

ISM 240-01: BUSINESS PROGRAMMING (using Python)

Spring- 2025

Online - Asynchronous

INSTRUCTOR INFORMATION

Name:	Dr. Debalina Bera
Office:	482 Bryan Building
E-mail address:	d_bera@uncg.edu (Email is the best way to communicate)
Virtual Office Hours:	Mondays 11 am to 12 pm Join the meeting now Meeting ID: 264 184 093 005 Passcode: dHvaux.
Class Times (virtual):	No synchronous classes. Course materials along with Recorded lectures will be made available via Canvas in the Modules Tab for each week.

COMMUNICATION RESPONSE:

Most communication will be done through email. You are expected to check your iSpartan email *at least once daily*.

Email communication between students and faculty is considered professional correspondence. Therefore, students are required to adhere to professional email format for every email sent to their professor/instructor or other UNCG related emails.

You must follow these guidelines:

UNCG email: Use only your UNCG email when emailing your instructor. Please compose from your outlook and send email to d_bera@uncg.edu (DO NOT send emails from Canvas as images and file attachments do not go through well)

SUBJECT LINE: the subject line *must* include your **course#, section# and Term** in the subject of the email.

* Example: ISM-240-01-Spring2015 (you must include your course & section & Term#)

EMAIL BODY: Start your email with Dr. or Professor Bera, clearly state your problem and include the name of the related question/assignment. Use proper grammar, spelling and paragraph structure. Check your email for spelling errors before sending.

SCREEN SHOT OF IMAGE: Include a screen shot of the issue -- *do not send an image or picture taken with a cellphone. Cellphone images are not clear enough to diagnose the problem.*

Use the Snipping Tool application or [Print Scr] and attach the screenshot to your email.

SIGNATURE: include your full name as it appears in Canvas.

RESPONSE TIME: Please keep in mind that in addition to classroom hours, all faculty have additional obligations throughout the day, and I will respond to e-mails within 48 hours on M-Th. E-mails received **F-Sun** will be responded to the **following Monday**. Please note that, most all assignments and tests are due by 11.59 pm on Sunday. Emails sent over the weekend may not be responded to until Monday so please do not wait until Saturday to send an email to the instructor.

CATALOG DESCRIPTION

Learn the fundamentals of coding in Python with a focus on Object Oriented Programming. Emphasis is on structured programming techniques to be exploited for solving business problems. Students utilize an object-oriented programming language.

Prerequisites: MAT 115 or higher, and Grade of C or better in ISM 110

COURSE OBJECTIVES

Upon successful completion of this course students will be able to:

1. Understand fundamental principles of programming, including operators, data types, variables, functions, flow controls, conditional statements, loops, lists, dictionaries, and objects.
2. Demonstrate basic Python and programming literacy by interpreting and commenting on Python code.
3. Make use of Python community programming best practices by following recommended naming conventions and style considerations.
4. Understand fundamental principles of Object-Oriented Programming that includes-- Class, Instantiate Method, Inheritance, Parent Class Reference etc.
5. Compose Python data wrangling and analysis programs by combining custom-developed code with modules from Python's built-in libraries and from modules maintained by third parties.
6. Demonstrate the ability to import and working with external Python libraries for a given task.
7. Working with different types of data that includes -- Text Files, excel spreadsheet, CSV

REQUIRED MATERIALS:

Textbook (Recommended):

1. Al Sweigart, Automate the Boring Stuff with Python, 2015, No Starch Press, ISBN-10: 1593275994. A free online edition of the textbook is available under a Creative Commons license:
<https://automatetheboringstuff.com>.
2. MindTap for Cengage's Python Fundamentals, ISBN 13: 9780357421796

Optional

3. Programming with Python, by Kyla McMullen, Elizabeth Matthews, June Jamrich Parsons, ISBN 13: 9780357637456
4. VanderPlas, J. (2016). Python Data Science Handbook. O'Reilly Media, Inc. (Book VJ)
Online: <https://github.com/jakevdp/PythonDataScienceHandbook>

Other materials will be provided by the instructor throughout the course.

TECHNICAL REQUIREMENTS

Students will need (1) a laptop, and (2) wireless Internet connection in class. Given the nature of this course, students should have a well-functioning laptop with the following software installed. After the 1st week, you possibly won't have time to deal with installation or other technical issues. So, you need to make sure all applications are installed PRIOR TO the next class.

1. Anaconda will be used for our Python lab. Anaconda has Jupyter notebook and Python. So students only need to download Anaconda at:

Windows: <https://www.anaconda.com/download/#windows>

MacOS: <https://www.anaconda.com/download/#macos>



Download and install
python.docx

Canvas Course Management Systems (<https://canvas.uncg.edu>)

Course materials, announcements, and updates will be posted on Canvas regularly. Students are required to check Canvas daily.

TEACHING METHODS

Class sessions will be delivered via asynchronous online mode. Power point presentations and recorded lectures will give students a basic understanding of programming concepts in Python and useful packages for business analytics such as NumPy, Pandas, and ScikitLearn. Basic principles of programming are explored as well as basic techniques for object-oriented programming will be studied. Students will learn to identify data-related business problems in today's information-rich environments and get hands-on Python programming to solve problems. Recorded lab demonstrations will be used to help students translate those solutions to computer programs (write, test, and debug python programmes). Each programming topic may be complemented with exercises to enhance the learning of both elementary and advanced programming concepts covered in this course. Assignments, quizzes, weekly exercises, and exams will be used to evaluate students' performances in terms of learning outcomes.

EVALUATION AND GRADING

Assignments:

Python programming weekly exercises and individual assignments constitute a major portion of the requirements for this course. Students are required to complete 10 weekly assignments, three major assignments, one quiz, and two exams. Each assignment is due at 11:59 p.m. on the scheduled due date. All assignments in this course are submitted electronically via Canvas by the assignment deadline.

Late Assignment & Extra credit:

No late assignments will be accepted after the due date, unless there is a documented extenuating circumstance and approved by the instructor in advance. Late submissions will be subjected to 30% penalty. Extra credit will not be offered.

Exams:

This course has two exams, a midterm exam and a final exam. Exams will be delivered online. **No makeup examination will be offered.** The final exam is cumulative.

Determination of Course Grade:

The following provides a percentage allocation of each component:

Individual Assignments (3*10)	30%
Quiz (1)	10%
Weekly Exercise/ Quiz (10*3)	30%
Exam 1:	10%
Exam 2 (cumulative):	20%

Points	Grade	Points	Grade	Points	Grade	Points	Grade
94-100%	A	83 – 86.9%	B	73 – 76.9%	C	63 – 66.9%	D
90-93.9%	A-	80 – 82.9%	B-	70 – 72.9%	C-	60 – 62.9%	D-
87 – 89.9%	B+	77 – 79.9%	C+	67 – 69.9%	D+	< 60%	F

Grades are truncated, not rounded. For example, a total score of 59.99 will earn a F grade and not D-

E-MAIL COMMUNICATION

Individual E-mail from the Instructor: Individual e-mail messages will be sent to your UNCG e-mail account. Please check your UNCG e-mail daily to be sure you are getting your e-mails (if you are having any technical issues with UNCG e-mail you must get assistance ASAP from TECH Support—contact information under the Faculty & Tech Support link in Canvas; the excuse that your UNCG e-mail was not working is not acceptable)

TECHNICAL SUPPORT:

Students with technical issues with the course and e-mail should contact 6-TECH for support either by e-mail or phone or chat (6TECH Help). Please also make your instructor aware of the issue and if there will be any delays in resolving the issue.

HEALTH AND WELLNESS:

Your health impacts your learning. Throughout your time in college, you may experience a range of health issues that can cause barriers to your learning. These might include physical ailments, illnesses, strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, or loss of motivation.

Student Health Services and The Counselling Centre can help with these or other issues you may be experiencing. You can learn about the free, confidential mental health services available on campus by calling 336-334-5874, visiting the website at <https://shs.uncg.edu/> or visiting the Anna M. Gove Student Health Center at 107 Gray Drive. Help is always available.

BRYAN SCHOOL FACULTY AND STUDENT GUIDELINES

Bryan Faculty and students in this course are expected to adhere to the guidelines stated at this link: <https://bryan.uncg.edu/wp-content/uploads/2017/08/Faculty-and-Student-Guidelines-2018-2019.pdf>.

ACADEMIC INTEGRITY POLICY

By submitting an assignment, each student is acknowledging their understanding and commitment to the Academic Integrity Policy on all major work for the course. Refer to the following URL: <https://osrr.uncg.edu/academic-integrity/>

IMPORTANT: DO NOT procrastinate on the assignments, quizzes, and tests. You have two attempts on weekly exercises and individual assignments. Please complete the first attempt by Wednesday or sooner of any given week so that you can leverage another attempt opportunity to improve your grade. However, you have to complete submitting each assignment by the DUE DATE.

Late/missed assignments: It is your responsibility to communicate in advance with the professor if you anticipate missing assignments, exams, or other coursework due to **university-approved excuse**. In such instances following policy holds:

Present relevant documentation of relevant University-approved excuse to the professor.

Arrange to complete all missed work in advance of the absence whenever practicable as judged by the professor. **NO make-up opportunity can be provided for the missed assignments.**

RELIGIOUS HOLIDAYS:

It is expected that instructors will make reasonable accommodations for students who have conflicts due to religious obligations. Please make arrangements with the instructor in advance of any conflict. For more information on UNCG's Religious Obligations policy, visit: [UNCG's Religious Obligations Policy](#).

ACCOMMODATIONS:

UNCG seeks to comply fully with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a disability must connect with the Office of Accessibility Resources and Services (OARS) in 215 Elliott University Center, (336)334-5440, oars.uncg.edu.

ELASTICITY STATEMENT:

It is the intention of the instructor that this syllabus and course calendar will be followed as outlined; however, **as the need arises, there may be adjustments to the syllabus and calendar**. In such cases, the instructor will notify the students in class and via e-mail with an updated syllabus and calendar within a reasonable timeframe to allow students to adjust as needed.

FLEXIBLE COURSE OUTLINE

Week	Date	Topics	Reading and Assignment Due
1	Jan 13 – Jan 19	Welcome to ISM240: Review Syllabus and Introduction Background: Python Programming Language and its use in Business Analytics	Sweigart, Chapter 1 (Python Basics) • Download and Install Python and Jupyter Lab from Anaconda following “ISM240-Week 01-Course Introduction-Section1.pptx”

			Windows: https://www.anaconda.com/download/#windows MacOS: https://www.anaconda.com/download/#macos Additional Reading - Object Oriented Programming - 6 Reasons Why Python is Suddenly Super Popular - Top 4 Reasons Python is So Popular in 2020 - Why use Python for Business Analytics • Week 1 - Self Introduction
2	Jan 20 – Jan 26	Data Types and Variables String and String Manipulation	Sweigart, Chapter 1 (Python Basics) Sweigart, Chapter 6 (Manipulating Strings) • Week2 - Lab Assignment
3	Jan 27 – Feb 02	- Flow Control - Conditional statement	Sweigart, Chapter 2 Sweigart, Chapter 2 • Week3 - Lab Assignment
4	Feb 03 – Feb 09	- <i>for</i> loops - Function (Built in Functions)	Sweigart, Chapter 2 Sweigart, Chapter 3 • Week4 - Lab Assignment
5	Feb 10 – Feb 16	- User created function/Own Function - List (theory)	Sweigart, Chapter 3 • Test Quiz to check Respondus Lockdown Browser - Requires Respondus LockDown Browser + Webcam • Week5 - Lab Assignment • Assignment 1 due
6	Feb 17 – Feb 23	- List (Lab)	Sweigart, Chapter 4 • Week6 - Lab Assignment • ISM240-MidTerm - Requires Respondus LockDown Browser + Webcam
7	Feb 24 – Mar 02	- Dictionary (theory) - Dictionary (Lab)	Sweigart, Chapter 5 • Week7 - Lab Assignment
8	Mar 03 – Mar 09	- The Basic of Sets - Creating Sets, Adding, Reading Removing Data To/From Sets - Set Operations	MindTap for Cengage's Python Fundamentals, Chapter 6.4 Sweigart, Chapter 7 MindTap for Cengage's Python Fundamentals, Chapter 6.5 • Week8 - Lab Assignment • Assignment 2 due
9	Mar 10 – Mar 16	Enjoy your Spring break!	
10	Mar 17 – Mar 23	- Object Oriented Programming - Class - Instantiate Method	Object Oriented Programming MindTap for Cengage's Python Fundamentals, Chapter 7 MindTap for Cengage's Python Fundamentals Chapter 7.3 Chapter 7.5
11	Mar 24 – Mar 30	- Inheritance - Standard Python Module and Packages	Object Oriented Programming MindTap for Cengage's Python Fundamentals Chapter 7.6 MindTap for Cengage's Python Fundamentals

			Chapter 8.3 • Week11 - Lab Assignment
12	Mar 31 – Apr 06	Python for working with Text Files: - Deals with Text Files - Reading and Writing into Files	MindTap for Cengage's Python Fundamentals Chapter 8.6.2 • Week12 - Lab Assignment
13	Apr 07 – Apr 13	- NLTK - Natural Language Processing - Application of NLTK on Text File - Sentiment analysis of food review	- https://anaconda.org/anaconda/nltk - https://www.nltk.org/ - Instructor Provided material • Assignment 3 due
14	Apr 14 – Apr 20	Python Libraries and Modules - pip - Numpy - Panda (Data Preparation) - Working with Excel spreadsheet	- Pandas user guide • Course Quiz due
15	Apr 21 – Apr 27	- Application of Pandas - A Lab on Association Rules for Market Basket Analysis	Instructor Provided material
	May 1st	Reading Day	
16	May 02 – 04	Final Exam (cumulative)	• ISM240-EndTerm - Requires Respondus LockDown Browser + Webcam Includes everything that is covered until week 15