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# Essentials: Communication, Content, and Structure

## Communications

Class Meetings: Monday 14:00 - 16:00, Room 3212  
Office: to be decided  
Office Hours: By appointment  
Email: stewart.weiss@hunter.cuny.edu  
Telephone: (212) 772-5469

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## Resources

*Required Textbook:* None

*Suggested Textbooks* Bruce Molay. *Understanding Unix/Linux Programming*. Prentice Hall, 2003. ISBN 0-13-008396-8 (ISBN-13 978-0130083968).  
Only for those with no UNIX experience: Dave Taylor, *SAMS Teach Yourself Unix in 24 Hours*, Third Edition. Sams Publishing, 2001. ISBN 0-672-32127-0.

*Online Resources* This page and all documents related to this course are available for download on my website in the home page for this class. In addition, students will be given accounts on a server (as yet to be determined) that will act as a repository for example programs and as a means by which to work on and submit projects for the class.

## Learning Goals

A student who successfully completes this course will

- understand how to write programs that interact with UNIX and UNIX-like operating systems,
- be able to build applications that utilize all of the resources available on the given platform,
- be able to work efficiently within the UNIX programming environment,
- understand how the UNIX API is designed and structured, and
- understand the general structure common to almost all UNIX operating systems.

## Content

Because the lynchpin of application development in UNIX is one's expertise in using the kernel API, this course focuses on teaching systems programming. It will cover those parts of the kernel API related to general I/O, device and terminal control, the file system, process and thread management, signals and event driven programming, and inter-process communication methods. It will also cover the curses library and, if time permits, a bit about graphical user interface libraries such as GTK+.



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## Expectations, Tests, Assignments, and Grading (Revised)

There will be four programming projects as well as readings. The student is expected to do all of the specified reading, complete all projects, and work independently. The first three projects will be assigned by the instructor. The final project is a research project that will be chosen by the student with guidance and consent from the instructor. The final grade in the class will be based entirely on the project grades. The final project will require an oral presentation to the class. For the purpose of determining the final average, the first three assignments will be weighted 20% each and the final project will be weighted 40%. The due dates for the assignments, which are subject to a bit of minor change, are

Assignment	Due Date
1	Oct. 3, 2011
2	Oct. 24, 2011
3	Nov. 14, 2011
4	Dec. 20, 2011

### Schedule

Please note that there is no class on September 5, nor on October 10. The last day of class is December 20, which is during exam week. The class will be used for student presentations.