Cognitive Science Program

Writing Across the Curriculum (WAC) Requirements

Basic Philosophy

The Cognitive Science Program requirements for Writing Across the Curriculum call for students to take five specific courses which fall within three categories or levels. The curriculum is designed to introduce students to the nature, uses, and objectives of research with a focus on reporting it through writing. Our courses collectively guide novice researchers through the complexities of planning, organizing, and drafting reports that pose significant problems and offer convincing solutions within the various subfields of cognitive science. Through these sources we encourage our students to write with readers in mind, maximizing clarity and style without sacrificing rigor and depth. Through careful editing in the writing courses we show them how to revise their writing quickly and efficiently. We ask them to think self-consciously about their research problems and writing and to strive for improvement that satisfies them as well as their faculty. In addition to strengthening their rhetorical and writing skills per se, we want them to develop abilities to record and report data, to define and summarize, to acquire knowledge about themselves and the world around them, to develop strong positive attitudes toward learning and knowing, to develop confidence in their abilities to find and correct their own mistakes, and to encourage a lifetime of exploration and discovery.

Goals

Upon completing requirements for a major in cognitive science, students will be able to:

1. Demonstrate command of the technical features of formal writing, including the conventions of scholarly documentation.

2. Summarize in their own words literature that they have read.

3. Synthesize information from a number of sources, evaluate evidence, form an opinion, and generate hypotheses for further inquiry.

4. Understand and use appropriately the basic concepts and vocabulary of the discipline.

5. Write accurate reports on observations and laboratory analysis.

6. Demonstrate research skills in the discipline, including the use of libraries and on-line, Internet, and WWW technologies and resources.

7. Write for a diverse society by avoiding sexist language and stereotypes.

8. Present data in graphical or statistical form.

9. Evaluate various theoretical perspectives.

10. Assess the validity and accuracy of arguments in popular media and professional work.

11. Apply the principles and reasoning of cognitive science to problem sets and projects.

12. Appreciate the value of systematic thinking.

Objectives

Each cognitive science major will engage in a variety of writing experiences including, but not limited to, abstracts, journal writing, lab reports and field notes, reaction and discovery papers, review articles, position essays, in-class exams and essays, and standard research papers. Students will be provided with examples of the kinds of writing expected of them or specific instructions for each kind of writing assignment. The primary courses supporting these experiences are:

- COG166 Introduction to Cognitive Science
- PSY280 Analysis of Psychological Data
- PSY290 Research Methodsd in Psychology
- ANT344 Language and Culture
- PSY303/403 Topics in Psychology: Biopsychology
- PSY305/405 Topics in Psychology: Cognition
- CSC366 Computational Models of Cognitive Processes

The Requirments

1. **Introductory Level: Foundational Writing (1 course)**

   The "gateway" writing course is required to be taken by all Cognitive Science majors.

   - **COG166 Introduction to Cognitive Science** provides Cognitive Science majors with a foundational experience in their introductory course. It introduces students to the fundamental questions, findings, and methods of cognitive science. Students are asked to read several classic articles which are closely associated with the field and write a short review of each. These articles are then compiled into a collection of reviews. Moreover, students are asked to investicate the life and work of key contributors to the field of cognitive science. They are asked to write a short biography of each figure. These biographies are then compiled into a collection of biographies. Students are instructed in the use of LaTex, the premiere text generation system for scientific documents, for purposes of compiling the collections of reviews and biographies.

2. **Intermediate Level: Methodological Writing (1 course)**

   Students are required to take one of the following two courses which are oriented towards methodological considerations.

   1. **PSY280 Analsis of Psychological Data** This course involves the composition of texts

surrounding data generation and analysis.

2. **PSY290 Research Methods in Psychology** This course features the careful articulation of multi-stage designs for psychological experiments.

3. **Advanced Level: Domain Specific Topical Writing (3 courses)**

Students are required to take three of the following courses which provide them with opportunities to express themselves in the context of topical investigations. Advanced writing and more mature modes of expression earned as a result of prior writing experiences are expected at this level.

1. **ANT344 Language and Culture** This course analyzes linguistic diversity and change and cultural emphases in language and the relation to gender, world view, cross-cultural interpretation problems, and so on. Students are required to prepare an abstract and extended book review with revisions and editing after a first reading by the instructor before final submission for a grade. A record is kept of each edit and persistent mistakes are penalized. Each rewrite thus represents a carefully measured opportunity to earn a higher grade.
2. **PSY~~305~~/~~405~~ Topics in Psychology: ~~Cognition~~** This course engages students in writing about aspects of neurobiology.

303/403 Biopsychology

3. **PSY305/405 Topics in Psychology: Cognition** This course engages students in writing about aspects of cognition.

4. **CSC366 Computational Models of Cognitive Processes** This course engages students in writing about experiments involving physical symbol systems, neural networks, and genetic algorithms.