

Faculty Name: Dr.Hussana Johar R B				Academic Year: 2026 - 2027			
Department: Computer Science and Engineering (AI and ML)							
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours			Total Hrs/ Sessions 40(40T)
				L	T	P	
1BCS307A	Project Management (with Git)	AEC		-	-	2	
Topics Covered as per Syllabus							RBT
1. Setting Up and Basic Commands Initialize a new Git repository in a directory. Create a new file and add it to the staging area and commit the changes with an appropriate commit message.							L1,L2,L3
2. Creating and Managing Branches Create a new branch named "feature-branch." Switch to the "master" branch. Merge the "feature-branch" into "master."							L1,L2,L3
3. Creating and Managing Branches Write the commands to stash your changes, switch branches, and then apply the stashed changes.							L1,L2,L3
4. Collaboration and Remote Repositories Clone a remote Git repository to your local machine.							L1,L2,L3
5. Collaboration and Remote Repositories Fetch the latest changes from a remote repository and rebase your local branch onto the updated remote branch.							L1,L2,L3
6. Collaboration and Remote Repositories Write the command to merge "feature-branch" into "master" while providing a custom commit message for the merge.							L1,L2,L3
7. Git Tags and Releases Write the command to create a lightweight Git tag named "v1.0" for a commit in your local repository.							L1,L2,L3
8. Advanced Git Operations Write the command to cherry-pick a range of commits from "source-branch" to the current branch.							L1,L2,L3
9. Analysing and Changing Git History Given a commit ID, how would you use Git to view the details of that specific commit, including the author, date, and commit message?							L1,L2,L3
10. Analysing and Changing Git History Write the command to list all commits made by the author "JohnDoe" between "2023-01-01" and "2023-12-31."							L1,L2,L3
11. Analysing and Changing Git History Write the command to display the last five commits in the repository's history.							L1,L2,L3
12. Analysing and Changing Git History Write the command to undo the changes introduced by the commit with the ID "abc123".							L1,L2,L3

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Suggested Learning Resources:

Textbooks:

1. Version Control with Git, 3rd Edition, by Prem Kumar Ponuthurai, Jon Loeliger Released October 2022, Publisher(s): O'Reilly Media, Inc.
2. Pro Git book, written by Scott Chacon and Ben Straub and published by Apress, <https://git-scm.com/book/en/v2>

Reference books / Manuals:

1. Git Pocket Guide, by Richard E. Silverman, <https://www.oreilly.com/library/view/git-pocketguide/9781449327507/>

Course Outcomes (CO's)

At the end of the course the student will be able to:

- CO1 Demonstrate the use of basic Git repository commands for version control operations.
- CO2. Implement branch management strategies for collaborative software development
- CO3. Apply collaboration techniques using remote repositories and distributed version control systems.
- CO4. Configure Git tags, releases, and advanced Git operations for effective project management.
- CO5. Modify Git history to maintain repository integrity and support project requirements

Assessment Structure:

The assessment for each course is equally divided between Continuous Internal Evaluation (CIE) and the Semester End Examination (SEE), with each component carrying 50% weightage (i.e., 50 marks each). The CIE marks awarded shall be based on the continuous evaluation of the laboratory report using a defined set of rubrics. Each experiment report can be evaluated for 30 marks. Total marks for the all report shall be scaled down to 30 marks. The laboratory test (duration 03 hours) at the end of the last week of the semester /after completion of all the experiments (whichever is early) shall be conducted for 50 marks and Marks scored shall be scaled down to 20 marks. Final average of marks for report and test shall be out of 50 marks.

Rubrics for CIE – Continuous assessment: To qualify and become eligible to appear for SEE, in the CIE component, a student must secure a minimum of 40% of 50 marks, i.e., 20 marks.

- To pass the SEE component, a student must secure a minimum of 35% of 50 marks, i.e., 18 marks.
- A student is deemed to have successfully completed the course if the combined total of CIE and SEE is at least 40 out of 100

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Components CO-PO Mapping	Superior (5)	Good (4)	Fair (3)	Needs Improvement (2)	Unacceptable (1)
Git Fundamentals and Repository Operations [CO1] [PO1, PO5]	Demonstrates comprehensive understanding of Git concepts, repositories, commits, and version control.	Demonstrates good understanding of Git concepts with minor gaps.	Demonstrates basic understanding of Git concepts.	Limited understanding of Git concepts.	Unable to explain fundamental Git concepts.
Branching and Workflow Management [CO2] [PO2, PO3]	Independently creates, manages, and merges branches correctly.	Performs branch operations with minor guidance.	Performs basic branch operations with some errors.	Requires significant assistance for branch management.	Unable to perform branch operations.
Collaboration and Remote Repository Management [CO3] [PO2, PO5, PO9]	Efficiently performs clone, fetch, pull, push, and remote operations.	Performs remote repository operations correctly.	Performs basic collaboration tasks with assistance.	Difficulty in executing remote repository commands.	Unable to use remote repositories.
Tags, Releases and Advanced Git Operations [CO4] [PO4, PO11]	Correctly applies tags, stash, cherry-pick, and advanced Git operations.	Performs advanced operations with minor mistakes.	Performs some advanced operations with guidance.	Limited ability to perform advanced operations.	Unable to perform advanced Git operations.
Git History Analysis and Repository Maintenance [CO5] [PO2, PO4, PO5, PO11]	Accurately analyzes commit history and applies history modification commands.	Performs history analysis with minor errors.	Performs basic history viewing commands.	Requires assistance to analyze history.	Unable to analyze Git history.
Demonstration and documentation [CO1-CO5] [PO10, PO11]	Demonstrates all experiments confidently and maintains a complete, well-organized, and accurate lab record.	Demonstrates most experiments correctly and well-organized lab record with minor omissions.	Demonstrates basic experiments and maintains an adequate lab record with some missing details.	Demonstrates limited understanding of experiments and maintains an incomplete or poorly organized lab record.	Unable to demonstrate experiments effectively and fails to maintain a proper lab record.

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Rubrics for SEE / CIE Test:

Components CO-PO Mapping	Superior (5)	Good (4)	Fair (3)	Needs Improvement (2)	Unacceptable (1)
Git Fundamentals and Repository Operations (2) [CO1] [PO1, PO5]	Demonstrates excellent understanding of Git concepts and workflows.	Demonstrates good understanding of Git concepts with minor gaps.	Demonstrates basic understanding of Git concepts.	Demonstrates limited understanding of Git concepts.	Unable to explain basic Git concepts.
Understanding of Problem Definition (1) [CO1] [PO2]	Clearly understands and accurately interprets the given Git task and requirements.	Understands the task with minor clarification.	Demonstrates basic understanding of the task.	Shows limited understanding of the task requirements.	Unable to understand the given task or requirements.
Design and Implementation (3) [CO2, CO3, CO4] [PO3, PO5]	Designs and implements Git workflows and operations accurately and efficiently.	Implements Git workflows with minor errors.	Demonstrates basic implementation of Git operations.	Requires significant assistance for implementation.	Unable to implement the required Git operations.
Result & Analysis (2) [CO5] [PO4, PO5]	Accurately analyses results and draws appropriate conclusions.	Analyse results with minor errors.	Demonstrates basic result interpretation.	Shows limited ability to analyse results.	Unable to interpret or analyse results.
Communication (Viva voce) (2) [CO3] [PO6, PO9]	Communicates ideas, concepts, and solutions clearly and confidently during viva.	Communicates concepts effectively with minor errors.	Demonstrates basic communication and understanding.	Communicates with difficulty and requires frequent prompting.	Unable to communicate concepts or answer viva questions.

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

Subject Code:	1BCSL307A	TITLE: Project Management (with Git)									
List of Course Outcomes	Program Outcomes										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO-1	3	-	-	-	3	-	-	-	-	-	2
CO-2	3	-	-	-	3	-	-	-	-	-	2
CO-3	3	-	-	-	3	-	-	-	-	-	2
CO-4	3	-	-	-	3	-	-	-	-	-	2
CO-5	3	-	-	-	3	-	-	-	-	-	2

Note: 3 = Strong Contribution 2 = Average Contribution 1 = Weak Contribution - = No Contribution

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The Correlation of Course Outcomes (CO's) and Program Specific Outcomes (PSO's)

Subject Code:	1BCS307A	TITLE: Project Management (with Git)
List of Course Outcomes	Program Specific Outcomes	
	PSO1	PSO2
CO-1	-	3
CO-2	-	3
CO-3	-	3
CO-4	-	3
CO-5	-	3