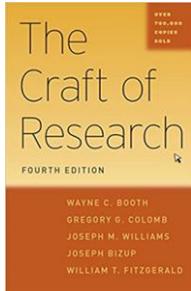


CS 600: COMPUTER SCIENCE RESEARCH PRACTICUM FALL 2020



Professor: Abdullah Mueen

Meetings: Mondays 1:00PM-3:30PM

Zoom Meeting ID: <https://unm.zoom.us/j/4596552426>

Meeting ID: 459 655 2426

Passcode: mEeTmUeEn

Office: Farris 3020

Email: mueen in the CS or UNM domains;

Office Hours: Thursdays and Wednesdays, 12:30PM-2:00PM in my Zoom room

Textbook: The Craft of Research. W. C. Booth, G. C. Colomb, and J. .M. Williams, Univ. of Chicago Press. 4th edition. 2016.

Course Description:

The Practicum helps students develop and practice the skills required to conduct an independent research project. It is intended for graduate students pursuing a Ph.D. in computer science. Students will select a subject area advisor for the Ph.D. milestone project during the first two weeks of the semester. The Practicum provides intensive supervision for one semester, in collaboration with the subject area advisor, as the student develops his or her milestone project and begins to research it. It is expected that by the end of the semester, students will have acquired the necessary knowledge to conduct independent research and complete the research milestone within the required time period. They will also have selected a project, conducted a literature review, begun conducting the research, and have written a paper outlining their progress.

Course Assignments and Grading

Grades will be assigned as follows:

- Selecting a subject area advisor and a peer reviewer (5% of grade)
- Short writing assignments (10% of grade)
- Peer review (10% of grade)
- Literature review (10% of grade)
- Preparing and presenting a research proposal (20% of grade)
- Research project, final written and oral report 35% of grade)
- Class participation (10% of grade)

Collaboration, online help and academic honesty

Research is often a collaborative endeavor, but in this class you are expected to conduct research independently and hand in only your own work, unless explicitly directed otherwise. Students are

encouraged to help each other with concepts from class, discuss the assigned readings ahead of time, and to review other students' work as assigned, but they are not allowed to copy any part of another students' code or writing. You are responsible for documenting and citing the sources for all code, ideas, figures and text that you do not produce yourself, for example, open source code that you use in one of your programs. If you end up collaborating with another student, the details of the collaboration must be documented carefully. Any student caught copying materials from any source and presenting it as his or her own will, at least, be failed and reported to the University for cheating. Any student who is unclear whether something is 'cheating' should ask the instructor.

Policy:

1. Internet issue at student's end is the student's responsibility. Instructor expects that students have fully functional Internet connection. If there is an internet issue at the instructor's end, students are expected to wait in the meeting room until instructor rejoins or until class time is over, whichever comes first.
2. Instructor assumes permission to record your voice and video during the lecture when discussions are on. Talk to the instructor if otherwise.
3. We will follow an [Online Course Etiquette Appreciative Agreement](#).

Course Topics

- Course overview
- What is research?
- Research proposals
- Literature reviews
- Academic writing
- Research Ethics
 - Assigning credit for scientific work
 - Literature reviews and citations
 - Authorship
 - Academic honesty and integrity
 - CS Ethics
- Case studies & great papers
- Evaluation of results
- Reproducibility of results
- Preserving research artifacts
 - Lab notebooks
 - Replicating results
 - Version control & archiving data/analysis/results
 - Collaboration
- Conference Attendance

Schedule

Weeks 1 - 2

Write 1/2 page: What research are you passionate about? Why?
Setup an Overleaf account & research notebook
Identify a general topic area
Find a subject area advisor and a peer reviewer

Weeks 3 - 4

Write 1 page: Summary of research topic
Identify a research topic
Conduct an initial literature review
Oral presentations and feedback

Weeks 5 - 6

Three-way meetings (student, subject-area advisor, instructor)
Refine the research topic
Write a 2-3 page project proposal
 Include literature review
Initiate research

Weeks 7 - 10

Define a 'fail early' experiment
Oral presentations and critiques

Weeks 11 - 14

Three-way meetings (student, subject-area advisor, instructor)
Intermediate progress reports due
Begin final paper

Weeks 15 - 18

Write 8-10 page paper. Prepare and deliver short oral presentation. To complete CS 600 the paper and presentation may cover preliminary research findings. To meet the research milestone, the paper should be a solid draft of a conference paper (submitted or nearly ready for submission), and the presentation should be a rehearsal of a conference presentation.