HCIP 5376 Introduction to Programming for Health Informatics

Definitions used in this syllabus

- *I/me* - the instructor (Dr. Albert Park)
- *You, the student* – a student in this course
- *Instructional Team* – Instructor and Teaching Assistants
- *Us* – instructor, teaching assistants, and students
- *TAs* – Teaching Assistants
- *Our/the course* - HCIP 5376 Introduction to Programming for Health Informatics

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Office Hours: Wednesday 10am-12pm. Please send me an email to schedule a Google Meet Meeting.

Course Description

HCIP 5376 covers topics related to foundational use of object-oriented programming and scripting techniques to solve common problems in health informatics.

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.

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

Technology Skills Prerequisites

To succeed in this course, you will need to know how to do the following:

• Navigate our Canvas course site
• Download and install software to your computer
• Send email
• Add attachments to emails
• Post and reply to discussion forums
• Create screenshots of displayed output on computer monitor screen
• Create videos using screen capture of displayed output on computer monitor screen

Textbook

We will be referencing a freely available online digital textbook - Python for Everybody Exploring Data Using Python 3 by Charles R. Severance

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

Grading

Grading will be based on the following scale

A -- 100% - 90%
B -- 89% - 80%
C -- 79% - 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 exercises that will evaluate the level of understanding you 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 and engagement– 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 the 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 and engagement
General Course Policies

Communication

Following are the basic policies about communications in this course.

1. **Use the discussion forum**
   It is course policy that regular questions about course content must be asked through the discussion forum. However, if you have a private or personal matter (e.g., registering with disability services, conflict issues with group members, etc.) contact me via email. Essentially, if it is a question that someone might have asked in the classroom, it should be on the discussion forum and not in an individual email.

   Why? An individual email to the instructional team is not very efficient for communication about typical course questions. There are also several advantages:

   - **Crowdsourcing**—pick your classmates’ brains. Students in the course have a wide variety of backgrounds and experience. With many students and few personnel, another student may be able to provide a useful response more quickly than the instructional team.
   - **Synchronicity**—hey, that’s MY question. If you have a question, it is likely that someone else does too, even if they have not asked it yet.
   - **Vanguard**—I hadn’t thought of that. Your question may not have occurred to some students, so it may provide a valuable perspective they would otherwise not see.

2. **Discussion Forum Postings Must Not Include Full or Partial Solutions**

   For questions on assignments, exams, or other graded coursework, **it is not permissible to post your work, in full or in part, directly as part of a question or answer**. This amounts to giving your own work/solution to another student and is a violation of academic integrity, which will be strictly upheld. While some detail may be needed, it is usually possible to find a more general way to ask such questions. If additional detail is needed on the specifics of your work, course personnel may request it as part of their response.

3. **Discussion Forum Postings Must Be Course-Related**

   Please limit the content of course discussion forum postings to course content. Only if a discussion forum is clearly and specifically designated to include off-topic content should the forum be used to discuss matters that are not course-related.

4. **Discussion Forum Postings Must Be Respectful Of Course Personnel and Students**

   All students are required to abide by the UNC Charlotte Code of Student Responsibility. This includes participation in the discussion forums for the course. This course will be conducted in an atmosphere of mutual respect. We encourage, and require your active participation in class
discussions. Each of us may have strongly differing opinions on the various topics of class discussions. The conflict of ideas is encouraged and welcome. The orderly questioning of the ideas of others, including those of course personnel, is similarly welcome. However, we will exercise our responsibility to manage the discussions, so that ideas and arguments can proceed in an orderly and respectful fashion. You should expect that if your conduct during class discussions seriously disrupts the atmosphere of mutual respect expected in this course, you will not be permitted to participate further.

5. UNCC Email

When email communication about course matters is appropriate, you must use your UNC Charlotte email account. Per University policy, you must have and use your official University email account. It is to this account that all course email communications will be directed.

We recognize that many students prefer to use alternate email accounts. But due to privacy concerns and FERPA restrictions, course personnel will NOT send email to any account other than your official University address. You may forward to a personal account if you like, but you are still responsible for communications that course personnel send to your University account, even if the forward fails.

Attendance

This course is an online course. Students are responsible for reaching out to course staff to schedule a meeting if they should need or choose to. These meetings can be either online or offline on campus.

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 and postings.

Notification of Changes

The primary means of communication with students during the semester will be via their UNC Charlotte e-mail address and the Canvas site. It is your responsibility to check this site frequently; you are responsible for knowing the contents at all times. The standards and requirements set forth for this course may be modified at any time by me. Notice of such changes will be by email notice or by changes posted on the course’s Canvas site. For our part, we will give you as much warning of schedule changes as possible.

Important Dates

It is your responsibility to be aware of important milestones during the semester such as registration deadlines and drop dates. These are available on-line in the UNC Charlotte Academic Calendar.
Quizzes, Exercises and Milestones

All quizzes and exercises must be completed individually. Copying quizzes solutions from others or submitting joint work will result in a failing grade for all parties involved. Please refer to the Academic Integrity Policy page.

Unless course personnel explicitly specify otherwise, all milestones must be completed individually. Copying milestone material from others or submitting joint work will result in a failing grade for all parties involved. Please refer to the Academic Integrity Policy page.

Milestones must be submitted through Canvas and by the deadline specified, unless explicitly altered and posted by course personnel. There will be 3 milestones and you might be required to explain (demonstrate your work) them all in front of a grader. In this case demos may be pre-recorded for this online course.

Use your time wisely. Submit by deadlines.

Submissions and Late Work

All course content has been mapped to modules where the work spans over a given time period. There might be circumstances that arise that prevents you from meeting those deadlines. Don’t panic. You can still submit your work and receive credit. If you need more time reach out to the instructional team to make arrangements for later submissions. While you are expected and highly encouraged to meet those deadlines you should know that there is some leniency.

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. 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.

Feedback

The course will utilize some auto-grading and feedback features available in some of the digital learning tools we will be using in the course. Assessments that have this feature will provide instant feedback and grades to you. These grades will often show up in the Canvas gradebook but in some situations will require the instructional team to work on transferring those grades to Canvas. If you are not satisfied with the TAs' decision, he/she must set up a time to meet with the
course instructor, who will make the final decision.

Submissions that require manual review will typically be graded and feedback given to students later. You are responsible for checking grades and addressing feedback as soon as they are posted.

**Make-up Policy**

To protect your privacy medical and/or other personal documentation (i.e., military, death, etc.) should be sent to the Dean of Students Office (DSO). The DSO office will contact the professor if the documentation has been reviewed and validated. **Note:** Each makeup request will be evaluated on a case-by-case basis. Makeup requests may not be granted; therefore, you should work on your assignments as soon as they are available.

Students seeking religious accommodations should review the religious accommodation policy (Religious Accommodation Policy)

**Incomplete Grade**

An incomplete (I) grade will be given only if an actively-participating student is faced with circumstances prohibiting the completion of all requirements prior to the end of this course. 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.”

**General Expectations**

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!

**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 and the Settlement Form).

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 most common academic violations result from sharing computers. Students sharing computers should use password protection procedures to ensure their work is not retrieved by other students. Students failing to use password protection procedures will be violating the academic integrity policy and the student will receive the same penalty as the student retrieving the work.

To avoid violating the academic integrity policy, students should create an ITSC-1110 folder to store all work. Failing to follow this policy will not be a valid justification for violating the academic integrity policy.

The University has provided a detailed explanation of codes of conduct for students (Code of Conduct: Office of Legal Affairs).

Accessibility

The Office of Disability Services works with current undergraduate and graduate students along with prospective students to ensure equal access to UNC Charlotte's campus and educational programs.

All services are dependent upon verification of eligibility. Once approved for services, students receive accommodations which are based upon the nature of an individual's disability and documented needs. Students are strongly encouraged to register or check-in for their accommodations with a Disability Services counselor as soon as they have registered for classes. Accommodations are not retroactive and will not begin until the student notifies his or her faculty by providing the Letter of Accommodation.

Please visit the Office of Disability Services, for additional resources, email questions to disability@uncc.edu, or call 704-687-0040 for more information.

In this course, all effort has been made to use accessible software and materials. More information on the accessibility of the programs frequently used in this course can be found below:

- Canvas: https://www.canvaslms.com/accessibility
Support and Student Services

For other help, be sure to take advantage of the wealth of resources and support available at UNC Charlotte. Some of the resources available to you include the University Writing Resource Center, University Counseling Center, and the J. Murrey Atkins Library. The Student Services Online Backpack will help connect you to these resources: http://distanceed.uncc.edu/student-services/online-backpack.

Food and Shelter Insecurity

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact Student Assistance and Support Services (SASS) under the Dean of Students Office for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable her to provide any resources that she may possess.

Inclusivity

Preferred Gender Pronoun: This course affirms people of all gender expressions and gender identities. If you prefer to be called a different name than what is indicated on the class roster, please let me know. Feel free to correct me on your preferred gender pronoun. If you have any questions or concerns, please do not hesitate to contact me.

Non-Discrimination: All students and the instructional team are expected to engage with each other respectfully. Unwelcome conduct directed toward another person based upon that person’s actual or perceived race, actual or perceived gender, color, religion, age, national origin, ethnicity, disability, or veteran status, or for any other reason, may constitute a violation of University Policy 406, The Code of Student Responsibility. Any student suspected of engaging in such conduct will be referred to the Office of Student Conduct for possible conduct action or the Title IX Office. Based on such referral, the Director or designee will determine whether a Formal Charge(s) shall be pursued and whether the Formal Charge(s) constitutes a Minor Violation or a Serious Violation, based on the Student’s prior record or facts and circumstances related to the case.

COVID-19 Policy

While our course is an asynchronous online course it is important that you are aware of the university's policies regarding COVID-19. Absences in our context refers to missing deadlines.
Students are encouraged to work directly with the instructional team regarding their absence(s). For absences related to COVID-19, please adhere to the following:

- **Do not come to any in person meetings if you are sick.** Please protect your health and the health of others by staying home. Contact your healthcare provider if you believe you are ill.
- **If you are sick:** If you test positive or are evaluated by a healthcare provider for symptoms of COVID-19, complete this form to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary, and your instructors will be notified.
- **If you have been exposed to COVID-19 positive individuals and/or have been notified to self-quarantine due to exposure,** complete this form to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary, and your instructors will be notified.

To return to campus after being absent due to a COVID-19 diagnosis or due to a period of self-quarantine, students should submit an online request form to Student Assistance and Support Services (SASS). Supporting documentation can be attached directly to the request form and should be from a student's health care provider or the Student Health Center, clearly indicating the dates of absences and the date the student is able to return to class. Instructors will be notified of such absences.

If you are absent from class as a result of a COVID-19 diagnosis or quarantine, the instructional team is committed to help you continue to make progress in the course such as accepting late work, consolidating assignments to make up for missed time, tutoring sessions to help get you caught up and ensure that asynchronous learning options are available. Communicating as much as possible with the instructional team can help reduce the impact on your progress and success in this course. Keep in mind that the final decision for approval of all absences and missed work is determined by me.

**Police and Public Safety**

Campus security is provided for all students (this includes providing escorts to parking lots). For emergencies call college security at (704) 687-2200. For non-emergencies call 704-687-8300 (Police and Public Safety)

**Syllabus Revisions**

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in Canvas and any changes to this syllabus posted in the Canvas course.