



## **Intensive Programming in Linux** 21:198:288 (3 credits)

### **COURSE DESCRIPTION**

Intensive programming in Linux covers Linux programming with Apache Web server and MySQL database using C and PHP/Python as primary programming languages. This course includes: basic tools and utilities for system-level software development, C programming, UNIX/Linux system API, methods and algorithms for processing web data, end to end applications. This course provides students with utilities and hands-on experience for relatively large programming applications.

### **PREREQUISITE**

21:198:335 Data Structures & Algorithm Design

### **TEXT BOOK**

The C Programming Language, Kernighan and Ritchie, Prentice Hall, 2<sup>nd</sup> Edition, ISBN:978-0131103627

### **Recommended:**

1. Linux System Programming, Robert Love, O'Reilly, 2<sup>nd</sup> Edition, ISBN 978-1-449-33953-1
2. Computer Organization and Design, Patterson and Hennessey, Morgan Kaufman, 4<sup>th</sup> Edition, ISBN: 978-0123744937

**DEPARTMENT WEB SITE:** [www.ncas.rutgers.edu/math](http://www.ncas.rutgers.edu/math)

### **THIS COURSE COVERS THE FOLLOWING:**

- i. Introduction to LAMP: LINUX, APACHE, MYSQL, PHP
- ii. C tools for systems programming
- iii. Linux system programming tools
- iv. File systems and file I/O
- v. Processes and process control
- vi. Advanced topics on I/O
- vii. HTTP and web processing
- viii. Connecting to database servers, web applications
- ix. Distributed program environment

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