El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Information Technology Systems**
COURSE RUBRIC AND NUMBER	**ITSE 1359**
COURSE TITLE	**Introduction to Scripting Languages**
COURSE CREDIT HOURS	**3** **3** : **1**
	Credits **Lec** **Lab**

I. Catalog Description

Provides an introduction to scripting languages including basic data types, control structures, regular expressions, input\output, and data manipulation. **Prerequisite: ITSE 1329. (3:1).**

II. Course Objectives

Upon satisfactory completion of this course, the student will be able to:

A. Unit I. Introduction to Python: Fundamentals of Scripting Languages
   1. Discuss direct applications of Python
   2. Discuss the interpretation and automation of task execution
   3. Illustrate the contemporary work done in Python
   4. Identify different command line examples by using *Cygwin* or *PowerShell*

B. Unit II. Input and Output Processing
   1. Explain the fundamentals of Python regarding declaration, indentation, and environment variables.
   2. Apply different operations to strings by using their functionalities
   3. Demonstrate `raw_input()`, `input()`, and `File` input
   4. Demonstrate the use of output methodologies

C. Unit III. Decision Structures and Boolean Logic
   1. Define Boolean expressions that produce true/false values
   2. Compare strings using decision structures such as `if, elif, and else`
   3. Evaluate nested decision structures

D. Unit IV. Repetition Structures
   1. Define repetition structures such as `while` and `for` loops
   2. Interpret ranges as constructs of the loop
   3. Discuss the importance of a sentinel in a repetitive control structure
   4. Evaluate input validation loops
   5. Assess security components by validating input attributes from the user

E. Unit V. Functions
   1. Translate a function from a sequential program
   2. Define value-returning functions

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3.   Explain the difference between defining and calling functions
4.   Validate parameters in function invocation
5.   Illustrate the use of libraries such as `Random` and the `Math` module in Python

F.   Unit VI. Files and Exceptions
1.   Demonstrate how to read and write files in Python.
2.   Apply multiple methods for input/output from file reader/writer
3.   Use loops to process files
4.   Handle exceptions in Python

G.   Unit VII. Lists and Tuples
1.   Demonstrate how to define lists of different types and how to access/modify lists.
2.   Slice lists.
3.   Identify list methods and useful built-in functions
4.   Identity tuples in Python

H.   Unit VIII. Data Manipulation by Using Regular Expressions
1.   Demonstrate the application of regular expressions in general scripting languages
2.   Describe the use of search() vs. match() in regular expressions
3.   Identify useful expressions to design data mining and extrapolation of data

I.   Unit IX. Commonly Used Algorithms in Scripting
1.   Evaluate the use of different techniques in particular problems
2.   Justify solutions in particular programing issues
3.   Test different problem-solving techniques in programming projects

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III.   Evaluation

A. Pre-assessment

None

B. Points will be given for the coursework (e.g., programming projects, labs, quizzes, and exams) that are made available during the course. The type of coursework and number of exams as well as the point value of each will be determined by the instructor.

C. Post-assessment

The final grade will be determined by the percentage obtained by dividing the total number of points earned by the student by the total number of points made available through the course of the semester.

D. Course Grade

The course grade will be based on the percentage of the total points earned:

Percentage	Letter Grade
90.00 – 100.00	A
80.00 – 89.99	B
70.00 – 79.99	C
60.00 – 69.99	D
0.00 – 59.99	F

IV.   Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

V.   6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

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