

# CS 332/532 Systems Programming

Lecture 1

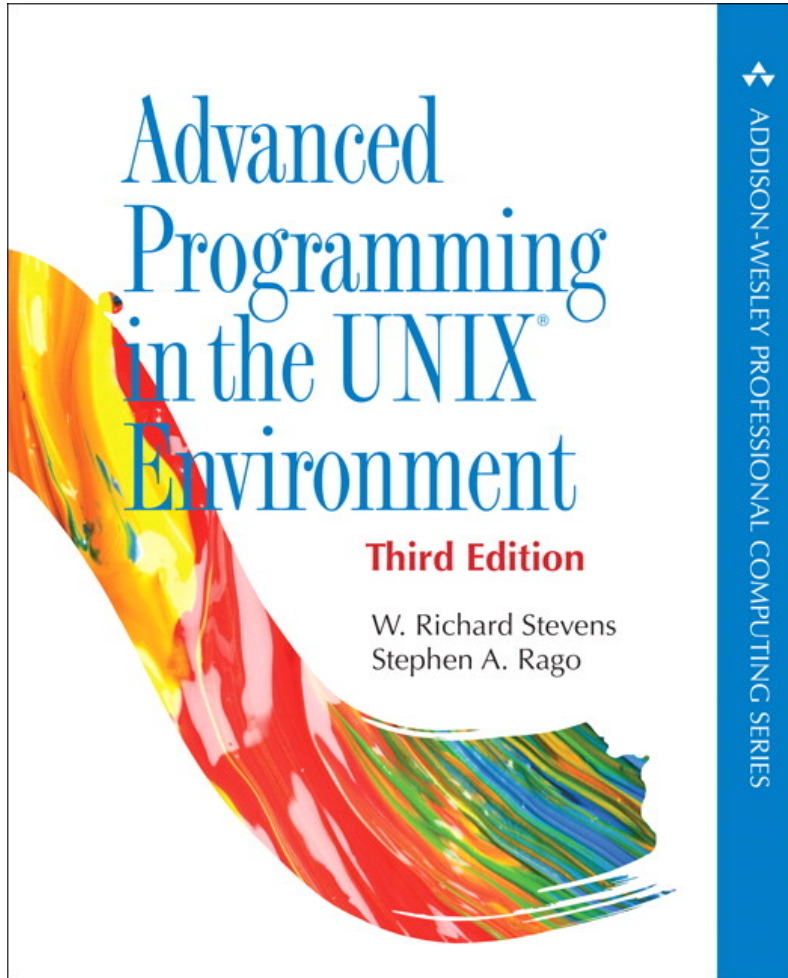
- Overview -

Professor : Mahmut Unan – UAB CS

# Agenda

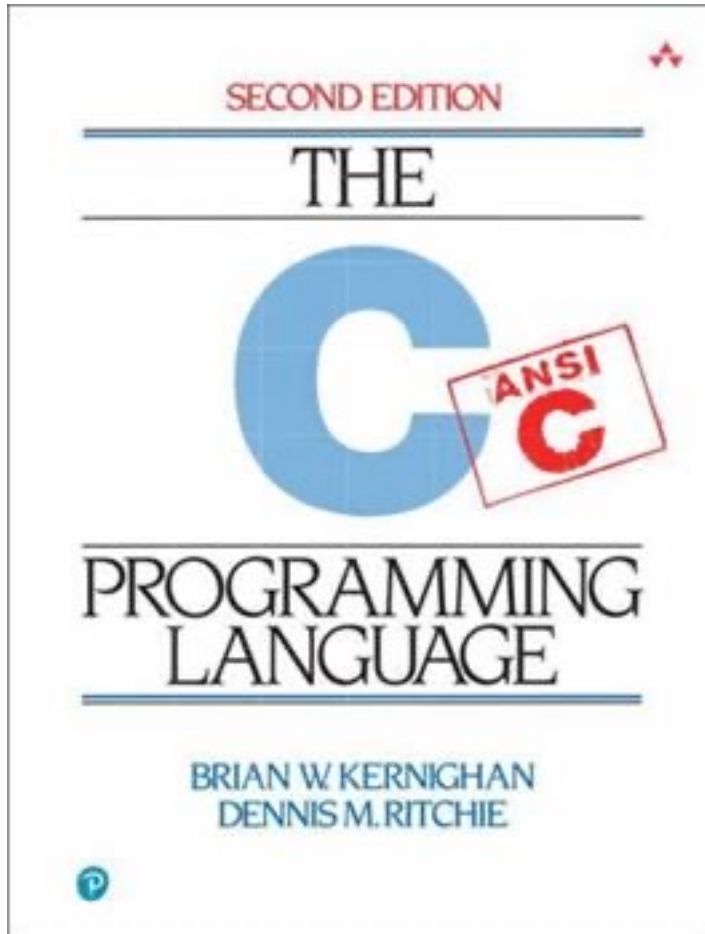
- Syllabus
- Course Overview

# Textbook

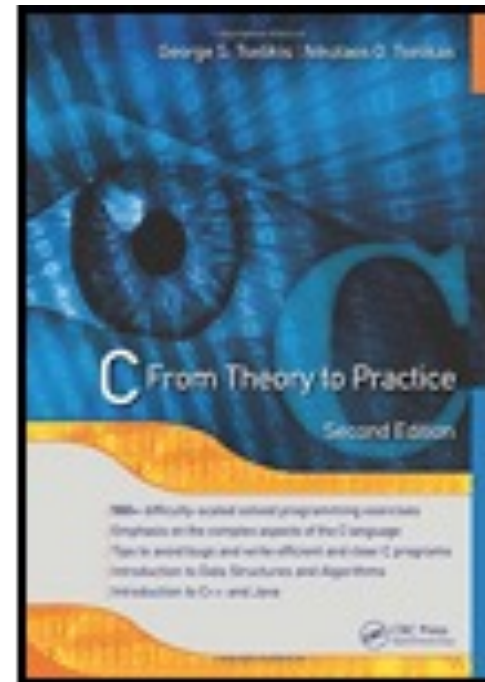


- Advanced Programming in the UNIX Environment (Links to an external site.), W. Richard Stevens and Stephen A. Rago, 3rd Edition, 2013. ISBN-13: 9780321637734 (paper) or 9780321638007 (ePub).
- URL: <https://www.pearson.com/us/higher-education/program/Stevens-AdvancedProgramming-in-the-UNIX-Environment-3rd-Edition/PGM238501.html>

# Recommended Textbooks



- C Programming Language, 2nd Edition  
Brian W. Kernighan , Dennis M. Ritchie
- C From Theory to Practice - 2nd  
edition, Nikolaos D. Tselikas and  
George S. Tselikis



# Honor Code for CS332

- You can work with your friend, but you can not copy from your friend
- You can search online/textbooks..etc, but you can not use it as is
  - Cite any resource you get benefit
  - Show your own contribution
- If you hesitate to use something, ask to TA or Instructor
- 3 strike rules
  - Zero on homework
  - Failing grade
  - Expulsion

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# Labs

# Suggested Resources

- Textbook website:  
<https://www.pearson.com/us/higher-education/program/Stevens-Advanced-Programming-in-the-UNIX-Environment-3rd-Edition/PGM238501.html>
- Author's website:  
<http://www.apuebook.com/apue3e.html>
- The Linux Command Line By William Shotts (a free online book):  
<http://linuxcommand.org/tlcl.php>



# Tentative Lecture Schedule

## Topics

Introduction to Programming in C

Chapter 1. UNIX System Overview Systems Programming in C

Chapter 2. UNIX Standardization and Implementations

Chapter 3. File I/O

Chapter 4. Files and Directories

Chapter 5. Standard I/O Library

Chapter 6. System Data Files and Information

Chapter 7. Process Environment

Chapter 8. Process Control

Chapter 9. Process Relationships

Chapter 10. Signals

Chapter 11. Threads

Chapter 12. Thread Control

Chapter 13. Daemon Processes Chapter 14. Advanced I/O

Chapter 15. Interprocess Communication

Advanced Topics

# Why you should Learn C?

- Powerful
- C is the most commonly used programming language for writing operating systems.
- Coding close to wire
- Know register, stack, heap...
- Simple, elegant, wicked **fast**...
- C Family of Languages...
- Embedded programming
- .....
- Learn more:

<https://www.pluralsight.com/blog/software-development/why-every-programmer-should-learn-c>

[https://en.wikibooks.org/wiki/C\\_Programming/Why\\_learn\\_C%3F](https://en.wikibooks.org/wiki/C_Programming/Why_learn_C%3F)

<https://www.topcoder.com/blog/5-reasons-keep-learning-c/>

# Next Class

- Introduction to C