HCIP-5376 | Spring 2021
Introduction to Programming for Health Informatics
Course Overview & Syllabus

Instructor
Dr. Felesia Stukes

Contact Method: Canvas message (http://uncc.instructure.com/conversations), or Email (preferred for private concerns such as grades)
Email: fstukes@uncc.edu
Virtual Office: Wednesdays 2:00pm - 3:00pm by appointment (phone or WebEx)
Additional virtual meetings by phone can be scheduled as needed

Course Information
Semester/Year: Spring 2021 | January 20, 2021 – May 5, 2021
Course Number/Section: HCIP-5376 (01 and 80 Combined Section)
Course Name: Introduction to Programming for Health Informatics
Meeting Days/Times/Location: Online
Website: https://uncc.instructure.com/ (https://uncc.instructure.com/)

Pre-requisites: Enrollment in PSM, MPH or Graduate Certificate in Health Informatics and Analytics program.

Course Description: Foundational use of object-oriented programming and scripting techniques to solve common problems in health informatics. Topics include data structures for electronic health records; developing basic electronic health record applications; relational database connectivity; and interfacing with industry standard health information systems. Credit Hours: 3

This course contributes to MPH PHAN Concentration Competencies:

- Apply best practices in the design of new and/or critique of existing population health data sources
- Write programming code (SAS, R, SPSS, Stata, Python, or similar analytic programming language) to analyze a dataset of any size.

Course Objectives
This course is designed as an introduction to programming and programming language Python for students who have no or very little programming knowledge and experience. It could be considered as a preparation for more advanced programming courses as well as a self-contained course for those who want to use Python for their studies or professional work. The course is structured to
benefit most to students who have information science and informatics orientation, however, it will be equally benefit those who are interested to use Python for text and data processing. Like any other skill, your understanding of the course concepts will develop only through extensive reading, writing, and practice.

Upon completing this course you will be able to:

- Read most Python code
- Create executable code
- Identify/characterize/define a problem
- Design a program to solve the problem
- Get user-input data and manipulate it using Python.
- Implement basic Python structures such as if statements, loops, and functions.
- Read and write external data files using Python.
- Implement functions and call built-in Python functions.
- Import and use library function modules from the Python library.

**Topics**

- Why we program
- Variables, expressions and statements
- Logic and Conditions
- Functions
- Iteration
- String
- File handling
- Lists
- Dictionaries and Tuples
- Regular Expressions
- Using APIs with Python

**Important Dates**

**First Day of class:** January 20, 2021

**Last day to add, drop a course with no grade* @ 11:59 pm:** January 27, 2021

**Census Date:** February 2, 2021

**Spring Recess:** February 8, 2021 to February 13, 2021

**Last day to withdraw; grade subject to withdrawal policy** ([https://provost.uncc.edu/policies-procedures/academic-policies-and-procedures/withdrawal-and-cancellation-enrollment-policy](https://provost.uncc.edu/policies-procedures/academic-policies-and-procedures/withdrawal-and-cancellation-enrollment-policy)) : March 25, 2021

**Day of Remembrance - No Classes:** April 30, 2021

**Last day of class:** May 5, 2021
Textbook
We will be referencing a freely available digital textbook - Python for Everybody Exploring Data Using Python 3 by Charles R. Severance

The book content is integrated into the Canvas course modules. Unless you prefer a printed textbook no purchase is necessary.

Grade Determination
Cumulative grades will be posted in Canvas. Grades will not be visible to other students.

Assignments
graded by the instructor or TA will not be posted automatically. Most assignments will be graded within one week after the due date. Exceptions to this policy will be announced to the class. Meeting all course expectations and task deadlines are your responsibilities. You are responsible for all assigned tasks. I expect you to reach out immediately to the instructional team via the communications channels used for this course if you run into difficulties with the course so that we can help you be successful. We will not be able to help if you wait until the end of the semester and have earned a lower score than you wanted/needed!

Expectations:

• Work hard
• Submit work early or on time
• Participate actively
• Address issues proactively

Final letter grades are determined as follows:
A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
U= < 70%

Course Activities
There will be several major types of course activities that contribute to the overall course grade. All activities will be individual work.

1. Knowledge Checkpoints– Every module will include a quiz that covers the readings, and study material assigned for students to complete. The purpose for these quizzes is to ensure students have acquired the key knowledge points from the knowledge resources assigned to that module.
2. Practice Exercises– Every module will include shorter exercises that will evaluate the level of understanding the student achieved from the materials covered to that point.
3. Milestones - The course will include 3 milestones that results in a final project-like submission. The final assessment for the course will incorporate a final milestone component that utilizes all
material covered in the course as well as documenting and packaging programs developed.

4. **Effort** – Involvement in the course will be evaluated constantly in all phases of the course. Students who do the bare minimum will not receive any credit for effort. In addition, students may be asked to participate actively in the course’s discussion forum and are expected to ask/answer questions and share resources. The effort and quality of your participation and submissions will determine this grade. Note that to a very large extent this is a subjective grade. The course will involve problem solving and programming which are participatory activities and you must participate. Being passive isn’t going to get the job done.

**Evaluation Breakdown**

The expected breakdown of contribution from major course activities to the overall course grade follows here. While it is unlikely to change, please note that it is sometimes necessary to adjust the breakdown, and students would be duly notified in that event.

- 25% - Knowledge Checkpoints
- 30% - Practice Exercises
- 10% - Milestone 1
- 10% - Milestone 2
- 20% - Final Milestone
- 5% - Effort

**Assignment Due Dates**

Computer and Internet connectivity issues are not acceptable excuses for missing an assignment due date. It is the student’s responsibility to ensure that personal computers are functioning and that Internet connectivity is available. Students are also responsible for having a backup plan if something should happen to their computer or Internet connectivity during the semester. Students are encouraged to use UNC Charlotte campus resources should this occur. A listing of the assignments and when they are due will also be tracked in Canvas. Please review the late policy.

**Late Policy**

To protect a student’s privacy, doctor and employer notes are not accepted as reasons for missing assignments. Start assignments early to avoid missing deadlines. Personal documentation (i.e., military, death, etc.) should be sent to the [Dean of Students Office](https://dso.uncc.edu/) (DSO). The DSO office will contact the professor if the documentation has been reviewed and validated and warrants any special circumstances that may cause you to miss several weeks of class.

Please note that your assignments are considered late if they are not completed by the stated due date and time. If your assignment is late, you will usually have two additional days (48 hours) to complete it for late credit (depending on if anything contrary has been stated in the syllabus or assignment instructions.) Late credit equals a 10% reduction (each day late) to the grade you would have received. For example, if you would have received a grade of 90% for a particular assignment that is late two days, you will receive a grade of 70%.
Make a screenshot of the **confirmation page** that shows the assignment submission (**this is your only proof the assignment was submitted successfully**). Confirmation screenshots must include **your name** (i.e., your name on the Canvas page, not a typed or written name on the screenshot; **assignment name**; **date/time the assignment was submitted**. Altered screenshots will result in a 0 grade and a possible academic integrity violation. Directions for making screenshots will be provided upon request. The professor will ask for the confirmation screenshot if there is a grade discrepancy in Canvas. Grades will not be modified if a screenshot is not provided.

**Note: Quizzes must be submitted on or before the posted due date in Canvas and cannot be submitted late.**

**Incomplete Grade**
An incomplete (I) grade will be given only if a substantial amount of the course requirements has been completed and there are mitigating circumstances prohibiting the completion of all requirements prior to the end of this course (review the Exceptions policy). Normally **90%** of the work should be completed. The incomplete should be resolved within **six months** from the end of the term in which the grade was assigned. After six months, the “I” becomes an “F.”

**Communication**
Canvas discussion forums are the main communication tool used in this course. Use this forum for **ALL** non private questions relating to the course. This may include questions about assignments, use of Canvas or the course site, due dates etc.
By posting on the Class Questions Forum, you allow all students to benefit from your question and the answer. **PLEASE** use this forum instead of email so that all will benefit. Students are encouraged to respond to each other's questions as well. Everyone is initially subscribed to this forum and will receive copies of the posts to your UNC Charlotte email account. If you do not wish to be subscribed, please unsubscribe.
Do not email the instructor if your question is NOT personal in nature. If you email the instructor with a question that could benefit others in the course, you will be asked to post your question on the forum for a response.
If your concern is personal in nature, please use your UNC Charlotte email address to contact your instructor. Emails should include your course & section number and a specific subject in the subject line (example: HCIP-5376, Assignment 1 Question); 01 is the section number, and Assignment 1 Question is an example of a subject.
Emails/Forum Questions sent or posted after 4:00 p.m. will usually be answered the following day (with the exception of holidays, meetings or mandatory college travel such as seminars or training).
Please note: Communication over the weekends will be answered on Mondays (with the exception of
holidays, meetings or mandatory college travel such as seminars or training). Resubmit your email if you do not hear from your instructor within 48 hours (with the exceptions listed above).

**Attendance**

This course is an online course. Generally, class attendance is mandatory, unless a student obtains written permission from the instructor. In the context of this online course, this means that students must check the course Canvas site and UNCC email on a regular, frequent basis. You are responsible to stay informed of any course related content, postings and submit assignments regularly.

**Academic Code of Conduct and Code of Student Responsibility**

**Please note:** Integrity Violation software is used to detect academic integrity violations of all kinds.

The following are examples of violations:

- Submitting another individual’s file
- Copying/pasting **any content** from another individual’s file (this also includes copying/pasting images, logos, etc.)
- Tampering with file security encryption

Students violating the Academic Code of Conduct will receive a 0 for the first offense and extra credit will be denied. A settlement form must be reviewed with the student and the student may choose to sign the form. A student choosing not to sign the form will have his/her case reviewed by the UNCC Academic Integrity Board. ([Academic Code of Conduct Policy](https://legal.uncc.edu/policies/up-407#I)).

Students engaging in a second offense will automatically be referred to the Academic Integrity Board. **Please note:** First offenders will automatically be referred to the Academic Integrity Board if a prior incident is on file at the University.

The University has provided a detailed explanation of codes of conduct for students ([Code of Conduct: Office of Legal Affairs](https://legal.uncc.edu/policies/up-406)).

**Special Services**

It is the student’s responsibility to inform the instructor of any documented disabilities. Instructors will provide the necessary accommodations upon the advice of the Office of Services for Students with Disabilities. Documentation should be given to the instructor during or before the first week of the semester. Students who may think they have a physical or mental impairment should contact the office of Service for Students with Disabilities. Verification is needed in order to register with the Office of Disability Services. Contact Disability Services to determine what verification is needed. Information about available services may be found at [http://legal.uncc.edu/policies/ps-51.html](http://legal.uncc.edu/policies/ps-51.html)
Diversity Statement
UNC Charlotte strives to create an academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

All students are required to abide by the UNC Charlotte Sexual Harassment Policy (http://www.legal.uncc.edu/policies/ps-61.html) and the policy on Responsible Use of University Computing and Electronic Communication Resources (http://www.legal.uncc.edu/policies/ps-66.html). Sexual harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.

Religious Accommodation
It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to their instructor prior to the census date for enrollment for a given semester http://legal.uncc.edu/policies/ps-134.html.

Guiding Principles in response the COVID-19 Pandemic
Our work is grounded by our mission as a University and our care for one another.

- The health and wellbeing of our campus community are our top priorities, and we will make decisions grounded in facts and informed by the guidance of public health experts.
- We are redefining the “new norm” for successful campus life, at least temporarily. We do this knowing the actions we take today will secure a stronger, vibrant tomorrow for Niner Nation, a community united in our shared purpose and desire for a meaningful future.
- We are committed to preserving the rich learning environment that is a hallmark of the UNC Charlotte experience, even when it is delivered online.
- Every student and employee is part of the larger “WE” that makes up Niner Nation. What affects one of us affects all of us. We must assign value to the wellbeing of those around us to foster a caring environment and place of belonging for all members of our community.

Visit https://ninernationcares.uncc.edu/ (https://ninernationcares.uncc.edu/) for up to date information on UNC Charlotte's response to the COVID-19 pandemic.

This syllabus is subject to change at the instructor’s discretion. Sufficient prior notice will be given of any changes and will be announced in Canvas or through email.