COURSE INFORMATION:

Course Description: Study of data structures and the analysis of algorithms, object-oriented programming, concurrency, memory management.

Prerequisite: A grade of “C” or better in CSE 121 or Instructional Unit.

Credits: 5

Class Hours/Locations: Tuesday, Thursday, Friday 11 – 12:25

INSTRUCTOR INFORMATION:

• Instructor: Linda D’Amario
• E-mail address: ldamario@clark.edu
• Mailstop: Linda D’Amario APH203

TEXT & MATERIALS NEEDED:


Required Supplies/Materials:

• USB flash drive
• Eclipse: http://www.eclipse.org/downloads

COURSE OUTCOMES:

Assessment of Course Outcomes:

SUPPORTED PROGRAM OUTCOMES

Using Linux/Unix commands (ls, pwd, more, less, who, ..) to get information users, files and processes. Computer Assignments, In-Class Assignments, Test AST2-B

Design, code and debug Linux/Unix shell scripts, sed, awk, ... Computer Assignments, In-Class Assignments, Test AST2-A & C
<table>
<thead>
<tr>
<th>Topic</th>
<th>Assignments</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Utilize source code control (cvs, rcs, ...) and Linux/Unix make utility to manage revisions and configuration of a program consisting of multiple source files and directories.</td>
<td>Computer Assignments, In-Class Assignments, Test</td>
<td>AST2-B &amp; C</td>
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<tr>
<td>Use a source code debugger (i.e. gdb) to trace execution, review variables during execution and set breakpoints in debugging a program.</td>
<td>Computer Assignments, In-Class Assignments, Test</td>
<td>AST2-B &amp; C</td>
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<td>Design, code and debug a graphical user interface with focus on ease-of-use.</td>
<td>Computer Assignments, In-Class Assignments, Test</td>
<td>AST2-A</td>
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<tr>
<td>Use profiler (gprof) and understand its application.</td>
<td>Computer Assignments, In-Class Assignments, Test</td>
<td>AST2-B &amp; C</td>
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<td>Demonstrate the ability to work effectively in a team.</td>
<td>Group Assignment, In-Class Assignments Final Engineering Computer Science Project</td>
<td>AST2-C</td>
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**GRADING SYSTEM:**

**EVALUATION:**

- Programming Assignments and Class Participation (36%)
- Computer Science and Engineering Project (4%)
- Quizzes (20%)
- Midterm tests (20%)
- Comprehensive final exam (20%)
Final class letter grade will be awarded based on the total percent of possible points earned by each student as outlined below:

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<tr>
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<th>A</th>
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<th>B+</th>
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<th>B-</th>
<th>C+</th>
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<td>&gt;94%</td>
<td>94-90%</td>
<td>89-87%</td>
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**COURSE POLICIES:**

- **Academic Honesty and Plagiarism:** You are expected to do your own work. Copying or rewriting someone else’s online or offline work, having someone else do your work, or cheating in any fashion will result in zero point for that test or assignment in addition to penalties prescribed by college policies. A second offense will result in an automatic 'F' for the class.

- **Late Paper/Assignment Policy:** Points are only awarded for tests, quizzes, assignments and projects that are completed and delivered on the assigned due dates and times. In all other instances, zero points will be awarded unless the student has made prior arrangements with the instructor.

- **Missed Exam/Assignment Policy:** Points are only awarded for tests, quizzes, assignments and projects that are completed and delivered on the assigned due dates and times. In all other instances, zero points will be awarded unless the student has made prior arrangements with the instructor.

- **Computer or Equipment Misuse:** Students are expected to obey the Equipment and Computer Usage Guidelines. Students who misuse the equipment or computers will be expelled from the class and/or lab.

**SUPPORT SERVICES:**

- **ADA Accommodations:** If you have emergency medical information, which should be shared; or if you require assistance in case the building should be evacuated; please make an appointment to see me as soon as possible during the office hours indicated in this syllabus. Any student with a disability who may require accommodation in order to fully participate in this class should contact the Disability Support Services Office at (360) 992-2314 or (360) 991-0901 (VP) or stop by GHL 137.

**COLLEGE-WIDE POLICIES:**

- **Non-discrimination Policy:** Clark College affirms a commitment to freedom from discrimination for all members of the college community. The college expressly prohibits discrimination against any person on the basis of: Race, color, national origin, disabled veteran status, sex, sexual orientation, age, gender identity, creed, gender expression, Vietnam-era veteran status, religion, marital status, and presence of physical, sensory or mental disability. The responsibility for, and the protection of, this commitment extend to students, faculty, administration, staff, contractors, and those who develop or participate in college programs. It encompasses every aspect of employment and every student and community activity.

**ADDITIONAL INFORMATION:**

- **Important College-Wide Student Information:** All assignments and grades are posted on Moodle:

  [https://moodle.clark.edu/](https://moodle.clark.edu/)
## TENTATIVE COURSE OUTLINE

<table>
<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>Topic</th>
<th>Read</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>September 23rd</td>
<td>**Introduction and Linux/UNIX</td>
<td>Chapter 1</td>
<td>Assignment 1 Due on Thursday</td>
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<td></td>
<td>- September 29th</td>
<td>Operating Systems**</td>
<td>Chapter 2</td>
<td>Weekly Fix the Problem Assignment</td>
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<td>September 30th</td>
<td><strong>Utilities and File System</strong></td>
<td>Chapter 3</td>
<td>Assignment 2 Due on Thursday</td>
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<td>- October 6th</td>
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<td>Chapter 4</td>
<td>Weekly Fix the Problem Assignment</td>
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<td><strong>Regular Expressions</strong></td>
<td>Appendix A</td>
<td>Assignment 3 Due on Thursday Quiz on Thursday</td>
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<td>October 7th</td>
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<td>Weekly Fix the Problem Assignment</td>
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<td>- October 13th</td>
<td><strong>grep</strong></td>
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<td>Friday Faculty</td>
<td><strong>Work Day</strong></td>
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<td>October 11th</td>
<td><strong>October 11th</strong></td>
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<td>Week</td>
<td>Date Range</td>
<td>Topic</td>
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<td>Resources</td>
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| 4    | October 14th - October 20th | Introduce Shells and Editors |  - What is a Shell?  
  - The Command Line  
  - Standard Input/output (output) | Chapter 5  
  Assignment 4  
  Due on Thursday  
  Weekly Fix the Problem Assignment |
|      |                | References:  
  http://linuxreviews.org/beginner/bash_GNU_  
  Bourne-Again_SShell_Reference/References  
  Walk thru Guidelines from Cornell University |                                                    |                                    |
| 5    | October 21st - October 27th | The Shells - bash |  - Standard input/output  
  - Running a command in the background  
  - Filename Generations/Pathname Expansion  
  - Built-ins  
  - Startup Files  
  - Writing a Simple Shell | Chapter 8  
  Chapter 10  
  Assignment 5  
  Due on Thursday  
  Weekly Fix the Problem Assignment  
  Computer Science and Engineering Project  
  - Data Sheet  
  - Project Plan  
  - Presentation  
  Midterm Exam  
  On Friday |
|      |                | References:  
  http://tldp.org/LDP/abs/html/  
  http://tldp.org/HOWTO/Bash-Prog-Intro-  
  HOWTO.html  
  http://www.gnu.org/software/bash/ |                                                    |                                    |
| 6    | October 28th - November 3rd | Event-driven Programming  
  awk (A Pattern Processing Language) |  - Regular Expressions  
  - awk / nawk / mawk | Chapter 12  
  Appendix A  
  Assignment 6  
  Due on Thursday  
  Weekly Fix the Problem Assignment |
<p>| | | | | |
|      |                |                                                          |                                                    |                                    |</p>
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<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Activity</th>
<th>Chapter(s)</th>
<th>Assignment/Quiz Details</th>
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<tr>
<td>7</td>
<td>November 4(^{th}) - November 10(^{th})</td>
<td>sed (A Pattern Processing Language)</td>
<td>Chapter 6, Chapter 13</td>
<td>Assignment 7 Due on Thursday Weekly fix the Problem Assignment Quiz on Friday</td>
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<td>November 11(^{th}) Veteran's Day</td>
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<td>8</td>
<td>November 12(^{th}) - November 17(^{th})</td>
<td>PERL the scripting language</td>
<td>Chapter 11</td>
<td>Assignment 8 Due on Thursday Quiz on Friday Weekly fix the Problem Assignment</td>
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<td>November 11(^{th}) Veteran's Day</td>
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<td>9</td>
<td>November 18(^{th}) - November 24(^{th})</td>
<td>Programming Tools: using a debugger and other debugging practice Editors, Eclipse and Version Control</td>
<td>Chapter 9, Chapter 7</td>
<td>Assignment 9 Due on Thursday Common Programming Errors and Recommendations for Scripts Quiz on Friday</td>
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<td>10</td>
<td>November 25(^{th}) - December 1(^{st}) Thanksgiving Faculty Work Day</td>
<td>- Compilation, linking and make</td>
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<td>- Revision, configuration and source code control</td>
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<td>- Make utility to manage the revisions and configuration of a program consisting of multiple source files and directories.</td>
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<td>- Debugging</td>
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<td>- Revision, configuration and source code management (CVS, RCS)</td>
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| December 2nd - December 8th | Introduction to GUI Programming  
Software Profiling and Metrics  
• Use profiler (gprof) and understand its application  
• Debugging Continues  
• tcsh shell  
• emacs  
• Review Common Programming Errors and Recommendations for Scripts | Chapter 7  
Group Assignment Review |
| December 9th - December 12th | Comprehensive Final Exam  
- for schedule visit: www.clark.edu/academics/schedule | NOTE: The above schedule is subject to change at the discretion of the instructor.  
Students will be informed of any changes.  
STUDENT CONDUCT GUIDELINES:  
• Be an active participant in the class.  
• Be brave. Ask questions! All content-related questions are welcome.  
• Use the resources available. Using the ctec server to try C features and functions – create prototypes – create "throw away" code.  
• Use class time to learn the material. It should not be a time for you to complete homework or surf facebook.  
• Get to know the students around you. Form study and work groups if possible.  
• It is recommended to exchange ideas and work with peers. Unless it is a team project, all assignments must be completed individually and independently.  
• It is not all right to copy a program from the web and call it your own. That would be cheating.  
• Bring your class notes to every class and own your learning process.  
• Come to class on time!  
• Stay for the entire class. If you need to leave early, inform the instructor before class and sit near the door to minimize class disruption.  
• Do not walk in/out during lecture unless you have an emergency.  
• Refrain from disruptive behavior of any kind including: Talking to others around you while the instructor is lecturing, eating noisy food items, getting up to throw things away etc. It is important to make it possible for everyone in the class to hear the lecture.  
• Read the assignment. Read the textbook. Read the reference material. Complete the assignment.  
• Complete assignments by the assigned dates.  
• In class assignments must be completed in class for credit.  
• Use Moodle. Check your email listed on Moodle.  
CLASS CANCELLATION:  
If I have to cancel the class, look at the notice posted on the classroom door. In the event of bad weather conditions or other events, check the local radio & TV stations, newsflash or the Clark College website, to see if Clark College is delayed or closed: www.clark.edu |
ENGINEERING AND COMPUTER SCIENCE COURSE POLICIES: