The Capstone Seminar
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The Vision
You need to know and demonstrate critical skills.

- Working in Teams.
- Independent Initiative.
- Clear Writing of a Complex Document.
- Effective Presentation.
- Ability to Give and Receive Constructive Criticism.
- Ability to Master a Subject.

The Realization

Two options

- The thesis:
  • A long paper,
  • Written by an individual,
  • Defended in front of a committee.

- The capstone:
  • A short paper,
  • Written by a team,
  • Defended publicly as a team,
  • Peer evaluations,
  • Must complete 18 credits before taking capstone
  • + additional classes.

The capstone is not a 1 credit course!

Teams and Mentors

- A team: 4 people who work together on the capstone.
  • You pass or fail together.
  • Teams are fixed from beginning to end.
  • Teams that drop below 3 members for any reason must take an IF.

- The mentor: provides guidance.
  • Can be any member of graduate faculty.
  • Each faculty member mentors 1 or 2 teams.
  • Mentor is responsible for the team’s grade.
  • Must have a mentor by end of second week.

The Capstone Seminar

The Capstone Conference

- Mini-Paper (evaluated but not graded)
- Final Paper (1/3 of grade)
- Presentation (1/3 of grade)
- Evaluations/Professionalism (1/3 of grade)
- Proceeding Paper (required but not evaluated or graded)

Topics

The subject matter and the treatment are up to you!

- Subject: Related to telecommunications.
- Treatment:
  • Review an important research paper and critique it.
  • Compare paper conclusions to other papers
  • Analyze conclusions: try applying them.
  • Suggestions to improve conclusions.
  • Develop an Idea.
  • Make your own conclusions and apply above criteria.
  • Comparative Analysis
  • Find a problem and proposed solutions in literature.
  • Develop a consistent comparison criteria.
  • Identify the trade-offs.
  • Design, Build and Test Something
Research Question

This is not a report.

• Frame your paper as answering a question.

• The question must be:
  • Significant: People care about the answer.
  • Contestable: The answer is not obvious.
  • Specific: We know when we have an answer.

• At least 20% of your paper should be devoted to:
  • Defining the question.
  • Showing its relation to prior work in the area.
  • How did others approach similar questions?
  • Scoping the audience and the precise domain.

Web search engines know little.
The research librarian can help find information.

Mini-Paper

Circulating your ideas before submission.

• A short (5 Page) paper.
  • Brief but fully developed treatment.
  • Submitted electronically in PDF format.

• Not graded but will evaluate
  • Research Question.
  • Treatment.
  • References, writing, etc.

• Provides mid-course correction and feedback

Final Paper

The conference submission

• Longer (15 pages) version of mini-paper.

• Evaluated on
  • Consistency (do the results make sense).
  • Completeness (are all the alternatives considered).
  • Writing (is the paper clearly written and organized).

• This is the main result of the seminar.

Presentations

Defend your results at the conference

• Public presentation of results in final paper.
  • 25 minutes (5–7 min/team member) + time for questions).
  • Audience of students, faculty, and industry guests.

• Evaluated on:
  • Consistency and Completeness.
  • Clarity of presentation.
  • Ability to answer questions.

Evaluations

The other side of the coin

• Papers & Presentations will be evaluated by 5 other teams.
  • You can learn something from others.
  • You can get ideas on writing, research, presentations.
  • You can give ideas.

• All reviews are double blind review.
  • Reviewers don’t know the authors.
  • The authors don’t know the reviewers.

Proceedings Paper

The Final Result

• After all feedback on the final paper and presentation you will submit your capstone proceedings paper.
  • Not evaluated.
  • Should include all feedback.
  • More condensed format.

• A proceedings of all the papers will be printed electronically.
  • A permanent record of your work
  • A reference for you, other students, prospective employers, …
Grades

- Mentor grades team based on their paper, presentation, and their evaluations/professionalism they give to others.
  - The evaluations a team gets is not part of its grade.
  - A team gets credit for giving substantial evaluations.
- Every participating team member gets the same grade.
- Grades are letter grades.
- Must have B– or better.
- The standard for A is very high: must be publishable.
- For the standard of grading see: http://itd.colorado.edu/brow5700/grading.txt

Information

- Class List (very important):
  mail listproc@lists.colorado.edu
  Subject: <leave blank>
  subscribe capstone-s03 <your full name>
- Web Page:
  http://itd.colorado.edu/brow5700/
- The Text—it defines the standard of research for this course:
  Booth, Colomb, Williams, The Craft of Research,
  Read to page 148 now and the rest when you have a team.
- CATECS:
  - Same deadlines as in-class students.
  - Presentations given in person.
  - Must self-organize.

Capstone Database

- Used to:
  - Register team and mentor
  - Schedule presentation time
  - Submit papers (all papers are submitted in PDF format)
  - Get papers to critique
  - Submit critiques
- Enter from web page.
- Remember your password!

Dead Lines

- Teams formed with mentor (last day drop) Jan. 29
- Mini-Paper submitted Feb. 18
- Mini Paper Evaluations Submitted Feb. 27
- Final Papers submitted Apr. 1
- Final Paper Evaluations Submitted Apr. 10
- Presentation Dates
  - Apr. 18 4–8pm.
  - Apr. 26 8am–12pm.
- Presentation Evaluations handed in at presentations
- Proceedings Paper submitted May 3

Keys to Success

- Say much about a narrow topic rather than little about a broad topic.
- Be concise.
- See your mentor.
- Listen to criticism.
- Don’t be charmed by the web.
- Don’t cut and paste from the web (we will find it!).
- Read the text from cover to cover.
- Start Now!

Summary

- The Capstone is an exciting Thesis alternative.
- It is based on months of input from faculty, students, and industry.
- It is a dynamic interaction between student, faculty, and peers.
- It is a bridge between being a student, and being a valuable member of an organization.
- Let’s cap those stones!