DAT-129: Python 2 programming

Syllabus | Spring 2021 | Sec: NC71
Wednesdays 6:00 - 9:10pm

instructor:	**Eric C. Darsow** CCAC North CIT & Data Analytics Faculty, Instructor
office Hours:	**Mon,Tue,Wed 5-5:45pm** https://ccac.zoom.us/j/6149618122
semester:	**Spring 2021** **Online, Synchronous**
instructor Contact methods:	**In-person preferred, followed by phone calls: 412.894.3020** Please do not email unless doing so is a special electronic mail use case as described on course website edarsow@ccac.edu
CCAC CIT department	**Angie Ondrik (CIT & SEM)** aondrik@ccac.edu (412)469-6484.
CIT Dept chair	**Professor Rebecca E. Dupont** relinich@ccac.edu
CIT Dean	**Dean Brenda Trettel** btrettel@ccac.edu
course Credits	**3.0**
prerequisites	DAT-119: Python 1 or instructor approval

I: Course Description:

Building on language foundations developed in Python 1, this second semester Python course focuses on the language's powerful file processing and data manipulation tools. Students will explore core libraries that allow programs to access operating system services, manipulate data of many types, interact with the user through graphical user interfaces (GUIs) and crunch out data metrics. This fast-paced course is project-focused and builds not only Python programming skills but also best practices in object-oriented software design.

II: Learning Outcomes

The following content is extracted directly from the CCAC master course syllabus for CIT 115:

1. Upon successful completion of the course, the student will:
2. Load a python library suitable for processing files of a given type.
3. Integrate an operating system process into a given program, making use of core python OS-related objects.
4. Create instances of the core Python graphical user interface (GUI) components: buttons, text boxes, select boxes and images.
5. Convey meaningful information extracted from a simple data set.
6. Implement a user-centered design process for a Python program.
7. Model the core phases of smart design with a simple, non-technical design problem.
8. Convert a given algorithm written in English to Python.
9. Design a new algorithm to solve a technical problem.
10. Simulate a given human or system interaction in Python.
11. Curate an online portfolio of working documented Python code from at least two course projects using a version control system, like GIT.
12. Effectively discuss Python skills and their applications to a potential employer during a practice interview.

III: The nitty gritty

textbook & materials	**Purchase of Intro to Python for Computer Science and Data Science** by Paul Dieteil (Pearson; 2020; 1st ed; ISBN-10: 0-13-540467-3) is strongly encouraged, ***but optional since its about $100*** Master course website with session-specific content, submission portals, and assignment details: https://technologyrediscovery.net/#python2
letter Grades	Drawing on completed work and contributions to our class learning environment, **propose a fair letter grade and a justification at midterm and final times using a 3x5 card.** https://technologyrediscovery.net/coursesGen/trgrading.html **Attend the final session!** Attendance at final session on Wed 12-MAY2021 @ 7pm and sharing of *fully-baked* final project is required to sufficiently justify a grade proposal of A or B except for pre-approved absences and "urgent, incidental, overriding life events"
due date	Work submission and grade proposals will be accepted until **Wednesday, 19-MAY'21@ morning light** but no later.
atten-dance & tardiness	As a primarily in-class driven course, **please try to attend 75-85% of sessions**. We recognize that students face varied constraints which can differently impact feasibility of class attendance. *Tardiness shall not be considered a factor in attendance.*
tests:	**No high-stakes tests!** Low-stakes, mini assessments written on single note cards will help track learning.
technology	**Laptops:** Students are encouraged to acquire a "middle-road" consumer-grade laptop computer of their own for this

	course, with a recommended 8 GB memory. (Your instructor uses a refurbished Lenovo Thinkpad T-430 purchased for $250 on Amazon.) Python runs on all OS platforms, but your instructor and most data scientists run Linux or OSX (with the BASH). **VPN:** CCAC now provides on- and off-campus access to virtualized Linux machines on which all course projects can be undertaken. Gather current connection details from your instructor.
Academic Honesty	**Provide written credit to all relevant authors** of all code, writing, and project work for this course, including yourself and folks who help you (but who may not be published authors). Include direct URLs of websites consulted. **Honor the copyrights** associated with all content used in this course. **Consequences:** Students suspected of academic dishonesty will be asked to produce documentation to support any attributions (or, more commonly, non-attributions).

IV: Official CCAC notices

my.ccac.edu	Students are reminded that they can access their course information and CCAC email account, the CCAC Academic Calendar (including add/drop/withdrawal deadlines), the Student Handbook, the College's Incident Report form, and many other College services through the MyCCAC portal: https://my.ccac.edu
student handbook	All students are expected to read and comply with the policies and regulations set forth in the CCAC Student Handbook, including without limitation the College's policies regarding academic and behavioral conduct, the procedures for requesting an accommodation based upon a disability, pregnancy or pregnancy related condition, or a religious observance, and for reporting unlawful discrimination and harassment. The Student Handbook is available to view and download along with the full text of the College's *Policy Manual, Administrative Regulations Manual*, and the Civil Rights Complaint Procedure: https://www.ccac.edu/academic-rules-and-regulations/rules-and-regulations.php https://www.ccac.edu/president/policies-and-regulations.php
diversity	Title IX of the Education Amendments 1972 (20 U.S.C. 1681 et seq.) and its implementing regulations, 34 C.F.R. Part 106, prohibit discrimination on the basis of sex in education programs or activities operated by recipients of Federal financial assistance. It is the landmark legislation that bans gender based discrimination in schools and colleges. *"No person in the U.S. shall, on the basis of sex be excluded from participation in, or denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal aid."* https://www.ccac.edu/diversity/title-IX.php https://www.ccac.edu/diversity/notices.php
disability	Information concerning the process and documentation required to request a disability-related accommodation can be obtained by contacting the campus' Office of Supportive Services for Students with Disabilities (OSSSD) or by visiting the OSSSD information page https://www.ccac.edu/supportive-services/suppotive.php

V: Content licensing and sharing

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