CSCI 714: Software Project Planning and Estimation
Fall 2025, 3 Credits
Department of Computer Science
North Dakota State University

Instructor   Class
Name: Ajay Jha (Assistant Professor)   Time: 11:00 AM-12:15 PM, TuTh
Web: https://hifromajay.github.io/   Room: 324 NDSU E M Lebedeff Hall
Email: ajay.jha.1@ndsu.edu
Office: QBB 258 B8   Office Hours: 4:00-5:00 Th. Also available by appointment.

Catalog Description
This course is designed to introduce the student to concepts and techniques of managing software projects, including scope, time, cost, quality, resource, and risk management.

Course Objectives
This course covers the essential concepts for successfully managing software projects. It covers all phases of the project management cycle, including project initiation, planning, execution, and monitoring and controlling. In addition to the key project management processes, tools, and techniques, the course emphasizes the human aspects of project management, such as leadership and team building. It also examines the tradeoffs among the four critical factors influencing project success: scope, time, cost, and quality.

Course Goals
At the completion of this course, students will gain the following competencies:
- Understand the fundamental concepts necessary to manage a software project.
- Understand and have insight into managing critical trade-offs in project size, effort, schedule, productivity, and quality encountered in real-world projects.
- Understand the important responsibility of the project manager to develop a clear vision of project successes and communicate it to the team members.

Course Schedule/Outline

Week	Topic	Projects/Assignments
1-3	Introduction to Project Management	Assignment 1
4-5	Project Identification, Selection, and Planning	Assignment 2
5-6	Project Scope Management	Assignment 3
6-7	Project Time Management	
8	Project Cost Management	
9	Midterm Project Presentation	Midterm Project
10-11	Project Quality Management	Assignment 4
12-13	Project Risk Management	Assignment 5
14	Project Human Resource Management	
15	Final Project Presentation	Final Project

Approach
- Lectures will be delivered using Google Slides, which will be available to students. The slides are detailed and will serve as course notes. Additional digital materials will be available to students. Students are expected to study these materials to understand the subject and work on the course tasks. Students are encouraged to reach out to the instructor with any questions or comments on the subject matter.

- The course tasks with their due dates will be posted on Blackboard. Students are encouraged to complete the tasks by the due dates, but no penalty will be imposed if they are turned in late. However, no coursework will be accepted after the semester's due date. The instructor will have the discretion to impose firm due dates with late penalties if deemed necessary.
- This course is designed to cover both theoretical and practical aspects of project planning and estimation. Therefore, students are expected to learn the concepts, tools, and techniques taught in the class and apply them to complete the assignments and projects.
- The focus of the course is more on the methods and techniques of project management than on the specific tools that support them.

Textbooks and Readings
- Recommended textbooks are (1) *Information Technology Project Management*, Kathy Schwalbe, 6th Edition, and (2) *Software Project Management, Bob Hughes and Mike Cotterell, 5th Edition, McGraw Hill.*
- Additional readings from the literature will be part of assignments and classroom discussions. The required resources will be available electronically through various ACM and IEEE digital libraries.

Course Tasks
- *Assignments:* This course has five assignments, which will be posted on Blackboard, and students will submit their completed work on Blackboard by the assigned due dates.
- *Projects:* This course has two projects (midterm and final). The project submission links will be available on Blackboard. Students attending classes in person will present the completed projects in class.

Evaluation and Grading
- *Evaluation criteria:* Assignments and projects will be evaluated based on the correctness and originality of the answer and fulfillment of the criteria mentioned in the assignments or projects.
- *Grading system:* The final grade will be calculated using a weighted grading system. In-person: attendance - 20%, assignments - 40%, and projects - 40%. Online: assignments - 50% and projects – 50%.
- *Grading scale:* A (90.0-100%), B (80-89.9%), C (70-79.9%), D (60-69.9%), and F (0-59.9%)

Professional Conduct
Academic dishonesty has very bad consequences. Copying ideas, sentences, tables, or figures without citation is plagiarism, a form of academic dishonesty. This is a very serious offense because you make it appear to be your work, but in fact, it is not. You must include citations and references when you copy. Receiving unacknowledged help is considered academic dishonesty. When you receive help, other than from faculty, or course materials, you must include citations and references in your work. For example, if you find a useful web page that was not specified in the assignment, then you must include a citation and reference for it. Similarly, if a discussion with someone is helpful, you should thank them by name in the Acknowledgments section, even if collaboration is not allowed on the assignment. (Their discussion may not be considered "collaboration".). Citations and references are optional for informal discussions. Giving unacknowledged help is also treated as academic dishonesty.

Attendance:
According to NDSU Policy 333 (www.ndsu.edu/fileadmin/policy/333.pdf), attendance in classes is expected. When offered as a web-based course, the attendance requirement is that it is mandatory for enrolled students to fully access all posted online and textbook materials, study those materials and complete all required assignments, discussions, quizzes, final exams, and projects. In the case of a university-sponsored activity, required business trip, or medical procedure, a signed letter from your manager or doctor is required to allow for an extension of the due date. Please email me as far in advance of the expected absence to arrange any make-ups or extensions.

Military Personnel and Veterans

Veterans and student service members with special circumstances or who are activated are encouraged to notify the instructor as soon as possible and are encouraged to provide Activation Orders.

Americans with Disabilities Act for Students with Special Needs Statement
Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor and contact the Disability Services Office (www.ndsu.edu/disabilityservices) as soon as possible.

Academic Honesty Statement
The academic community is operated based on honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconducts have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.