COURSE DESCRIPTION

| Dept., Number | CSci 490 | Course Title | Special Topics: Python Web Programming, Fall 2007 |
|---|---|---|---|
| Semester hours | 3 | Course Coordinators | P. Tobin Maginnis, Associate Professor H. Conrad Cunningham, Professor James Church, Graduate Instructor |

Current Catalog Description

Study of topics in computer science according to the interests of the instructor and students.

Textbooks

Wesley J. Chun, *Core Python Programming*, Prentice Hall, 2007.

References

Python documentation: http://www.python.org/doc/

Mod_python documentation: http://www.modpython.org/live/current/doc-html/

Tutorial on Python's urllib2 library: http://www.voidspace.org.uk/python/articles/urllib2.shtml

Course Outcomes

Upon successful completion of this course, the students:

1. can write nontrivial programs using the Python programming language,
2. are able to develop Web services using Python,
3. know the concepts of Web security,
4. know the concepts necessary for developing Web applications in general.

Relationship between Course Outcomes and Program Outcomes

This is an elective course taken by undergraduate computer science students to enrich their programs. The course outcomes contribute to the program outcomes as follows: (1) to (c) and (k), (2) to (c) and (k), (3) to (e), and (4) to (i).

Prerequisites by Topic

1. Fundamental programming concepts and skills (CSci 112, 211)
2. Basic data structures and algorithms (CSci 112, 211)
3. Understanding of computer architecture (CSci 223)

Major Topics Covered in the Course

1. Introduction to the Python language (8 hours)
2. XML parsing and RSS feeds (2 hour)
3. Introduction to mod_python (3 hours)
4. Python CGI and reflection (3 hour)
5. Cookies (3 hour)
6. Regular expressions (2 hour)
7. E-mail (2 hour)
8. MySQL (2 hours)
9. Web APIs (3 hours)
10. Building secure websites—login scripts (3 hours)
11. Screen scrapping (2 hours)
12. Search engines (2 hour)
13. Django (2 hours)
14. Exams (2 hours)

Assessment Plan for the Course

This was an elective course that was only offered once. This offering had 3 examinations and 6 homework assignments. Outcome 1 is assessed by exam questions and 2 homework assignments, outcome 2 by exam questions and 2 homework assignments, outcome 3 by 2 homework assignments, and outcome 4 by exam questions. The course coordinator and instructor will evaluate the student performance informally and make changes to the course content, organization, and pedagogy as appropriate for future offerings of the topic.

How Data in the Course are Used to Assess Program Outcomes (unless adequately covered already in the assessment discussion under Criterion 4)

Estimate Curriculum Category Content (Semester hours)

| Area | Core | Advanced | Area | Core | Advanced |
|---|---|---|---|---|---|
| Algorithms | | | Software design | | 2 |
| Data structures | | | Concepts of programming languages | | 1 |