

17679-A Thesis Writing for Industrial Software Research

Instructor

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Office Hours: By appointment

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Introduction. Expository writing is used to present facts in a manner that supports a thesis. Successful thesis writing frequently requires identifying the audience, identifying and assessing facts for their relevancy and credibility to the thesis, and ensuring that conclusions are scoped and directly follow from facts. This course will introduce students to the software engineering thesis writing process, with a specific focus on reflective practice. Students will work to identify a thesis topic based on their experience and interests, they will conduct a literature review to identify related work, will engage in reflective writing and learn to critique this writing. This course is for students enrolled in the Masters of Software Engineering program who are completing a supervised thesis option.

Learning Objectives. After completing this course, you will be able to:

- Identify and technical describe an industrial problem, who the audience is, and the issues related to this problem;
- Contextualize what other have done to solve the problem, evaluate those solutions, and reflect on why the solutions work or do not work;
- Propose methods, solutions, or a pathway forward that is supported by evidence, which consists of evidence the problem and existing solutions.

Assessments. Students learn more by applying and explaining ideas to others. Thus, the course requires the following activities:

- **Homework assignments**, including individual and group work to help you focus on important points in the readings and to exercise particular skills;
- **Class participation**, to enrich the discussion with your insight, relevant experience, critical questions, and analysis of the material. The quality of the contribution is more important than the quantity.
- **Thesis submission**, to demonstrate your cumulative knowledge on practical examples.

Assessment	% Final Grade	Grade	% Interval
Class Participation and Homeworks	20%	A	90-100%
Thesis Document	70%	B	80-89%
Thesis Presentation	10%	C	70-79%
		D	60-69%
		R (F)	59% or below

Course and Grading Policies

- **Late-work policy:** All work is expected to be handed in at the indicated due date and time. Because in-class activities will use peer grading to build on individual student work, it is imperative that students submit their assignments by the deadline. In the first week of classes, you should receive your course schedules; please use those to plan ahead.
- **Participation policy.** Class participation will be graded by in-class engagement, including asking relevant questions and engaging in peer review of other student work. The lack of attendance, and the use of mobile devices, including phones and laptops, for non-classroom purposes will count against your participation grade.

Learning Disabilities. If you have a documented learning disability, please notify the instructor during the first week of class.

Academic Integrity. Honesty and transparency are important to good scholarship. Plagiarism and cheating, however, are serious academic offenses with serious consequences. If you are discovered engaging in either behavior in this course, you will earn a failing grade on the assignment in question, and further disciplinary action may be taken. For a clear description of what counts as plagiarism, cheating, and/or the use of unauthorized sources, please see the [University's Policy on Academic Integrity](#).

If you have any questions regarding plagiarism or cheating, please ask the instructor as soon as possible to avoid any misunderstandings.

Note on Use of Generative AI: This is a writing course that is intended for you to develop and explain your own ideas. Therefore, using Generative AI to create text from scratch is prohibited. On the other hand, using Generative AI to help reword your existing text, fix errors, and so on are allowed, as long as you provide an appendix stating the sections where this was applied, and the original text submitted.

Student Wellness. As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. CMU services are available, and treatment does work. You can learn more about confidential mental health services available on campus at: <http://www.cmu.edu/counseling/>. Support is always available (24/7) from Counseling and Psychological Services: 412-268-2922

Course Schedule

Class	Date	Topics
1	8/29	Course Introduction and Scoping the Thesis
2	9/5	Literature surveys, databases, citation style, and source quality
3	9/12	Discussion of literature survey and scoping
4	9/19	How to write Introduction and Background

5	9/26	Writing the Technical Details
6	10/3	Peer Review of Draft Paragraphs
7	10/10	How to read industry research papers
	10/17	NO CLASS - FALL BREAK
8	10/24	In-class Q&A on Technical Details Progress
9	10/31	Peer Review of Technical Details section
10	11/7	What is a good analysis?
11	11/14	Peer Review Analysis Section
12	11/21	In class Office Hours
	11/28	NO CLASS - THANKSGIVING
13	12/5	Final Presentations