The Full 2011-2012 Catalog Text for the CSET major with strike-throughs and new text in red

*Communication of Science and Technology*

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The study of the communication of science and technology is an interdisciplinary enterprise that draws upon the scientific, engineering, and communication, both oral and written, resources of Vanderbilt University. The program is designed for students who have an interest in science and technology and also are interested in how science and technology are communicated to the larger world outside science, engineering, and medicine. Interested students should contact the director of the program, David A. Weintraub, Department of Physics and Astronomy.

*Program of Concentration in Communication of Science and Technology*

Students majoring in the communication of science and technology will be expected to complete a core of courses that are essential to understanding communication, as well as a coherent program of courses that provide scientific and engineering background. The major consists of either 38 or 39 47 or 48 hours.

Students seeking a second major within the College of Arts and Science may count a maximum of 6 hours of 200-level course work to meet the requirements of both majors.

A student may count as many as 6 hours as part of both this interdisciplinary major and a second major. A student may only include a maximum of 15 hours of 100-level coursework, not including CSET 150 and all HIST courses.

*Required Courses (15 hours)*

- Communication Studies 237 (The Communication of Science, Engineering, and Technology)
English 118W (Introduction to Literary and Cultural Analysis) or English 120W (Intermediate Composition) or 200 (Intermediate Nonfiction Writing) or 201 (Advanced Nonfiction Writing)
Communication Studies 201 (Persuasion) or 204 (Organizational and Managerial Communication)
Engineering Science 120 (Introduction to Engineering Problem Solving) or Engineering Science 140 (Introduction to Engineering)
Mathematics 218 (Introduction to Probability and Mathematical Statistics), Economics 150 (Economic Statistics) or Economics 155 (Intensive Economic Statistics), or BME 260 (Analysis of Biomedical Data)

Natural Science (9 hours)
Any three 200-level courses (minimum 3 credit hours per course) from at least two disciplines in the natural sciences from those listed for credit as MNS courses within AXLE. (Note that MATH courses cannot be used to fulfill this requirement.) Students would only count 9 hours of Natural Science courses toward this part of 48-hour requirement, even if they choose to take three 4-hour courses.

Engineering (9 hours)
Any three courses (minimum 3 credit hours per course) from at least two disciplines in the School of Engineering (excluding BME 201, 240a–240b, 241a–241b, 272, 273; ChE 233W, 246, 247, 249; CE 200a–200b–200c, 248a–248b, 252a–252b; CS 101, 103, 240a–240b; EECE 203, 204, 296, 297; ES 101, 103, 248a–248b; MSE 209b–209c; ME 209a–209b–209c, 243, 297). Students would only count 9 hours of Engineering courses toward this part of 48-hour requirement, even if they choose to take three 4-hour courses.

Selected Courses (15 hours)
Area I (one 3-hour course): Communication Studies 210 (Rhetoric and Civic Life), 220 (Rhetoric of the American Experience, 1640–1865), 221 (Rhetoric of the American Experience, 1865 to 1945), 222 (The Rhetorical Tradition), 241 (Rhetoric of Mass Media), 294 (Special Topics: Communication of Science through the Media).
Area II (two 3-hour courses): ENGL 200, 201, or any 200-level W course taught in English, Engineering, or any of the Natural Science departments (note that W courses taught in Engineering or the Natural Science departments do not count toward the Engineering or Natural Science requirements of this major); History 285W (Science, Technology, and Modernity); English 243, 243W (Literature, Science, and Technology) may be repeated once (for a total of up to 6 credits) as long as the specific topics for the course are different each time it is taken. The topic for each offering of the course will be indicated in the official course schedule. Note that a course counted toward Required Courses cannot also be used in satisfaction of the Area II requirement.
Area III (one 3-hour course): Astronomy 203 (Theories of the Universe); Communication Studies 223 (Values in Modern Communication), 241 (Rhetoric of Mass Media); Earth and Environmental Sciences 205 (Science, Risk, and Policy); Economics 226 (Economic History of the United States); History 150 (History of Modern Sciences and Society), 280 (Modern Medicine), 285W (Science, Technology, and Modernity); Medicine, Health, and Society 221 (Controversies in Medicine); Philosophy 244 (Philosophy and the
Natural Sciences); Political Science 253 (Ethics and Public Policy), 255 (Public Policy Problems); Psychology 252 (Human Sexuality); Sociology 237 (Society and Medicine).

Choice: a) One additional 3-hour course from Area I, Area II, Area III, or from the course options that satisfy the Natural Science or Engineering requirements or b) at least 1 credit hour earned from CSET 289 and at least 1 credit hour earned from CSET 290.

1) Written and Oral Communications courses (9 credit hours from 3 courses)
   Three courses, with a minimum 3 credit hours per course) as follows:
   a. Intro to the Communication of Science: CSET 150 (Special Topics) or CMST 237 (The Communication of Science, Engineering, and Technology). If neither course is offered for two consecutive years, majors may, with approval of the program director, substitute a course from category ‘1c’.
   b. One advanced public-speaking course: CMST 201 (Persuasion) or 204 (Organizational and Managerial Communication)
   c. One advanced (200-level) ‘W’ course from any of the following:
      i. any 200-level ‘W’ course from any Natural Science program (as used here, ‘Natural Science’ includes all courses identified as ‘MNS’ courses in AXLE except MATH and PHIL courses),
      ii. any 200-level ‘W’ course from any Engineering program,
      iii. any 200-level ‘W’ course from MHS,
      iv. ENGL 200 (Intermediate Nonfiction Writing), 201 (Advanced Nonfiction Writing), or ENGL 243 (Literature, Science, and Technology),

2) Natural Science and Engineering courses (15 credit hours from five courses):
   Five courses (minimum 3 credit hours per course), at least three of which must be 200-level Natural Science courses. (As used here, Natural Science includes all courses identified as MNS courses in AXLE except MATH and PHIL courses.) The other two courses may be 200-level Natural Science courses or courses taken at any level from the School of Engineering. Students will count 15 hours of Natural Science and/or Engineering courses toward this part of 38 or 39-hour requirement, even if they choose to take five 4-credit-hour courses. Engineering ‘research,’ ‘project,’ ‘design,’ ‘seminar,’ ‘independent study,’ and introductory programming courses (e.g., BME 240a, 240b, 241a, 241b, 272, 273; ChBE 233W, 246, 247, 249; CE 200a, 200b, 200c, 248, 249, 252a, 252b; CS 101, 103, 240a–240b; EECE 203, 204, 296, 297; ENGM 289, 290, ES 101, 103, 248, 249; MSE 209b, 209c, ME 209a, 209b, 209c, 243, 297; SC 295A, 295B, 295C) do not count toward this requirement. Students may count the three 1-credit hour courses ES 140A, 140B, and 140C as equivalent to a single 3-credit hour course if they earn credit for all three courses.

3) Statistics (3 credit hours) selected from:
   ECON 150 (Economic Statistics), 155 (Intensive Economic Statistics),
   MATH 127b (Probability and Statistical Inference), 216 (Probability and Statistics for Engineering), 218 (Introduction to Probability and Mathematical Statistics),
PSY 209 (Quantitative Methods),
PBY PSY 2101 (Introduction to Statistical Analysis), PBY 2102 (Statistical Analysis)
BME 260 (Analysis of Biomedical Data)
SOC 127 (Statistics for Social Scientists)

4) One course bridging science, engineering, or medicine and health with non-science content and issues, including public policy courses and environmental courses (3 credit hours):
   ANTH 208 (Food Politics in America), 240 (Medical Anthropology), 250 (Anthropology of Healing), 260 (Medicine, Culture, and the Body), 264 (Human Nature and Natural Law: Perspectives from Science and Religion), 270 (Human Osteology), 274 (Health and Disease in Ancient Populations)
   ASTR 203 (Theories of the Universe)
   EES 205 (Science, Risk, and Policy)
   EUS 241 (Environmental Politics and Policy)
   HIST 149 (The Modern Human Sciences), 150 (History of Modern Sciences and Society), 151 (The Scientific Revolution), 280 (Modern Medicine), 281 (Women Health, and Sexuality), 282 (Chinese Medicine), 283 (Medicine, Culture, and the Body), 284a (Epidemics in History), 284b (Health and the African American Experience), 284c (The Psychological Century), 285a (Human Biological Enhancement), 285W (Science, Technology, and Modernity)
   MHS – any 200-level course below 290
   PHIL 244 (Philosophy and the Natural Sciences)
   PSCI 253 (Ethics and Public Policy), 255 (Public Policy Problems), 256 (Politics of Public Policy)
   PSY 252 (Human Sexuality)
   RLST 202 (Natural Science and the Religious Life), 221 (Ethics and Ecology), 241 (Religion, Science, and Evolution)
   SOC 221 (Environmental Inequality and Justice), 237 (Society and Medicine), 270 (Human Ecology and Society)
   WGS 240 (Introduction to Women’s Health), 268 (Gender, Race, Justice, and the Environment)

5) Electives (8 or 9 credit hours) chosen from:
   a. FILM 105 (Fundamentals of Film and Video Production), 125 (Introduction to the Study of Film), 175 (Intermediate Filmmaking: Alternate Forms), 176 (Intermediate Filmmaking: Fiction), 227W (Screenwriting), 275W (Advanced Screenwriting), (no more than 2 courses)
   b. category 1c (no more than 2 courses)
   c. category 2 (no more than 2 courses)
   d. category 4 (no more than 2 courses)
   e. A combination of at least one hour of CSET 289 (Directed Study) and at least one hour of CSET 290 (Project in Science Writing and Communicating) may
be counted together as a single elective course. No more than 3 hours of CSET 289 and 290 may count toward the major.

Internships

The off-campus internship program involves work in the national arena in such places as NASA, the Discovery Channel, the National Institutes of Health, CNN, and the American Chemical Society. If an internship involves course credit, credit will be given for these internships through Interdisciplinary Studies 280a–280b–280c (1 hour each); they must be taken as P/F hours, and do not count toward the major.

Honors Program

CSET Honors is a selective program of individual undergraduate work, supervised by faculty advisers. Honors candidates propose, research, and write a thesis that demonstrates the ability to communicate science, in depth, to a nonscientific audience.

Requirements for Admission

To be admitted to the Honors Program in CSET, a student must
1) be a CSET major,
2) have completed at least 30 of the required hours for the CSET major,
3) have completed one semester of CSET 289 and one semester of CSET 290.
   a) Students who entered Vanderbilt prior to fall 2008 may substitute two semesters of IND 280a–280b–280c for CSET 289 and CSET 290.
   b) With permission of the program director, students may substitute research experience taken for credit within a scientific or engineering program for CSET 289.
4) have a GPA of at least 3.20 in all work previously taken for credit,
5) have a GPA of at least 3.40 in all courses taken that count toward completion of the CSET major.

Requirements for Completion (minimum 39 credit hours)

To earn Honors or Highest Honors in CSET, a student must
1) complete the CSET major (minimum 38 credit hours),
2) complete at least one semester of CSET 296,
3) present an oral defense of the written CSET 296 thesis before a faculty examination committee,
4) have a GPA of at least 3.20 in all work taken for credit and 3.40 in all courses that count toward completion of the CSET major.

Course of Study

Interested students may apply in the spring of their junior year or the fall of the senior year. Applicants must have completed CSET 289 (or the equivalent) and must have completed or be enrolled in CSET 290. The application includes a one- to two-page proposal of the planned thesis and the signature of the faculty member who will be the thesis adviser.

Students in the Honors Program sign up for CSET 296 (Honors Thesis). Students may enroll in CSET 296 for one or two semesters, for up to 3 hours per semester.
The final thesis must be submitted no later than two weeks before the end of classes in the semester of graduation.

The oral defense of the thesis will take place one to two weeks after the final thesis is submitted. The examination committee is composed of the thesis supervisor and two additional faculty members, at least one of whom must be a faculty member affiliated with the CSET program. The oral defense is public and should take approximately one hour, including time for questions from members of the committee. The faculty examination committee will determine by majority vote whether the student has earned Honors and whether said student should receive Honors or Highest Honors. Highest Honors is reserved for students with GPAs in the CSET major and overall above 3.50, whose theses are of near-publication quality, and whose oral defenses are at the highest level.

Minor in Communication of Science and Technology

The minor in communication of science and technology consists of a minimum of 24 hours distributed as follows:

Required Courses (9 hours)

Communication Studies 237 (The Communication of Science, Engineering, and Technology)

English 120W (Intermediate Composition) or 200 (Intermediate Nonfiction Writing) or 201 (Advanced Nonfiction Writing)

Communication Studies 201 (Persuasion) or 204 (Organizational and Managerial Communication)

Selected Courses (15 hours)

The student must take

1. two courses from the Natural Science list for the major (see above);
2. a total of two courses from the Engineering list for the major (see above); or
3. one course from any of the courses listed above for the major.

No more than two of the selected courses can be taken in any one department. Only 3 hours from each of the five selected courses will count toward the 24 total hours of the minor.
The minor in the Communication of Science and Technology consists of seven courses, totaling a minimum of 21 hours, distributed as follows:

1) Written and Oral Communications courses (3 courses):
   a. CSET 150 or CMST 237. If neither course is offered for two consecutive years, minors may, with approval of the program director, substitute a course from category ‘1c’.
   b. One advanced public-speaking course: CMST 201 or 204
   c. One advanced (200-level) ‘W’ course as defined in the rules for the CSET major

2) Natural Science and Engineering courses (4 courses):
   a. One course bridging science, engineering, or medicine and health with non-science content and issues, including public policy courses and environmental courses (selected from list of courses for majors)
   b. Three courses (minimum 3 credit hours per course) from engineering and/or the natural sciences, at least two of which must be 200-level Natural Science courses (as defined for the major). The other course may be a 200-level Natural Science course or a course taken at any level from the School of Engineering. Students may count 9 hours of Natural Science and/or Engineering courses toward this part of 21-hour requirement, even if they choose to take three 4-credit-hour courses. Students may count the 1-credit hour courses ES 140A, 140B, and 140C as equivalent to a single 3-credit hour course if they earn credit for all three courses.