Programming in Python, Perl and PHP: CSCI 394.51

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Description

This course serves as an intensive introduction to three popular dynamic programming languages: PHP, Perl, and Python. The similarities among the languages will be highlighted, in order to get students up-to-speed and writing code as quickly as possible. Each language's strengths and weaknesses will be discussed as well, and students will be introduced to a number of frameworks and libraries that make working with each language worthwhile. At the end of the course, students will have a basic literacy in each language's syntax and in the resources they'll need to continue their studies. Topics will include object-oriented programming, regular expressions, programming for the web, and functional programming techniques.

Reading Material

One of the goals of this course is to familiarize students with using online resources and communities to help solve programming problems. For this reason, we'll be using the official web-based tutorials as basic texts.

- PHP Language Reference http://us3.php.net/manual/en/langref.php
- Perldoc http://www.perl.org/docs.html
- Python Documentation http://docs.python.org/

The following texts are recommended as reference, but are not required:

- Tratoe, Lerdorf, McIntyre. *Programming PHP*. (O'Reilly, 2006)
- Wall, Orwant, Christiansen. *Programming Perl*. (O'Reilly, 2000)
- Pilgrim, Mark. *Dive into Python*. http://diveintopython.org/

Evaluation

Attendance and participation	25%
Programming assignments (15% x 3)	45%
Final Exam	30%

"Incomplete" grades will be granted only in exceptional circumstances.

Schedule

- Jan 3. Introduction; UNIX tutorial
- Jan 4. PHP basics: strings, variables, expressions, loops, conditionals.
- Jan 5. PHP cont'd: operators, arrays, functions, n-grams and Markov chains
- Jan 6. PHP cont'd: OOP, programming for the web. Project #1 assigned (due Jan 10).
- Jan 10. Regular expressions; Perl: variables, expressions, scope (compared to PHP)
- Jan 11. Perl cont'd: Arrays and hashes; map, grep, subroutines, references
- Jan 12. Context-free grammars; Perl cont'd: Packages and modules
- Jan 13. Perl on the command-line; Perl poetry; Python: variables, expressions. Project #2 assigned (due Jan 18).
- Jan 18. Python: lists, dictionaries, conditionals and loops.
- Jan 19. Python cont'd: List comprehensions; OOP; parsing HTML with Beautiful Soup.
- Jan 20. Python wrap-up; Final exam review. Project #3 assigned (due Jan 24).
- Jan 24. Final exam.

Attendance Policy and In-class Behavior Expectations

Attendance. Because this class meets only a handful of times, consistent attendance is vital. Students are expected to attend all class sessions. Unless you or a family member is in an emergency medical situation, *don't miss class*! Absences due to non-emergency situations will only be cleared if you let me know at least one week in advance, and even then only for compelling personal or professional reasons (e.g., attending an important conference, going to a wedding). If you're unable to attend class due to

contagious or incapacitating illness, please let me know (by e-mail) *before* class begins. Each unexcused absence will deduct 5% from your final grade. If you have five or more unexcused absences, you risk failing the course.

Lateness. It's important to be on time to class. If you're more than ten minutes late to any session, or if you leave class early (without clearing it with me first), I'll count it as an unexcused absence.

In-class behavior. Because it's important for you to follow along with me during software tutorials, we'll be holding class in a computer lab. However, please refrain from using the computers for personal use (to check e-mail, browse the web, or whatever) during class.

Hunter College Policies

(The following two paragraphs appear here by mandate of the Hunter College Faculty Senate.)

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The college is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/ or Learning) consult the Office of AccessABILITY located in Room El124 to secure necessary academic accommodations. For further information and assistance please call (212- 772-4857) /TTY (212- 650- 3230).