A290/A590 – Tools for Computing/Topics in Programming
System Programming with C and Unix

Introduction to the Course

Meeting 1

Fall 2025

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The Basics of the Course

- Guidelines.
- The Meetings.
- Assignments/JITs/MINIs/CATs/etc.
- Individual PROGRAM(S)/ASSIGNMENT(S)

Course Guidelines:
Expectations for Students and Instructors

- Guidelines may seem strict, when compared to some other courses.
- We expect you to take a VERY proactive interest in your work BEFORE you complete it.
- Make sure you read and understand the “Important Course Guidelines.”
- We also expect you to be a very, very active participant in class discussions.
- While this is my twelfth year (30+ sessions) with this course, we may still be trying some different things and relying on each other in different ways.

The Meetings

- Monday and Wednesday Meetings.
- The first part of each meeting will present the more theoretical or hypothetical aspects of the course material.
- The second part of each meeting will give us a chance for hands on work with our environment and what we just discussed.
- The Meetings are the primary source of information for this course.
- The information provided in the meetings will always be the final arbiter in resolving any questions.

Exams/Programs/Assignments.

- There will be no exams.
- There will be at least 3 (perhaps 4) written MINI assignments based primarily on meeting topics.
- There will be JITs (Just In Time) assignments associated with each MINI.
- We will also do a variety of Classroom Assessment Techniques (CAT) exercises.
- There will be 4 “PROGRAMS” based on what is done together in our meetings.
- There will be 4 “ASSIGNMENTS” which are more significant programming problems you will do entirely on your own.

Grading.

- This is the current plan for determining your Final Grade:
  - **ACTIVE Course Engagement in class: 10%**
  - **Class Attendance: 5%**
  - **MINI + JIT + CAT/(Quiz) Assignments: 10%**
  - **Homework PROGRAMS (those we do together): 25%**
  - **Homework ASSIGNMENTS (those you do on your own): 50%**
- Note that this means every point is not “worth” the same as every other point.
- ALSO NOTE: This course is a “package deal” in the sense that you must do well in every single aspect of the course to successfully complete the course.

No AI of Any Form Permitted

- Make sure you are clear about this.
- No AI, generative or otherwise, is to be used for any submitted work in this course.
- We expect you to show us what **YOU** know and have learned, not a machine.
- Any such use will be dealt with as a case of Academic Misconduct with the potentially disastrous outcomes that implies.
- To Repeat: Be sure you are clear about this: Do not use AI for this course.

Important Course Resources

- Course Home Page:
  - https://homes.luddy.indiana.edu/classes/fall2025/csci/a290-C-jwhitmer/
  - You must be officially enrolled in A290 or A590 and have a valid IU Network ID to access certain resources.
- Canvas Site(s):
  - They exist, and we will use them for written assignment submissions, homework assignment submissions, attendance, and some course resources.
- E-MAIL: You are expected to read and reply at least twice every 24-hours, 7 days a week.
- VERY IMPORANT: Only email from your "@iu.edu" email account will be official. Canvas communications will be ignored.

Overall Strategy for the Course.

- We will begin by making sure everyone can access their “Silo” account.
- Then we will take a look at puTTY and Emacs.
- Then it is straight into C.

Potential Topics in C.

- data types
- expression operators
- looping and conditional control statements
- arrays
- functions
- structures
- strings
- pointers
- bit operations
- file and stream I/O
- independent compilation (time permitting)
- introduction to the standard C libraries and Unix system calls .

Potential Topics in Unix/Emacs

- commands such as **ls**, **cd**, **mkdir**, **cp**, **mv**, **rm**, and **chmod**
- Unix file system organization and security
- **emacs** editor
- **gcc** compiler
- **bash** shell command line features and scripts
- **make**
- **gdb** debugger.

Let's Get Started

- puTTY
- silo.luddy.indiana.edu
- Setting/Choosing Shell
  - chsh/bash/?
  - less /etc/shells
  - man [shell name]
- emacs

For Next Time.

- Let's C what we can C.