



Twin Cities Campus

Scientific and Technical Communication B.S.

Writing Studies Department

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Science

The Department of Writing Studies offers a B.S. in scientific and technical communication (S&TC). This degree offers a unique combination of written, oral, and visual communication theory and practice as it applies to interdisciplinary areas of science and technology.

This program examines how communication is a complex process that involves both the robust principles of audience, persuasion, clarity, accuracy, and ethical integrity, and a command of the knowledge of scientific and technical topics that one communicates. Students have the opportunity to examine social, legal, ethical, and political implications of communication as they relate to science, environment, gender, technology, diverse cultures, and workplace practices.

Students study theories of rhetoric and communication and apply principles of audience analysis, writing and editing, information design, oral communication, and visual rhetoric. They engage in writing as a process and examine writing within communities of practice.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the [Office of Admissions website](#).

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the [liberal education requirements](#). Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All required courses must be taken A-F (except for the internship, which is taken S-N), and students must earn a grade of at least C-.

Equivalent transfer courses are accepted in all areas (except for required WRIT courses). Students need to complete a minimum of 35 credits of WRIT courses, plus 15 credits of courses within one of four sub-plan areas.

Core Courses

Current WRIT 3441 requirement replaces former WRIT 4561/5561 requirement. If students have already taken WRIT 4561/5561, they will not be required to take WRIT 3441.

[WRIT 1001](#) - The Art of Explaining Things: Introduction to Technical Writing and Communication (3.0 cr)

[WRIT 3221W](#) - Communication Modes and Methods [WI] (3.0 cr)

[WRIT 3441](#) - Editing, Critique, and Style (3.0 cr)

[WRIT 3562W](#) - Technical and Professional Writing [WI] (4.0 cr)

[WRIT 3671](#) - Visual Rhetoric and Document Design (3.0 cr)

[WRIT 3701W](#) - Rhetorical Theory for Writing Studies [WI] (3.0 cr)

[WRIT 4501](#) - Usability and Human Factors in Technical Communication (3.0 cr)

or WRIT 4258 *(Inactive)* (3.0 cr)

Required Electives

Students must take at least 6 credits from each of the two categories, for a total of 12 credits.

Take 12 or more credit(s) from the following:

Oral, Written, Visual, and Digital Communication

Take 6 or more credit(s) from the following:



- WRIT 3029W - Business and Professional Writing [WI] (3.0 cr)
- WRIT 3101W - Writing Arguments [WI] (3.0 cr)
- WRIT 3244W - Critical Literacies: How Words Change the World [AH, DSJ, WI] (3.0 cr)
- WRIT 3257 - Technical and Professional Presentations (3.0 cr)
- WRIT 3533 *{Inactive}*(3.0 cr)
- WRIT 3672W - Project Design and Development [WI] (3.0 cr)
- WRIT 3751W - Seminar: Theory and Practice of Writing Consultancy [WI] (3.0 cr)
- WRIT 3896 - Internship in Technical Writing and Communication (3.0 cr)
- WRIT 4573W - Writing Proposals and Grant Management [WI] (3.0 cr)
- WRIT 4662W - Writing With Digital Technologies [WI] (3.0 cr)

•Science, Technology, and Society

Take 6 or more credit(s) from the following:

- WRIT 3108 *{Inactive}*[DSJ] (3.0 cr)
- WRIT 3152W - Writing on Issues of Science and Technology [WI] (3.0 cr)
- WRIT 3315 - Writing on Issues of Land and the Environment [AH, DSJ] (3.0 cr)
- WRIT 3361 *{Inactive}*[LITR, CIV] (3.0 cr)
- WRIT 3371W - Technology, Self, and Society [TS, WI] (3.0 cr)
- WRIT 3381W - Writing and Modern Cultural Movements [AH, WI] (3.0 cr)
- WRIT 3577W - Rhetoric, Technology, and the Internet [TS, WI] (3.0 cr)
- WRIT 4431W - Science, Technology, and the Law [CIV, WI] (3.0 cr)
- WRIT 4562 - International Professional Communication (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans.

Information Technology and Design

Required Courses

Students must complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed in consultation with department adviser.

Recommended writing studies course: WRIT 3577W

Note: Students completing the information technology and design sub-plan are encouraged to take WRIT 3577W as one of their required electives. This course counts as a required elective for the major, but does not count toward the required 15 credits in the sub-plan.

Take 15 or more credit(s) from the following:

- AECM 3051 - Building Construction/Woodworking Technology (4.0 cr)
- ARCH 3611 - Design in the Digital Age (3.0 cr)
- ARTH 3422 *{Inactive}*(3.0 cr)
- COMM 3201 - Introduction to Electronic Media Production (4.0 cr)
- COMM 3204 - Advanced Electronic Media Production (4.0 cr)
- COMM 3211 - Introduction to Media Studies (3.0 cr)
- COMM 4291 - New Telecommunication Media (3.0 cr)
- CSCI 1001 *{Inactive}*[MATH, TS] (4.0 cr)
- CSCI 1103 - Introduction to Computer Programming in Java (4.0 cr)
- CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
- CSCI 1901 *{Inactive}*(4.0 cr)
- CSCI 2011 - Discrete Structures of Computer Science (4.0 cr)
- CSCI 3921W - Social, Legal, and Ethical Issues in Computing [CIV, WI] (3.0 cr)
- DES 1101W - Introduction to Design Thinking [AH, WI] (4.0 cr)
- DES 2101 - Design and Visual Presentation (3.0 cr)
- DES 3311 - Travels in Typography (3.0 cr)
- GDES 1315 - Foundations: The Graphic Studio (4.0 cr)
- GDES 4131W - History of Graphic Design [WI] (4.0 cr)
- GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
- HSCI 3331 - Technology and American Culture [HIS, TS] (3.0 cr)
- HSCI 3401 - Ethics in Science and Technology [HIS, CIV] (3.0 cr)
- HSCI 3714 - Stone Tools to Steam Engines: Technology and History to 1750 [HIS, TS] (3.0 - 4.0 cr)
- HSCI 3715 - History of Modern Technology: Waterwheels to the Web [HIS, TS] (3.0 - 4.0 cr)
- HSCI 4321 - History of Computing [TS, HIS] (3.0 cr)
- HUMF 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
- JOUR 3006 - Visual Communication (3.0 cr)
- JOUR 3614 - History of Media Communication [HIS, TS] (3.0 cr)
- JOUR 4272 - Digital Advertising: Theory and Practice (3.0 cr)



- JOUR 3751 - Digital Media and Culture [AH, TS] (3.0 cr)
- KIN 3505 - Intro to Human-Centered Design (3.0 cr)
- PHIL 4615 *{Inactive}*(3.0 cr)
- UC 3201 *{Inactive}*(4.0 cr)

Biological and Health Sciences

Required Courses

Students must complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed in consultation with department adviser.

Students are strongly encouraged to take BIOL 1009 and ANAT 3001 within this sub-plan to facilitate a stronger knowledge base for other required courses.

Take 15 or more credit(s) from the following:

- ANAT 3001 - Human Anatomy (3.0 cr)
- BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
- BIOC 3021 - Biochemistry (3.0 cr)
- BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
- BIOL 1009 - General Biology [BIOL] (4.0 cr)
- BIOL 1101 - Genetics and Society [CIV] (3.0 cr)
- BIOL 2012 *{Inactive}*(4.0 cr)
- PMB 2022 - General Botany (3.0 cr)
- EEB 3811W - Animal Behavior in the Field [WI] (4.0 cr)
- BIOL 3825 *{Inactive}*(2.0 cr)
- BIOL 4003 - Genetics (3.0 cr)
- BIOL 4004 - Cell Biology (3.0 cr)
- CHEM 1011 *{Inactive}*(4.0 cr)
- CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
- CHEM 1022 *{Inactive}*[PHYS] (4.0 cr)
- CHEM 3101 - Introductory Analytical Chemistry Lecture (3.0 cr)
- CHEM 3111 - Introductory Analytical Chemistry Lab (2.0 cr)
- CHEM 2301 - Organic Chemistry I (3.0 cr)
- CHEM 2302 - Organic Chemistry II (3.0 cr)
- CHEM 2311 - Organic Lab (4.0 cr)
- CHEM 4001 - Chemistry of Biomass and Biomass Conversion to Fuels and Products [ENV] (4.0 cr)
- MICB 3301 - Biology of Microorganisms (5.0 cr)
- PHAR 1002 - Medical Terminology (2.0 cr)
- PHAR 5201 - Applied Medical Terminology (2.0 cr)
- PHCL 3100 - Pharmacology for Pre-Med and Life Science Students (2.0 cr)
- PHIL 1005 - Scientific Reasoning (4.0 cr)
- PHIL 3601W - Scientific Thought [WI] (4.0 cr)
- PHIL 4607 - Philosophy of the Biological Sciences (3.0 cr)
- PHSL 3051 - Human Physiology (4.0 cr)
- PUBH 3001 - Personal and Community Health (2.0 cr)
- PUBH 3004 *{Inactive}*(4.0 cr)
- STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
- STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
- CHEM 1015 - Introductory Chemistry: Lecture [PHYS] (3.0 cr)
- CHEM 1017 - Introductory Chemistry: Laboratory [PHYS] (1.0 cr)

Legal Discourse and Public Policy

Required Courses

Students must complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed in consultation with department adviser.

Recommended writing studies courses: WRIT 3577W and WRIT 4431

Note: Students completing this sub-plan are encouraged to take WRIT 3577W and WRIT 4431 as two of their required electives. These courses count as required electives for the major, but do not count toward the required 15 credits in the sub-plan.

Take 15 or more credit(s) from the following:

- AMIN 4231 - Color of Public Policy: African Americans, American Indians, Asian Americans, & Chicanos in the U.S. (3.0 cr)
- COMM 3631 - Freedom of Speech [CIV] (3.0 cr)
- CSCI 3921W - Social, Legal, and Ethical Issues in Computing [CIV, WI] (3.0 cr)
- HIST 4337 *{Inactive}*(4.0 cr)
- JOUR 3007 - The Media in American History and Law: Case Studies [HIS] (3.0 cr)
- JOUR 3776 - Media Law (3.0 cr)
- JOUR 5552 - Law of Internet Communication (3.0 cr)



- PHIL 1001 - Introduction to Logic [MATH] (4.0 cr)
- PHIL 1004W - Introduction to Political Philosophy [AH, CIV, WI] (4.0 cr)
- PHIL 4321W - Theories of Justice [WI] (3.0 cr)
- POL 1001 - American Democracy in a Changing World [SOCS] (3.0 cr)
- POL 1201 - Political Ideas [HIS, CIV] (3.0 cr)
- POL 3225 - American Political Thought [CIV] (3.0 cr)
- POL 3308 - Congressional Politics and Institutions [SOCS] (3.0 cr)
- POL 3309 - U.S. Supreme Court Decision-Making, Process, and Politics (3.0 cr)
- POL 4403W - Constitutions, Democracy, and Rights: Comparative Perspectives [GP, WI] (3.0 cr)
- POL 4485 *{Inactive}*[CIV] (3.0 cr)
- POL 4501W - The Supreme Court and Constitutional Interpretation [CIV, WI] (3.0 cr)
- POL 4502W - The Supreme Court, Civil Liberties, and Civil Rights [CIV, WI] (3.0 cr)
- SOC 3101 - Sociological Perspectives on the Criminal Justice System [CIV] (3.0 cr)
- SOC 4101W - Sociology of Law [WI] (3.0 cr)
- SOC 4161 - Criminal Law in American Society (3.0 cr)
- SOC 4162 - Criminal Procedure in American Society (3.0 cr)
- SOC 4171 - Sociology of International Law: Human Rights & Trafficking [GP] (3.0 cr)
- SOC 4175 *{Inactive}*(3.0 cr)

Environmental Science

Required Courses

Students must complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed in consultation with department adviser.

Take 15 or more credit(s) from the following:

- ANTH 3041 *{Inactive}*(3.0 cr)
- ANTH 4069 - Historical Ecology & Anthropology of the Environment (3.0 cr)
- APEC 3611W - Environmental and Natural Resource Economics [ENV, WI] (3.0 cr)
- ARCH 4561 - Architecture and Ecology [ENV] (3.0 cr)
- BBE 4733 - Renewable Energy Technologies [TS] (3.0 cr)
- CEGE 3501 - Introduction to Environmental Engineering [ENV] (3.0 cr)
- CHEN 5551 *{Inactive}*(3.0 cr)
- ECON 3611 *{Inactive}*(3.0 cr)
- EEB 3001 - Ecology and Society [ENV] (3.0 cr)
- ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
- ESPM 3607 - Natural Resources Consumption and Sustainability [GP] (3.0 cr)
- ESPM 3011W - Ethics in Natural Resources [CIV, WI] (3.0 cr)
- ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
- ESPM 3251 - Natural Resources in Sustainable International Development [GP] (3.0 cr)
- ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
- ESPM 3601 - Sustainable Housing--Community, Environment, and Technology [TS] (3.0 cr)
- ESPM 3603 - Environmental Life Cycle Analysis (3.0 cr)
- ESPM 3604 - Environmental Management Systems and Strategy (3.0 cr)
- FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
- FW 5455 *{Inactive}*(3.0 cr)
- ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)
- ESCI 1002 *{Inactive}*(4.0 cr)
- ESCI 3002 - Climate Change and Human History [ENV] (3.0 cr)
- ESCI 3003 *{Inactive}*(3.0 cr)
- ESCI 3004 - Water and Society [ENV] (3.0 cr)
- ESCI 3005 - Earth Resources (3.0 cr)
- GEOG 3355 *{Inactive}*(3.0 cr)
- GEOG 3401W - Geography of Environmental Systems and Global Change [ENV, WI] (3.0 cr)
- HIST 3452 *{Inactive}*(3.0 cr)
- HSCI 3244 - Nature's History: Science, Humans, and the Environment [HIS, ENV] (3.0 cr)
- LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
- PHIL 3301 - Environmental Ethics [ENV] (4.0 cr)
- SOC 4305 - Environment & Society: An Enduring Conflict [ENV] (3.0 cr)
- SOC 4311 - Power, Justice & the Environment [DSJ] (3.0 cr)
- URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)
- AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
or ANSC 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
- AGRO 5321 - Ecology of Agricultural Systems (3.0 cr)
or ENT 5321 *{Inactive}*(3.0 cr)
- BIOL 3407 *{Inactive}*(3.0 cr)
or BIOL 3408W *{Inactive}*[WI] (3.0 cr)
- SUST 3003 - Sustainable People, Sustainable Planet [ENV] (3.0 cr)



or GLOS 3304 *(Inactive)* (3.0 cr)

• **GEOG 3379** - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)

or GLOS 3303 *(Inactive)* [SOCS, ENV] (3.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:

http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.