

# Engr 694-06: Research Methods in CS Syllabus, Fall 2017

H. Conrad Cunningham

21 August 2017 (typo corrections 25 September)

## **Course Overview**

### **Introduction**

The Research Methods course focuses on scholarly communication and professional issues facing graduate students, faculty, and researchers in computer science.

### **Catalog Description**

This is not yet listed as a regular course in computer science.

### **Prerequisite**

Graduate standing in Computer Science

### **Position in Curricula**

Beginning in Fall 2012, the computer science PhD curriculum requires that all PhD students complete this course; the MS curriculum recommends that MS students take this course if they are planning to write a formal thesis or continue in the PhD program.

## **Course Goal**

This course targets computer science graduate students planning professional careers in teaching, research, and advanced development. It seeks to enhance

the students' abilities to think critically, communicate effectively in both writing and speech, understand the profession's culture and practices, and plan an appropriate research program. Although the instructor or others may lecture, many of the activities focus on the students learning by doing.

## **Course Student Outcomes**

Upon successful completion of the course, students will be able to:

- read, understand, analyze, and critique computer science papers more effectively
- write scholarly computer science papers more clearly and effectively
- understand computer science as an academic and research profession more fully

## **Fall 2017 Section Details**

### **Time and Place**

2:00 - 2:50 a.m. Monday-Wednesday-Friday; Weir Hall 106

### **Instructor**

**Dr. H. Conrad Cunningham**, Professor, Computer and Information Science  
Office: 211 Weir Hall  
Telephone: (662) 915-5358  
Email: [hcc@cs.olemiss.edu](mailto:hcc@cs.olemiss.edu)  
Web: Professor Cunningham's Homepage (<http://www.cs.olemiss.edu/~hcc>)  
Office hours: 10:15 - 11:30 a.m. MWF (or by arrangement)

### **Teaching Assistant**

None

### **Communication Policy**

Students may contact the instructor by telephone or email or meet him during his office hours. He will attempt to respond to email and telephone messages within 24 hours during the work week. Emails or telephone calls arriving outside

the 8:00 a.m. to 5:00 p.m., Monday-Friday workday may be deferred until the next workday.

The instructor will use the features of the Blackboard Learn system (e.g., announcements and email) to communicate urgent information to students outside of class.

## Methods of Instruction

The instructional methods used in this course include: readings from the textbook, papers, and web pages; discussions among the students and instructor; guest lectures; student presentations; and writing assignments.

## Course Materials

The instructor will maintain an Engr 694 course website at <http://www.cs.olemiss.edu/~hcc/researchMethods/engr694.html>. Most course materials will be linked to the Lecture Notes page. Restricted access materials will be posted to the course's Blackboard site.

### Selected course textbook

- Justin Zobel. *Writing for Computer Science, Third edition*, Springer, 2014. ISBN: 978-1-4471-6638-2.

### Optional writing reference books

- William Strunk, Jr. and E. B. White. *The Elements of Style*, various editions are available.
- William Zinsser. *On Writing Well*, 30th Anniversary Edition: The Classic Guide to Writing Nonfiction, Harper Perennial, 2006.
- Constance Hale. *Sin and Syntax: How to Craft Wicked Good Prose*, Revised and Updated Edition, Three Rivers Press, 2013.

## Readings

Various tutorials, manuals, Web documents, journal and conference articles, research reports, and book excerpts as appropriate.

## Hardware

The course does not require any special hardware. Students may use the Department's Adler lab facilities, servers, or their own desktop or laptop systems to complete the programming assignments.

## Software

To complete the course, students need the following software available on the computer at which they will do their work:

- a word processor capable of generating documents as PDFs and in a form that is compatible with Microsoft Word
- an installation of the LaTeX 2e text formatting system (including the BibTeX reference manager)
- other software identified as the semester progresses

Note: Over the past two years, the instructor has been formatting most of his course materials (including this document) using the *Pandoc* tool and the its supported superset of Markdown. The Pandoc extensions enable MathML to be generated from embedded LaTeX mathematics markup. The pandoc tool enables output to be generated in HTML pages and slides, LaTeX, PDF, EPUB, Microsoft Word, and other forms. It also helps in generation of documents that are accessible to individuals using screen readers.

- A browser with plug-ins compatible with Blackboard

Students can run the Blackboard Browser Check to verify the configuration of the browser for normal use of Blackboard.

- A browser that supports MathML to display the HTML version of the instructor's course notes

The current version of Mozilla Firefox should work appropriately for both MathML and Blackboard.

## Technical Support

Contact the instructor concerning any issues related to installation and use of the language software or if access is needed to Department of Computer and Information Science computing facilities.

## Course Topics

The course focuses on scholarly communication and research and professional issues facing graduate students, faculty members, and researchers in computer science. The specific topics will be shown on the Lecture Notes page; they are subject to dynamic update depending upon the opportunities and interests of the students and instructor.

## Course Expectations and Attendance Policy

The instructor expects each student to attend class and participate during each scheduled class period and to complete the required out-of-class assignments by the stated deadlines.

## Assignments

- All students are expected to study the relevant portions of the textbook and handouts in conjunction with our class discussions (i.e., *before* coming to class). Explicit reading assignments will not always be given. If in doubt on what you need to read, please ask the instructor.
- Approximately seven papers or other assignments are planned for the semester. There may also be short quizzes.
- Unless otherwise stated in the assignment description, an assignment is to be carried out by each individual student without inappropriate collaboration with others. See the section on Academic Integrity.
- In preparing and submitting homework assignments make sure that:
  - your name, the course number or name, the assignment identifier, and individual exercises are clearly indicated in the content of the file or on the paper. (If it is a group assignment, give the group identifier and the names of all members.)
  - for any handwritten portions, you write legibly on only one side of the paper in a black or blue pen or dark pencil. Do NOT use red or green ink!
  - for any assignments submitted on paper, your pages are stapled together in the upper left corner when viewed from the front.
- All students are expected to complete their homework assignments by their due dates. If an assignment is submitted late, a penalty of 10 percent of that assignment's grade will be assessed for each class day it is late. A homework paper will not be accepted after graded papers have been returned, after a solution has been distributed, or after the final examination.

- Most (but possibly not all) assignments will be submitted electronically using the Blackboard system.
- If an assignment is marked “optional”, it can replace an earlier assignment. However, all students are encouraged to work on these assignments; these optional activities can help the student master the concepts and skills and prepare for the proctored exams.

## **Examinations**

There are no examinations for this class.

## **Optional Activities**

The instructor may suggest various optional resources and activities. These activities are not graded, but they can help a student broaden and deepen his or her understanding of the concepts and skills for this class.

The Department encourages all graduate students to attend all seminars offered during each semester. The normal seminar period is 3:00-3:50 p.m. on Wednesdays.

## **Grading**

The grading scale for this class is A [90..100], B [80..90), C [70..80), D [60..70), and F [0..60). However, the instructor will use the +/- grading scale, as appropriate, to provide more fine-grained grading within these ranges.

70 percent of the grade will come from the regular writing, editing, and research exercises and perhaps a few quizzes. The other 30 percent comes from the term paper and presentation.

## **University of Mississippi Policies**

### **Students with Disabilities**

University policy provides for reasonable accommodations to be made for students with verified disabilities on an individualized and flexible basis as specified under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA).

Students with disabilities who believe they may benefit from classroom or other accommodations should contact the *Office of Student Disability Services*

for information at 234 Martindale, 662-915-7128 (Phone), 662-915-7907 (TTY Phone), or sds@olemiss.edu (Email).

Any student requesting accommodation under this policy should present the instructor with the required documentation early in the semester and make arrangements in advance for each examination or assignment.

## **Copyrighted Materials**

Materials used in connection with this course may be subject to copyright protection under Title 17 of the United States Code. Under certain Fair Use circumstances specified by law, copies may be made for private study, scholarship, or research.

Students should not share electronic copies of copyrighted materials with unauthorized users. Violations of copyright laws could subject individuals to federal and state civil penalties and criminal liability as well as disciplinary action under University policies.

## **Appropriate Use of Information Technology**

The Information Technology (IT) Appropriate Use Policy sets forth the privileges of and restrictions on students, faculty, staff, and other users with respect to the computing and telecommunications systems offered by the University of Mississippi (UM). This policy is designed to protect the University community from illegal or damaging actions by individuals, either knowingly or unknowingly. Inappropriate use exposes the University to risks, including virus attacks, compromise of network systems and services, and legal issues. This policy directly addresses copyright issues related to illegal downloads and peer-to-peer file sharing.

For questions about the Appropriate Use Policy, send an email to [aup@olemiss.edu](mailto:aup@olemiss.edu).

## **Academic Integrity**

The University of Mississippi is dedicated to supporting and sustaining a safe and scholarly community of learning dedicated to nurturing excellence inside and outside of the classroom. Each student has a duty to become familiar with University values and standards reflected in University policies, and each student has a duty to honor University values and standards reflected in University policies. These policies are outlined in the *M Book*. For a complete listing of policies, please visit the University Policy Directory.

As a student in Research Methods, you are expected to conduct yourself in a professional and ethical manner according to the policies, procedures, and expectations of the Department of Computer and Information Science, School of Engineering, Graduate School, University of Mississippi, and discipline of computer science.

The University's academic discipline procedure will be followed in this course. Violations of academic integrity may result in anything from failure on an assignment to expulsion from the course, depending on the severity of the violation.

### **Verification of Student Attendance**

The University must abide by Federal guidelines to verify the participation of students. For all course types, including thesis, internships, labs, online courses, etc., the instructor must verify your participation based on some type of participation. In this course, the instructor will verify the physical attendance of each student and report it during the first two weeks and otherwise as required.

### **Student Privacy Policy**

The University of Mississippi protects the privacy of all students, including online and distance learning students, through adherence to the Family Educational Rights and Privacy Act of 1974 (FERPA) through compliance with other institutional policies and procedures governing the management and security of protected information of faculty, staff, and students, and by outlining the expectations of privacy for the university community as regards to electronic information. See the *Student Information and Privacy Policy* for more information.