

Final Scripting Project

CISC 50 – Introduction to Linux (Spring 2025, 2nd 8-Week Session)

Approximately **15% of your final grade** will be based on your **Final Scripting Project**. This hands-on project is designed to apply the Linux scripting concepts and skills you have learned throughout the course. It will allow you to demonstrate your understanding through practical application or independent research related to Unix/Linux systems.

You may work individually or in a **small team of 2–3 students**. If you choose to work alone, be aware that the workload is significant. Historically, students who collaborated in small groups have performed better.

General Requirements

Projects may vary in complexity, scope, and topic, but **must** be directly related to subjects covered in class or involve substantial Unix/Linux research. In addition to developing a solution, you will also submit a **Final Project Report** (4–5 pages, 12 pt font, 1-inch margins, double-spaced).

At a minimum, your project should:

- Prompt for user input
- Process and save the input
- Display processed results on the screen

Your project should demonstrate the use of:

Component	Points
Use of at least 10 distinct Unix/Linux commands	5 points
Handling files, directories, and permissions	5 points
Regular expressions and functions	5 points
General Bash scripting/programming techniques	10 points
PERL/Web scripting concepts	5 points
Python scripting/programming techniques	5 points
Bash integration with PERL or Python	5 points
AWK integration	5 points
SQL integration	5 points

Note:

It is often easier to integrate multiple scripting languages by calling one script from another (e.g., running `perl filename.pl` or `python filename.py` within a Bash script). Likewise, Bash modules can be called from Python using commands like `subprocess.call("./bashproject")`.

Project Deliverables and Deadlines

Deliverable	Due Date	Points
First Deliverable: Project Proposal	Monday, May 5, 2025	10 points
Second Deliverable: Requirements and Design	Monday, May 12, 2025	15 points
Final Deliverable: Project Solution, Final Report, and Zoom Presentation	Tuesday, May 19, 2025	75 points

First Deliverable– Project Proposal (10 points)

Submit a **2–3 page** project proposal describing:

- **Company name**
- **Product you plan to produce**
- **Target audience**
- **High-level delivery plan**

Think like a System Administrator or Programmer. Focus on what you aim to build, providing a high-level overview without diving into technical implementation. Also, declare your team members and designate who will be responsible for submitting deliverables at each phase.

Second Deliverable– Requirements and Design (15 points)

Submit a detailed blueprint of your coding plan, including:

- System requirements
- Functional specifications
- Outline of design before starting to code

Final Deliverable – Project Solution and Final Report

- **Project Solution (50 points)**

Submit all source code in a single zipped file. Each script/module should indicate the name(s) of the developer(s) who contributed.

- **Final Report (10 points)**

Submit a 4–5 page report (12 pt font, 1-inch margins, double-spaced) discussing:

- The problem tackled
- Your approach and methodology

- Challenges encountered
- Lessons learned

Attachments (such as screenshots) do not count toward the page minimum.

- **Project Presentation via Zoom (15 points)**

Present your project live during the week of May 19, 2025.

Each team member must actively participate. Credit will not be given for simply attending; each member must demonstrate or explain part of the project.

Students often use platforms like replit.com for coding and collaboration.

Sample Project Idea: Grade Calculator

Functionality:

- Prompt user for login credentials
- Validate username/password
- Collect test, quiz, lab, and final exam scores
- Calculate total points and determine final letter grade
- Save the result to a file, then verify file creation

Evaluation Breakdown

Component	Points
Project Proposal	10 points
Requirements and Design Document	15 points
Project Solution (complete, working code)	50 points
Final Project Report	10 points
Final Presentation (optional)	15 points

Important Notes

- Each team must select a **Project Coordinator** responsible for submitting all deliverables. Only one submission per team will be graded.
- **Late submissions will receive zero credit**, even a minute late (e.g., 12:01 AM).
- Always **CC all team members** on final submissions to ensure everyone is informed and any last-minute issues can be caught.

I am excited to see your creativity and teamwork on display.

Have fun and build something you'll be proud to showcase!