CIT - 256 - Collaborative Software Development

2025-2026 Course Proposal Form

Course Information

Please select which best fits this course proposal:*

- [x] Course New/Reactivation Proposal
- [ ] Course Revision Proposal
- [ ] Course Retirement Proposal
- [ ] Course Outcomes Revision Proposal

Department* Computer Information Technology

IF proposing a new course type or prefix, please select "NEW Course Type or NEW Prefix" from the dropdown and input the requested data in the new text field that follows.

Course Type:* Computer Information Technology

NEW Course Type: N/A

NEW Prefix: N/A

Prefix:* CIT

Course Number:* 256

Course Title:* Collaborative Software Development

Credit(s):* 3

Course Description:* This course prepares students to develop software projects in a collaborative environment. While the course focuses primarily on the use of version control systems, it also covers the challenges of collaboration and how to mitigate them, the use of good communication skills and channels, and how to use a Kanban board to manage and assign project tasks.

Lecture Hours:* 3

Laboratory Hours:* 0

Clinical Hours:* 0

Internship Hours:* 0

Prerequisite(s): CIT 272 or CIT 176

Corequisite(s): N/A

Pre / Corequisite(s): N/A

Required Materials* Check the College Bookstore for Required Materials.

Course Learning Outcomes:*

1. Mitigate common challenges with project collaboration, and communication
2. Manage the tasks of a software project, including assigning tasks and tracking progress
3. Manage a software project codebase using a Version Control System
4. Perform issue and bug tracking of a software project

Student Learning Outcomes:*

1. List the challenges of collaboration
2. Describe how to mitigate the most common collaboration challenges
3. List the most common communication channels
4. Identify best practices for various communication channels
5. Identify technical communication audiences
6. Describe the importance of audience in technical communication
7. Develop communications plan for a software project
8. Choose appropriate tools for collaborative design
9. Develop a project design document collaboratively
10. Describe a Work Breakdown Structure
11. Create a Work Breakdown Structure for a software project
12. Describe a Kanban board
13. Add tasks to a Kanban board for a software project
14. Allocate tasks to developers using the Kanban board
15. List the benefits of using version control to manage software projects (CLO 1)
16. List and describe the fundamental functions of version control systems (CLO 1)
17. Configure editors to use a version control system (CLO
18. Clone a project repository
19. Create and initialize a project repository
20. Add and remove files to and from a project
21. Commit changes to a version control managed project
22. Push changes to a remote system
23. Show the current status of changes in a version control managed project
24. Show the previous commits of a project
25. List and describe methods of reverting changes using version control
26. Describe project branches
27. Create and list project branches
28. Describe branch merging

29. Describe possible merge conflicts and methods of resolution

30. Merge project branches and resolve conflicts

31. Describe version control workflows, including examples

32. Choose a workflow for a collaborative software project

33. Describe how to properly report an issue or bug in a software project

34. Use an issue tracking system to manage bugs and issues in a software project

35. Create a project portfolio with an online version control system

General Education Outcomes:

Please select up to 2 from the list of the general education outcomes taught in this course.

Select up to 2 of the following:*

- [x] Communicate effectively in oral and written formats
- [x] Employ or utilize information access and literacy skills
- [x] Demonstrate problem-solving and critical thinking skills
- [x] Employ mathematical and science literacy skills
- [x] Acquire a cultural, artistic and global perspective
- [x] Demonstrate professional and human relations skills

Types of Formative Assessment:

Please select at least 3 formative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Formative assessment tools are learning activities or assessments that monitor and provide ongoing feedback on student learning. Formative assessments allow students to identify their strengths and weaknesses and for instructors to address student questions and misunderstandings

Select at least 3 of the following:*

- [x] Practice Quizzes
- [ ] Paper Drafts
- [x] Class Discussions/Q&A
- [ ] Low-stakes Group Work
- [x] Homework Assignment
- [ ] Surveys/Polls
- [ ] Laboratory/Instrument Practice
- [ ] Written Reflections
- [x] Self-appraisal using study guides, quiz software, interactive textbook
- [ ] Other

Types of Summative Assessment:

Please select at least 2 summative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Summative assessment tools are learning activities or assessments that evaluate student learning at the end of an instructional period, like a module, unit, or course. Summative assessments are formally graded and allow instructors to determine whether and to what extent students have met the course learning outcomes.

Select at least 2 of the following:*

- [x] Instructor-Created Exams/High-Stakes Quizzes
- [ ] Standardized Tests
- [ ] Laboratory Reports
- [ ] Final Projects
- [x] Final Essays/Research Papers
- [ ] Final Presentations
- [ ] Final Reports
- [ ] Internships/ Clinical Site Evaluations
- [ ] Other

Minimum Acceptable Standards*

For quizzes, homework, and assessment activities listed, the instructor's analysis of satisfactory demonstration of knowledge will be used; on summative methods such as exams, papers, or projects, achieving a letter grade of "C", or 70% or above will demonstrate satisfactory understanding and basic mastery of outcomes.

Please answer the following questions related to your curriculum proposal:

Why are you recommending these changes? (courses outdated, recommendation of advisory committee, results of assessment activities and data, better attainment of program/course outcomes)

Justification:*

· Requested by CIT Advisory Committee

· This will replace outdated courses and offer students with current software's and hands on exercises preparing them for the workforce

· Betterment of program by being able to use the current technologies and trends

Last Semester Needed: N/A

Impact Report Statement

List all program(s) or course(s) affected by these changes. If no program(s) or course(s) are affected, please state "NA" below. Run an Impact Report by clicking in the top left corner and answer below according to the results.

Impact Report: N/A

What impact will these changes have on other courses or programs? (List impacted programs and comments or input you have gathered from other faculty, program directors, or Division Chairs)

Other Courses or Programs: This will be only offered to Software Engineering students

What impact will these changes have on institutional resources? (Budget, faculty, equipment, labs, instructional design, etc.) Have you already discussed this impact with appropriate personnel (financial aid, administration

design, etc.) Have you already discussed this impact with appropriate personnel (financial aid, administration, division chair, other faculty)?

Institutional Resources: This will be an OER course with an option for the student to buy certification exam voucher.

What impact will these changes have on current students? How will you ensure that current students are not penalized by these changes?

Current Students: Waivers can be done on a case by case basis.

What impact will these changes have on transferability, national/regional association standards, etc.?

Transferability, National / Regional Association Standards, Etc.: N/A

What impact will these changes have on the institution's mission and student's achievement of general education outcomes/requirements?

Mission; General Education Outcomes / Requirements: N/A

Administrative Use Only

Please do <u>not</u> alter the information within this section.

Course OID:

Information or Voting Item:
- ☐ Information Item (If the proposal does not impact other courses, select this option)
- ☐ Voting Item

Implementation Semester and Year* Fall 2025