



Course Syllabus

EDTC 5250.W1		Fall 2005
Online	Instructor : Mike Gage Contact phone number: 314-965-9420 eMail address: mikegage@swbell.net	3 credit hours

1. COURSE DESCRIPTION:

The course presents various aspects of computer programming. The Python programming language is used as a means of teaching these concepts. Good programming practices will be presented, with emphasis on actual development. Emphasis will be on applications that may be useful in the classroom. Prerequisite: Classroom Technologies, or permission of the Educational Technology Coordinator.

2. LEARNING OUTCOMES:

The course is designed to provide the student with an adequate understanding of programming concepts and principles to enable her or him to design and implement programs for his or her own use or use in the classroom. At the completion of the course, the student will be able to develop programs using the Python programming language. The student will be equipped with the ability to learn to develop programs using other programming languages. This capability will provide the classroom teacher with the freedom to use the computer as a tool not constrained by the design of purchased applications.

In particular the classroom teacher will be enabled to:

- develop software applications to create meaningful learning opportunities for all students (MoSTEP 1.d., 1.e)
- present subject matter in multiple ways, addressing the multiple experiences and learning styles of the students to meet the goals of the curriculum (MoStep 1.b., 2.b., 3.b., 4.a., 4.b.).
- develop software applications that challenge the students to approach the material in new, effective ways (MoStep 1.d., 1.e., 5.a., 5.b., 6.c., 7.c., 7.d.).
- develop software to automate repetitive or time-consuming aspects of student assessment, thereby improving student assessment effectiveness (MoStep 8.d.).
- develop software to improve communication with colleagues, parents, and educational partners (MoStep 10.a., 10.d.).
- teach computer programming in the classroom (MoStep 1.a.).

3. SCHEDULE OF REQUIRED READINGS, CLASS PREPARATIONS AND ASSIGNMENTS, LECTURES, DISCUSSIONS, STUDENT PRESENTATIONS, OUT-OF-CLASS ASSIGNMENTS AND EXAMS.

Module 1	Introduction. Downloading, Installing, Using the Python Environment, Including IDLE
Module 2	Variables, Expressions, Statements, Operators, Data
Module 3	Branching, Looping
Module 4	Input and Output
Module 5	Modules and Functions
Module 6	Files, Reading and Writing
Module 7	Good Coding Practices
Module 8	Exception Handling
Module 9	More on Functions, Methods
Module 10	Graphical Applications – GUIs
Module 11	Integrating Concepts
Module 12	More Integrating Concepts
Module 13	Accessing Databases
Module 14	Threading
Module 15	Project Submissions
Module 16	Project Reviews

4. RESOURCES:

Textbook: *Learning Python, 2nd Edition*; Mark Lutz and David Ascher; O’Reilly Media, Inc.; 2004 (available online at <http://safari.oreilly.com>)

Library Readings: <http://www.python.org>

5. EVALUATION / GRADING SCALE:

- 93-100 = A
- 90-92 = A-
- 86-89 = B+
- 83-85 = B
- 80-82 = B-
- 76-79 = C+

Weekly Discussions (16) (4 pts each)	64
Weekly assignments (13) (10 pts each)	130
Final project	126
Total	320

All academic and professional behavior of students in this course is subject to review for the purposes of student evaluation.

6. ACADEMIC HONESTY POLICY:

Students at Webster University are expected to practice academic honesty.

In its broadest sense, plagiarism is using someone else's work or ideas, presented or claimed as your own. Any time you refer to another person's work, whether as a direct quotation or paraphrased, you must use a citation. Students should not copy more than two paragraphs from any source as a major component of papers or projects. All citations must be properly documented and references must be provided using APA guidelines (<http://library.webster.edu/citation.html>).

7. ACCESSIBILITY/ACCOMODATIONS POLICY:

If you have a disability, please notify your instructor as soon as possible to discuss your accommodation needs.

8. ATTENDANCE:

Attendance is crucial in all online courses. This means that a student is expected to login to the course several times during each week.

Even though you are not required to be logged in at any precise time or day, you are expected to login several times during each week. It is important to actively participate each week in the course.

The instructor reserves the right to lower the final grade by a letter grade for absences.

Students who do not complete the requirements of the course must contact the instructor prior to the end of the course to complete an Incomplete Course form. Incompletes are not awarded except in emergencies, as defined by the instructor.

NB: An Incomplete may only be awarded to a student who has maintained a passing grade up to the point of the emergency. Incomplete grades will change to a grade of F or NC unless the requirements stipulated on the incomplete form are met by the date listed on the form or one calendar year from the end of the course, whichever comes first.

9. OTHER

FINAL PROJECT: Each student will design and develop an application based upon her or his interests. The application will be presented during the 15th session of the course. The students will be reviewing projects submitted by other students during the 16th week – therefore it is imperative that the final projects be submitted on time.

10. **STANDARDS / GOALS:**

International Society for Technology in Education (**ISTE**) - National Educational Technology Standards for Teachers (**NETS**) – http://cnets.iste.org/teachers/t_stands.html

ISTE NET Standards:

1. Technology operations and concepts.

Teachers demonstrate a sound understanding of technology operations and concepts.

2. Planning and designing learning environments and experiences.

Teachers plan and design effective learning environments and experiences supported by technology.

3. Teaching, learning, and the curriculum.

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

4. Assessment and evaluation.

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

5. Productivity and professional practice.

Teachers use technology to enhance their productivity and professional practice.

6. Social, ethical, legal, and human issues.

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice.

The School of Education (SOE) Goals:

1. The knowledgeable learner:

Education candidates will demonstrate knowledge of the subject matter, knowledge of the learner, and knowledge of pedagogy based on inquiry and scholarship.

2. The informed instructor:

Education candidates will incorporate multiple assessment and instructional strategies to support effective educational practices based on research and theory.

3. The reflective collaborator:

Education candidates will reflect on the roles educators take as leaders of change through collaboration with colleagues, students, and families in schools and communities.

4. The responsive educator:

Education candidates will demonstrate respect for diversity through responsive teaching and learning that values individual differences.

This syllabus is subject to change at the discretion of the instructor.