look and feel to documents/media, revising and rebuilding projects, working collaboratively, and presenting edits and corrections.

TCC 3220. Technical Promotional Writing. 3 Hours.
Explores the structure, style, and graphic presentation of technical content as rendered through promotional data sheets, brochures, and online advertisements for technical products and services. Describes the process of combining subject-matter knowledge and copywriting skills to design, develop, and produce professional-quality technical documents/media such as brochures, articles, product catalogs, demonstration kits, slide presentations, and Web pages. Offers students an opportunity to create technical writing content that persuades, such as election flyers and trade-show handouts; to examine and correct inaccurate and vague content descriptions, such as MSDS fact sheets and data analysis discussions; and to produce effective, persuasive written content, such as research laboratory annual reports and public policy news releases.

TCC 3230. Writing for the Biotechnology and Pharmaceutical Industries. 3 Hours.
Describes the content development process as it pertains to biosciences and pharmaceutical industries. Defines writing styles and document/media preparation appropriate for these industries. Explores the formal review cycle and then defines a formal review process. Explores bioethics, confidentiality policies, the need for quantification, and the detailed authenticating and referencing of source material. Offers students an opportunity to use corporate models and examples chosen from marketing, research, and sales for various technical documents/media such as abstracts, patient handouts, inserts and labels, and Web pages; to prepare medical data and research results for publication; to practice writing introductions, methods, and results; to create abstracts and summaries; and to participate in a peer-review process.

TCC 3240. Proposal and Grant Writing. 3 Hours.
Identifies techniques of effective argument and persuasive writing relative to proposal development. Compares and contrasts the various types of proposals generated by both nonprofits and industry and describes the importance of performing detailed audience analysis and researching funding opportunities. Lists and examines the elements of most proposals: cover letter, abstract/executive summary, needs statement, goals and objectives, project design, project evaluation, team members, budget, and time frame. Offers students an opportunity to prepare the elements of a proposal; to execute a step-by-step analysis of a request for proposal (RFP) or bid set; to create and then peer-review a mock proposal in a simulated situation through role-playing and participation on a proposal project team; and to execute collaborative writing assignments.

TCC 3450. Writing for the Web. 3 Hours.
Compares and contrasts how readers/viewers scan rather than read Web pages and why Web writing differs from traditional text/prose writing. Describes writing styles and how to structure information for the Web. Defines human factors and how they affect writing for the Web. Describes Web navigation and labeling, examines visualization concepts and theory, and presents the processes of evaluation and usability testing. This writing-intensive course offers students an opportunity both for hands-on laboratory-type experiences through planning, designing, building, and testing Web sites and for collaborative work with classmates.

TCC 3990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

TCC 4896. Experiential Education Directed Study. 1-4 Hours.
Draws upon the student's approved experiential activity and integrates it with study in the academic major.

TCC 4950. Seminar. 1-4 Hours.
Offers an in-depth study of selected topics.

TCC 4955. Project. 1-4 Hours.
Focuses on in-depth project in which a student conducts research or produces a product related to the student's major field. May be repeated without limit.

TCC 4983. Topics. 1-4 Hours.
Covers special topics in technical communications. May be repeated without limit.
TCC 4990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

TCC 4991. Research. 1-4 Hours.
Offers students an opportunity to conduct research under faculty supervision.

TCC 4992. Directed Study. 1-4 Hours.
Offers independent work under the direction of members of the department on a chosen topic.

TCC 4993. Independent Study. 1-4 Hours.
Offers independent work under the direction of members of the department on a chosen topic.

TCC 4994. Internship. 1-4 Hours.
Provides students with an opportunity for internship work.

TCC 4995. Practicum. 1-4 Hours.
Provides eligible students with an opportunity for practical experience.

TCC 6100. Introduction to Technical and Professional Writing. 4 Hours.
Introduces the basic principles of organizing, creating, and writing technical content. Reviews technical conventions such as headings, styles, and tone. Discusses the presentation of technical information to various audiences, including differences in prose style depending upon the audience. For example, reviews the differences in writing content for proposals, white papers, marketing, and end-user documentation. Emphasizes the concepts and skills for preparing content for technical manuals.

TCC 6101. Advanced Technical and Professional Writing. 4 Hours.
Introduces advanced aspects of technical and professional communication. Building upon TCC 6100, this course discusses the process of creating technical content. Offers students an opportunity to create both end-user and developer documentation. Investigates both formal and informal interviewing skills, required of technical communicators to obtain technical information. Reviews presentation principles, including how to use visuals to organize and prepare an effective talk. Discusses legal, ethical, and cultural issues pertaining to technical communication. A portion of this course covers the primary tools of technical communicators.

TCC 6102. Editing Technical Content. 4 Hours.
Introduces the practice of technical editing. Offers students an opportunity to learn the levels of editing, including developmental, technical, and copy editing. Other topics include the editor's role in the publication cycle, the editor's role within a technical publications department, working with writers in the department, and the creation and uses of style guides. The role of the editor in the online medium sometimes blurs distinctions between design, content, technical, and marketing, and this is assessed in the context of the evolving role of editing online content. Other issues discussed include word choice, consistency, and sentence structure. Uses weekly assignments to assist students to understand and master technical editing principles.

TCC 6110. Information Architecture. 4 Hours.
Introduces concepts important to the design of information architecture. Central to the course is an understanding of user-centered design principles. User-centered design requires that the information designer incorporate the end user into the design process. Offers students an opportunity to analyze and describe the design of an existing information appliance and then move on to the analysis of the design of an information architecture. Finally, students submit their own plans for an information architecture accompanied by a contextualizing document that describes the audience and circumstances for the use of the design.

TCC 6120. Usability and User Experience. 4 Hours.
Introduces and examines theories and practical application of research, evaluation, and design of information products, systems, user interfaces, and the wider user experience. Incorporates the user-centered design (UCD) process as the primary methodology. Reviews numerous usability methods in-depth, including usability testing; heuristic and expert evaluation; prototyping; user research (including surveys, user interviews, and the role of ethnography in this field); and the emerging methods in the field. Concludes with a look into the possible futures of usability.

TCC 6150. Writing Portfolio. 2 Hours.
Offers students an opportunity to complete a professional writing portfolio. Students are guided through critically evaluating their existing work and how best to present their work in a portfolio. Includes information regarding portfolio design, content, and delivery.

TCC 6200. Ethics in Technical Communication. 4 Hours.
Focuses on introducing students to definitions and philosophies of ethics as they pertain to technical communication. Examines both hypothetical and real-world scenarios encountered by technical communicators. Often, technical communicators face ethical dilemmas in creating technical documents, ranging from legal and confidentiality issues to honesty and conflicting cultural values. Offers students an opportunity to explore and analyze ethical decision-making scenarios and make recommendations for action on both personal and managerial levels.

TCC 6320. The Role of a Technical Communicator in a Biotech Startup. 4 Hours.
Seeks to prepare students to work as technical communicators in a biotech startup company. Describes the general function of the biotech industry and typical activities of a company with specific emphasis on the startup and related tasks of the technical communicator. Class topics and assignments accurately imitate project tasks in the biotech startup. A fictitious biotech company is described during the course. Offers students an opportunity to engage in delivery of technical communication activities vital to this company; to present scientific data, facilitate company visibility, and write sections of fund-raising proposals; to create a project schedule for delivery of assigned tasks using fictitious delivery dates assigned by the course instructor; and to explore various opportunities for the technical communicator in the biotech industry.

TCC 6330. Information Strategies for Biomedical Writers. 4 Hours.
Offers students an opportunity to develop proficiency in identifying the information needs and sources appropriate to biomedical writers, searching a variety of databases and the Internet for resources pertinent to the profession, and evaluating and using that information appropriately. Emphasizes searching medical, business, and government sources containing statistics of use in documentation and retrieving information as a practitioner not affiliated with a university or other research library.

TCC 6340. Biostatistics for Biomedical Writers. 4 Hours.
Introduces two main aspects of the use of statistics in biomedical fields to improve students' skills as readers, writers, and editors of biomedical texts. Focuses on the ways in which statistics support arguments in biomedical fields and statistical terminology and tests.

TCC 6350. Ethical and Legal Issues in Biomedical Communication. 4 Hours.
Introduces ethical theory and codes of ethics. Focuses on the ethical issues confronted by the biomedical communicator, including questions of authorship, the issue of ghost writing, assignment of credit and acknowledgement, conflicts of interest, intellectual property rights, peer review, and corporate and individual responsibility.
TCC 6360. Research in Biomedical Communication. 4 Hours.
Introduces current research approaches—principally ethnographic and historical—in the field of professional and scientific communication. Examines the process of publishing original research in the field. By discussing and critiquing representative scholarly publications and their research design, and by preparation of a major research report, offers students an opportunity to develop proficiency in addressing a broad range of problems in both scholarly and workplace writing and publication.

TCC 6400. Structured Documentation. 4 Hours.
Introduces the process of analyzing, organizing, and presenting information using techniques for structuring and authoring data. Presents information types, presentation methods, XML, DTDs, and the principles of structured writing. Offers students an opportunity to use what they learn to design and generate documents that can be easily and efficiently assembled, published, and delivered to the intended audience.

TCC 6410. Online Documentation. 4 Hours.
Introduces students to the types of online documentation written by technical writers, including help messages, online reference guides, and tutorials. Discussions and demonstrations cover the techniques as well as the principles of online documentation design, production, and evaluation, with emphasis on current technologies and software.

TCC 6420. Information Design for the Web. 4 Hours.
Introduces students to the skills necessary for Web-based information design. Topics include basic Web concepts, creating text-based Web pages, working with Web graphics, building usable navigation, building page templates, using cascading style sheets, authoring for the Web, designing a Web site, and multimedia considerations. Offers students an opportunity to code their own Web pages, critique existing Web sites, structure information for online presentation, and create a complete stand-alone Web site.

TCC 6430. Writing for the Computer Industry. 4 Hours.
Introduces students to writing and editing professional-quality computer user documentation. Focuses on techniques for creating usable documentation, including attention to text organization and visual elements. Offers students an opportunity to design and write a computer user manual and collateral technical documents, given a functional specification and software developed from that specification. To simulate a common work environment, class members may sometimes work in project teams.

TCC 6440. Advanced Writing for the Computer Industry. 4 Hours.
Seeks to prepare students to work as writers in the computer industry by building on fundamental skills in producing user documentation. Offers students an opportunity to use single-source techniques to create a variety of computer documentation pieces for technical audiences. Rather than doing a complete, hard-copy computer user manual, students focus on techniques for developing an information base and using that base to create different types of software documentation for different audiences. Topics include analyzing the needs of highly technical audiences, developing strategies for different types of documents (including specifications, reference manuals, and white papers), honing writing techniques (including single-sourcing, writing for impaired audiences, and internationalization/localization), working with engineering and marketing, and building a long-term career in the computer industry.

TCC 6450. Managing Technical Publications. 4 Hours.
Investigates how to manage and facilitate teams and groups within the work environment. Focuses on such topics as perception, personality, conflict, and negotiating. Covers assessing the need for change and its impact on an organization, as well as understanding and managing resistance to change. Uses lectures, case studies, and group work to assist students to better understand management roles and requirements.

TCC 6470. Web Accessibility for Technical Communicators. 4 Hours.
Examines the key principles of Web accessibility and how it relates to documentation and content from the user's perspective. Making Web content and information available to the widest possible audience is important from a legal standpoint but also from a business standpoint. Covers accessibility concepts and universal design as well as the methods people use to access Web content. Discusses rules, standards, and guidelines and how they relate to accessible content. Also touches on the relationship between usability and accessibility.

TCC 6480. Instructional Design for Technical Communicators. 4 Hours.
Focuses on the concepts and overview of instructional design for technical writers. Offers students an opportunity to analyze, design, and develop relevant and useful content for an intended audience, with a particular focus on materials with technical content. Course goals include building a foundation and conceptual framework surrounding the instructional design process. Emphasizes instructional strategies and skills to facilitate adult learning. Additional topics include determining the needs of the learner, techniques for stimulating and sustaining learner motivation, developing learning materials, using multimedia, and how to reinforce learning.

TCC 6490. Usability Testing for Technical Communicators. 4 Hours.
Introduces and examines how to plan, create, run, and facilitate usability testing based on best practices and known testing methodologies. These concepts and methodologies can be used to test products, services, websites, and documentation. Includes an overview of how to construct a usability test, recruit participants, facilitate test sessions, analyze results, and report findings. Emphasizes the emerging use of remote and mobile usability testing.

TCC 6495. Document Design. 2 Hours.
Covers both the principles of document design and the practical skill of using Microsoft Word (Windows and Mac). Explores basic text and paragraph formatting as well as more advanced topics such as page layout, creating styles, using themes, and editing/inserting graphics. Class assignments apply the techniques studied to actual documents. Discussions are an integral part of the course that broaden the classroom experience with issues designed to expand technical communication knowledge. Offers students an opportunity to learn how to solve documentation challenges—creating documents, revising existing documents, or converting older versions to newer versions.

TCC 6510. Ethical and Legal Issues in Financial Services Communication. 4 Hours.
Focuses on the legal, ethical, social, and economic influences as well as domestic and international cultural factors that affect financial services communication. Presents the many complexities involved with ethical decision making in the financial services arena. Offers students an opportunity to develop a better understanding of moral philosophies and how they apply to business communication. Topics include the foundations of personal and managerial ethics; business, government, and society interrelationships; the development of corporate codes of ethics; and the pressures of special-interest groups. Also exposes students to government regulations and legal scenarios that apply to management.
TCC 6520. Marketing Writing. 4 Hours.
Explores the role of the marketing writer in advertising, branding, public relations, and direct mail. Introduces genres, strategies, and scenarios, focusing on ethical considerations. Emphasizes the integration of marketing communications within corporate structures and on writing copy that sells products and services.

TCC 6530. Proposal and Prospectus Writing. 4 Hours.
Provides a workshop approach to writing proposals for submission to both public- and private-sector funding agencies. Assignments focus on the core elements of the proposal writing process, such as analyzing proposal opportunities and audiences, planning proposal writing activities, writing and designing specific types of proposals, and presenting finished products.

TCC 6540. Financial and Market Research. 4 Hours.
Introduces the domestic and international financial system and the institutions within it. Develops data and quantitative analysis tools utilized for economic and financial modeling and analysis. Emphasizes regression analysis and its application, including how to build and interpret statistical models. Topics include the major types of financial institutions that operate within the global economy and the financial instruments employed by them; how exchange rates, interest rates, and security prices are determined and how they affect the global economy; and how governments and central banks impact economic and financial conditions.

TCC 6550. Managing Financial Services Publications. 4 Hours.
Explores the intersections of management fundamentals and documentation systems for a range of financial writing projects, including prospectuses, annual reports, financial forecasts, and investment strategy planning. Readings introduce management fundamentals, principles, and case studies. Class meetings host guest speakers and discussions of readings and case studies. Assignments include individual reports and group projects.

TCC 6610. Prototyping. 2 Hours.
Covers the fundamental principles and methods of prototyping. A prototype is a vehicle that represents a design of something, such as a traditional user interface, a document, or a Web site. Discusses several of the most common methods used by content specialists. Investigates the uses and effectiveness of low-, medium-, and high-fidelity levels of prototyping methods. Reviews sketching, paper prototyping, and the most common prototyping software packages. A significant portion of the course involves collaboration and practical hands-on experience in the creation and iteration of various prototypes.

TCC 6620. Collecting User Data. 2 Hours.
Presents the different methods employed by content specialists to obtain feedback from users. Emphasizes understanding which data collection method is optimal for a particular context, environment, and information need. Focuses on different types of user groups and how they affect the way data collection is undertaken and completed. Also addresses data analysis, which is often the most challenging part of the process. Covers aspects of privacy and ethics, within the context of usability testing, and the Personally Identifiable Information (PII) Law in Massachusetts. Discusses the core methods of the basics of Web analytics, writing and administering surveys, and how to perform successful interviews.

TCC 6630. Introduction to XML. 2 Hours.
Presents an overview of the Extensible Markup Language (XML). In content-heavy technical communication workplaces, using structured XML content allows authors to produce consistent documentation. Offers students an opportunity to understand the basics of XML—including XML rules and syntax, structuring data with XML, and validating data with Document Type Definitions (DTDs) and schemas—and ample practice with XML. Also covers using cascading style sheets (CSS) and Extensible Stylesheet Language Transformations (XSLT).

TCC 6640. Wiki-Based Documentation. 2 Hours.
Offers students an opportunity to create their own wiki-based documentation project. Using wikis for writing technical documentation has been popular with open-source applications for many years. Today, wikis are increasingly being used by both nonprofit and commercial enterprises for their documentation needs. Students are expected to set up and edit their own personal wiki space as well as to collaborate with others to help develop their wiki pages. Also touches upon effective wiki design, usability, modular documentation, and collaborative writing and editing as part of understanding the best practices associated with creating wiki-based documentation.

TCC 6650. Practical Issues in Biomedical Publishing. 2 Hours.
Examines ongoing concerns within the field of biomedical publishing. Uses case studies to analyze issues related to proper citation and assignment of credit, peer review, redaction, publication bias, disclosure and conflict of interest, press releases, and media coverage of scientific meetings. Students are expected to work within virtual groups to discuss and present possible solutions to a specifically assigned case study.

TCC 6660. Biostatistics for Medical Writers. 2 Hours.
Introduces statistical concepts and analytical methods as applied to data that one might encounter in the biotechnology and the biomedical sciences. Offers students an opportunity to obtain a foundation to critically evaluate information to support research objectives and product claims and to better understand statistical design of experimental trials for biological products/devices.

TCC 6710. Content Strategy. 4 Hours.
Examines the emerging discipline of content strategy and its critical role and impact on design, creation, distribution, and governance of an organization’s content. Explores a variety of issues relating to the life cycle of an organization’s content, including strategy, audits, the role of legacy content, content migration, and content management systems (CMS). Reviews the role that staff, technical resources, and constraints play within content strategy and discusses the future role of content strategy within a variety of organizations.

TCC 6850. Technical Communications Capstone Project. 4 Hours.
Offers students an opportunity to use classroom learning to produce a final project, such as a technical manual, online help system, or Web-based assistance product. Offers practical advice and guidance on how to function effectively within the technical publications work environment. Seeks to prepare students for many realistic situations as possible in the work environment, including how to deal with difficult people and situations. Reviews the most current research and trends in the profession. Students work both individually and within groups on various assignments and projects.

TCC 6961. Internship. 1-4 Hours.
Provides students with an opportunity for internship work. May be repeated without limit.

TCC 6962. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.
TCC 6970. Seminar. 1-4 Hours.
Offers an in-depth study of selected topics.

TCC 6983. Topics. 1-4 Hours.
Covers special topics in technical communications. May be repeated without limit.

TCC 7961. Internship. 1-4 Hours.
Provides students with an opportunity for internship work. May be repeated without limit.

TCC 7976. Directed Study. 1-4 Hours.
Offers students an opportunity to produce an individual research paper under the supervision of a faculty member. The directed study format allows for the exploration of a particular topic not covered in-depth in the curriculum. A directed study proposal must be approved by the faculty sponsor, division head, and dean of academic affairs.

TCC 7983. Topics. 1-4 Hours.
Covers special topics in technical communications. May be repeated without limit.

TCC 7995. Project. 1-4 Hours.
Focuses on in-depth project in which a student conducts research or produces a product related to the student's major field. May be repeated without limit.