Graduate Seminar:: Syllabus

Course Objectives: The objective of this course is to train graduate teaching and research assistants in industrial and manufacturing engineering in research methods in their own research domains. The course uses a hands-on approach to writing a research paper, so the student is expected to be ready to write during the class.

Course Deliverables: To pass this course, every student registered for this course is expected to write and submit one conference paper or a journal paper to a research conference or a research journal to be jointly identified with a research mentor in the industrial engineering department.

Course Prerequisites: The graduate student taking this course should have:

1. Identified a research mentor in the department; the research mentor will also participate in evaluating the work of the student, so the student is encouraged to contact a research mentor in the department early;
2. Have a rough, broad idea of a research problem that interests them. Detailed knowledge of the research problem is not needed but is encouraged. This problem must align with the interests of the research mentor identified by the student;
3. Identified a research conference or a research journal to which they will send a paper at the end of the course (this identification must be jointly done with the research mentor);
4. Have access to a computer (laptop preferred) for word processing and accessing the library's research database through the Internet.

Tentative Schedule of Course Activities: The outline below lists a tentative schedule of activities for 13 weeks in the semester based on outcomes expected from the course:

- **Weeks 1 and 2:** Identifying research problem, generating preliminary draft of problem statement, identifying a research conference to publish.
- **Week 3:** Creating the outline for the paper; formatting requirements, refine preliminary problem statements.
- **Week 4:** Documenting background & technical need, literature review, refine problem statements, generate data collection and experimental plan.
- **Weeks 5, 6, 7:** Collect data, conduct experiments; we will have speakers during this time in the class.
- **Weeks 8, 9:** Data analyses, documentation of analyses, progress review.
- **Weeks 10, 11:** Writing up the analyses
- **Weeks 12, 13:** Conclusions and discussion sections in the paper; completing the paper.

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