Course Specification
— (Bachelor)

Course Title: **Baisic Scripting and Programming**

Course Code: **BIDA 124**

Program: **Business Intelligence and Data Analysis**

Department: **Computer**

College: **Applied Collage**

Institution: **Najran University**

Version: **1**

Last Revision Date: **7/12/1446**

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A. General information about the course:

1. Course Identification

1. Credit hours: (3 houres) 2+2 practical

2. Course type

A.	□University	□College	☒ Department	□Track	□Others
B.	☒ Required		□Elective		

3. Level/year at which this course is offered: (1st Year, Term 3)

4. Course General Description:

This course is designed for students with no prior programming experience. The course covers the basics of Python programming, as well as general computer programming concepts and techniques. The course familiarizes student with the procedural approach to programming and covers the following topics:

- Fundamental terminology, concepts,and definitions.
- Basic Python syntax, semantics, and the runtime environment.
- Literals, variables, numeral systems, operators, and data types
- Basic I/O operations.
- Control flow: condational execution and loops.
- Data collections: lists, tuples, dictionaries, and strings
- Functions
- Exceptions, troubleshooting, and debugging.

5. Pre-requirements for this course:

(**COMP110**)

6. Co-requisites for this course (if any):

N/A

7. Course Main Objective(s):

The main objective of this course is to:

- Develop an awareness of programming languages.
- Demonstrate proficiency using specilizer computer software
- Solve problems using critical thinking skills, creativity, and innovation
- Write and document code using the PEP8 guidelines, coding conventions, and best practices.
- Demonstrate prociciency in basic programming and Paython.
- Perform program design, coding, and testing activities.
- Create and document a computer program that uses a variety of internal and control structures for manipulating various data types.
- This course prepares students for the PCEP- Certified Entery- Level Paython Programsser. The PCEP certification (Exam PCEP-30-0x) is a professional credential that measures the candidates ability to accomplish coding tasks related to the essentials of programming in the Python language.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	48	100
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	24
2.	**Laboratory/Studio**	24
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		48

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Summarize the purpose of writing simple scripts and programs	**K2**		
1.2	Describe different types of scripts and programs	**K2**		
1.3	Describe strategies for maintaining security using scripts and programs	**K2**		

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.0	**Skills**			
2.1	**Configure the scripting development environment**	**S1**		
2.2	**Execute commands**	**S1**		
2.3	**Utilize providers**	**S1**		
2.4	**Connect multiple commands with pipeline**	**S1**		
2.5	**Access data objects**	**S1**		
2.6	**Format output**	**S1**		
2.7	**Configure remot administration.**	**S1**		
2.8	**Utilize window management instrumentation**	**S1**		
2.9	**Secure the scripting environment**	**S1**		
2.10	**Create scripts using compound conditions and loops**	**S1**		
2.11	**Create programs using variable types, decisions, loops, and functions.**	**S1**		
3.0	**Values, autonomy, and responsibility**			
3.1	Adhere to cybersecurity ethics	**V2**		
3.2	Demonstrate professionalism	**V1,V2**		
3.3	Communicate effectively with a range of audiences	**V1,V2**		
3.4	Demonstrate teamwork	**V1**		
3.5	Think critically and creatively	**V2**		

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.6	Demonstrate responsible citizenship	**V1,V2**		

C. Course Content

No	List of Topics	Contact Hours
1.	BSP1. Fundamentals of Software Development	4
2.	BSP2. Software Design Principles and Practices	4
3.	BSP3. Variables and Data Types	3
4.	BSP4. Statements and Expressions	3
5.	BSP5. Basic Logical Operations	4
6.	BSP6. Decisions and Branching	4
7.	BSP7. Loops in Programming and Their Types	3
8.	BSP8. Functions, Procedures and Calls	3
9.	BSP9. Debugging Techniques	3
10	BSP10. Basic Data Structures and Algorithms	3
11.	BSP11. Strings, Arrays and Structures	3
12.	BSP12. Sequential and Parallel Execution	3
13.	BSP13. Scripting on Windows and Linux	4
14.	BSP14. Basic Concepts of Secure Coding: Permissions, Bounds Checking, Input Validation, Type Checking, Parameter Validation and Error Handling	4
Total		**48**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Assignments,Quizzes, projects**	**During Semester**	15%
2.	**Mid Exam**	**8**	**25%**
3.	**Practical Exam**	**14**	**20%**
4.	**Final Exam**	**End of semester**	40

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	**Introduction to Programming Using Python, Y. Daniel Liang ISBN 13: 978-0-13-274718-9 ISBN 10: 0-13-274718-9 Learn PowerShell in a Month of Lunches https://www.manning.com/books/learn-powershell-in-a-month-of-lunches (ebook)**
Supportive References	**Paython.org Pearsonmylabandmastering.com/myprogramminglab**
Electronic Materials	**Cisco Networking Academy https://www.netacad.com/ The Python Essentials 1 course Skills for ALL (Cisco Academy) Student have access to hands-on practice materials, quizzes, and tests as well as interact with some real-life programming tasks and situations**
Other Learning Materials	**Paython.org Pearsonmylabandmastering.com/myprogramminglab**

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Classroom IT Lab**
Technology equipment (projector, smart board, software)	**Smartboard Presentation Technology Computer with MS Office**
Other equipment (depending on the nature of the specialty)	**Access to Windows and Linux environments**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students, External reviewers` visit from Accreditation Agency	Survey Formal Classroom Observation
Effectiveness of Students assessment	Quality and Development Unit, Curriculum Committee,	Teachers` feedback, Students` feedback, Course report, Professional Certifacations achievement rate

Assessment Areas/Issues	Assessor	Assessment Methods
Quality of learning resources	Quality and Development Unit	Annual quality improvement program review
The extent to which CLOs have been achieved	Quality and Development Unit	Course report, data analysis of achievement test
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	المجلس التنفيذي
REFERENCE NO.	4600081176
DATE	1446/12/18