



QSO 613: Data Analytics Toolkit I Syllabus

About This Course

Course Description

In this course, students will acquire new skills in coding to refine their ability to cleanse data. Through the use of coding to automate procedures and tasks, they will integrate various types of data to create data-driven insights to meet business needs.

What You'll Learn

When you've successfully completed this course, you'll be able to:

- Write professional, well-documented and readable code
- Cleanse data through automated procedures
- Integrate various data types and data sources to develop new and innovative insights

Course Prerequisites

None

This Term

In the third term of the program, you'll begin working in programming-based analytics with Python and Pandas. You'll gain a rudimentary set of skills in Python, and then dive deeper into Pandas where you'll use APIs to analyze static and dynamic datasets.

This course—QSO 613—is one of two courses you'll be taking this term. The other is **QSO 593: Analytics Strategy and Methods**. While these are two separate courses in Brightspace, they're closely related. What you learn in one course will help you in the other, and vice versa. Your class sessions will cover content from both courses.

At the end of the term, if you've successfully passed both courses, you'll also earn a badge called **Analytics Strategy and Tools**.

This badge demonstrates that you have these skills:

- | | | |
|-----------------|-------------------------|-------------------------|
| ✓ Data Analysis | ✓ Business Intelligence | ✓ Problem Solving |
| ✓ Research | ✓ Data Science | ✓ Organizational Skills |
| ✓ Python | ✓ Communications | |

[Read more about digital badges here.](#)

What You'll Need for This Term

As you know, you aren't required to buy any textbooks or additional materials for the courses in your program. In most terms, however, you do need to download some free software.

For the courses this term, you'll need access to **Anaconda Individual Edition**, which you can [download for free](#). Anaconda is an open-source platform where you'll use Python and Pandas. For help getting started, access the [Getting Started with Anaconda Individual Edition video tutorial](#) or the [user guide](#). You'll also continue to use **Office365**, which is free to you as an SNHU student. [Download Office365 here](#).

Your class sessions will continue to take place in **Microsoft Teams**, and you'll be able to chat with your instructors, TAs, and peers there. For more information about Teams, review the [Microsoft Teams For Students guide](#).

You'll also always have access to the [Business Analytics research and information guide](#) at the [SNHU Shapiro Library](#).

Course Assignments and Grades

Work Overview

Each week you'll have a homework assignment that relates to what you're learning in class and helps you develop the skills you need. Toward the end of the term, you'll work on an in-class project where you'll bring together everything you've learned about APIs, Pandas, and Python. Instead of submitting the project as a group like previous terms, you'll submit some of your individual work.

Weekly Assignment Schedule

In addition to the assignments listed in the following schedule, you'll also have suggested readings and videos most weeks, as well as twice-weekly class sessions. Discussion posts during the first week of each term are due by 11:59 p.m. Eastern Time. Assignments for the remainder of the term are due by 11:59 p.m. of your local time zone.

Week	Assignment	Assignment Point Value
Week 1	Discussion: Learning Python	80
	Homework: Python Fundamentals	90
Week 2	Skills Self-Assessment	n/a
	Homework: CSV Files and Dictionaries	90
Week 3	Homework: Working with Functions	90
Week 4	Homework: Analyzing Retail Purchases with Pandas	90
Week 5	Homework: Analyzing Top Smartphone Brands	90
Week 6	Homework: Analyzing TV Viewership Tendencies	90
Week 7	Homework: Performing Tasks with APIs	90
Week 8	Project: Real-World Problem Solving with Python	200
Week 9	Begin Week 10 Assignment	n/a
	Skills Self-Assessment	n/a
Week 10	Homework: Practice Interview	90
Total		1,000 points

University Grading System: Graduate

Grade	Numerical Equivalent	Points
A	93–100	4.00
A-	90–92	3.67
B+	87–89	3.33
B	83–86	3.00
B-	80–82	2.67
C+	77–79	2.33
C	73–76	2.00
F	0–72	0.00
I	Incomplete	
IF	Incomplete/Failure *	
W	Withdrawn	

* Please refer to the [policy page](#) for information on the incomplete grade process.

Instructor and TA Availability and Response Time

This course has an instructor and teaching assistant(s), who will support your learning and guide you through the course. Your interaction with the instructor, teaching assistant(s), and your classmates will take place on a regular, ongoing basis. Your instructor will be actively engaged within the course throughout the week, teaching class and answering questions. The teaching assistant(s) will facilitate small group sessions, monitor chats and discussions, and grade your work. You will normally communicate with your instructor and teaching assistant(s) in chats and discussions. You should feel free, however, to communicate with your instructor via SNHU email at any time, particularly when you want to discuss something of a personal or sensitive nature. Your instructor will generally provide a response within 24 hours. TAs will post grades and feedback (as applicable) within seven days of an assignment's due date, or within seven days of a late submission.

Classroom Etiquette and Expectations

SNHU students are expected to always act respectfully and to actively engage in the digital classroom environment. This includes:

- **Communicating Professionally:** You should always communicate professionally with your peers, instructors and TAs, and advisors, no matter where you're interacting with them (Teams, Brightspace, over email, by phone, etc.).
- **Participating in Class Sessions:** You're expected to actively participate in class sessions, especially the smaller breakout sessions, where you can ask questions and practice new concepts in a safe environment. You should be prepared to turn on your webcam so you can see your peers, instructors, and TAs "face to face." Being able to see each other can help everyone feel more engaged and connected, and can help you pick up on non-verbal cues, like smiles, confused looks, or nods of agreement.

You can refer to the [Orientation & Resource Hub](#) for more information about classroom expectations (see the section called "What's Expected of You as an SNHU Student?")

SNHU Policies: What to Know as an SNHU Student

Recordings

As part of this course, SNHU will be utilizing online resources to provide classroom instruction to students. In order to ensure that class sessions are available to students unable to attend scheduled classes, class sessions will be video and audio recorded, and the recordings made available for viewing at a later date by members of the class. Questions and comments asked and spoken by students, or entered in a chat feature, will be part of the recording. By participating in the class, you are consenting to recording. Students are invited to contact the meeting organizer with any questions or concerns about recording.

Diversity, Equity, and Inclusion

As indicated in our core values, SNHU is committed to “embrace diversity where we encourage and respect diverse identities, ideas, and perspectives by honoring difference, amplifying belonging, engaging civilly, and breaking down barriers to bring our mission to life.”

This may or will be reflected in SNHU’s curriculum as we embrace and practice diversity, equity, and inclusion (DEI) to provide the most transformative experience for our students, faculty, and staff. Because topics pertaining to DEI can be sensitive, please remember that embodying and practicing diversity, equity, and inclusion is one of our core values that you will encounter throughout the academic experience. In higher education, we are expected to think and engage critically. Use a growth mindset to embrace the diverse readings, course assignments, and experiences of your peers and faculty.

For more information about DEI at SNHU, please visit our website at the [Office of Diversity and Inclusion](#).

Attendance Policy

Online students are required to submit a graded assignment/discussion during the first week of class. If a student does not submit a graded assignment/discussion during the first week of class, the student is **automatically dropped** from the course for non-participation. Review the [full attendance policy](#).

Late Assignments Policy

Meeting assigned due dates is critical for demonstrating progress and ensuring appropriate time for instructor feedback on assignments. Students are expected to submit their assignments on or before the due date. Review the [full late assignment policy](#).

Student Handbook

Review the [student handbook](#).

ADA/504 Compliance Statement

In accordance with Section 504 of the Rehabilitation Act of 1973, Title III of the Americans with Disabilities Act (ADA) of 1990, and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008, Southern New Hampshire University does not discriminate on the basis of disability, including intellectual disability, in admission, treatment, or access to its programs or activities, nor does it discriminate in employment in its programs or activities.

The university prohibits unlawful discrimination on the basis of disability and takes action to prevent such discrimination by providing reasonable accommodations to eligible individuals with disabilities. A disability is a condition or impairment that impacts a “major life activity” or “major bodily function.”

- **Major life activities** include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working.
- **Major bodily functions** include, but are not limited to, functions of the immune system, normal cell growth, and digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions. Disabilities include physical, medical (including pregnancy), mental health, and learning needs.

At the beginning of each term, or as soon as you become aware of a disability or accessibility concern, we encourage you to contact the Online Accessibility Center (OAC) to discuss accommodations for which you may be qualified. Reasonable accommodations are established through an interactive process between the student and the OAC.

Note that accommodations are not retroactive and that disability accommodations are not provided until acceptable documentation of a disability and its impact is received and an accommodation letter has been processed. If you are unsure whether your condition qualifies as a disability or accessibility concern, please contact the OAC for determination.

Contact Information:

Online Accessibility Center

Phone: [866-305-9430](tel:866-305-9430)

Email: oad@snhu.edu

For questions concerning support services, documentation guidelines, or general disability issues, visit the [Online Accessibility Center](#) website.

If you feel you have been denied appropriate disability-related accommodations, including appropriate auxiliary aids and services, you may file a grievance as described in the ADA/504 Grievance Policy found on the [Disability and Accessibility Services](#) website.

Academic Honesty Policy

Southern New Hampshire University requires all students to adhere to high standards of integrity in their academic work. Activities such as plagiarism and cheating are not condoned by the university. Review the [full academic honesty policy](#).

Copyright Policy

Southern New Hampshire University abides by the provisions of United States Copyright Act (Title 17 of the United States Code). Any person who infringes the copyright law is liable. Review the [full copyright policy](#).

Withdrawal Policy

Review the [full withdrawal policy](#).

Southern New Hampshire University Policies

More information about SNHU policies can be found on the [policy page](#).