**Central Washington University**

**CS 112 - Introduction to Data Science in Python**

**Course Information**

Modality:     Fully online, asynchronous.  Students may set their own schedules and do not need to risk exposing themselves to Coronavirus, or even be on campus, to attend.

Credits:      4
Lecture:      Posted via Canvas
Lab:          Posted via Canvas

Instructor:   Douglas McKinley
Office:       Canvas, Zoom
Office Hours: Video Chats by appointment, activity on Canvas more or less constant
Email:        douglas.mckinley2@cwu.edu
TAs:          TBD

**Course Catalogue Description: (Direct Quote)**
This course is an introduction to the Python programming language with the following Data Science topics; data pre-processing, working with categorical and textual data, data parsing, data and natural language processing and data visualization.

**Prerequisites:** None

**Learner Outcomes:**

Upon successful completion of this course, the student will be able to:

- Identify key characteristics of Python programming including syntax, semantics, debugging and data science packages
- Resolve compilation warning and error messages in Python.
- Gain an understanding of the foundations of data science and its applications.
- Evaluate how the data science process can be used to address real life problems.
- Demonstrate full understanding of the Python programming paradigms in respect to data science paradigm.

**Text Book/Reference: (Optional)**

- Learn Python 3 the Hard Way, Zed A. Shaw, ISBN:  978-0134693668 (Optional)
- **https://stackoverflow.com**
- **https://www.google.com/**

**Teaching Methods:**
- Lecture Slides: illustration of topics

- Lecture Videos: explanation of topics.  (Note: brief.  The point is to highlight important details from the slides or demonstrate specific techniques.  **Not** to read the slides in video format, or arbitrarily fill time.)
- Labs: practice applying topics in a pair programming setting
- Midterm: practice applying topics in an individual setting
- Project: cumulative review, practice applying topics in a self-directed setting
- Resume: Preparation for internship applications

**Grading:**
Grades will be based on:

- Labs (60% of final grade)
  - Completion of deliverables
  - Performance of pair programming
  - On-time submission
- Midterm (10% of final grade)
- Final Project (20% of final grade)
- Resume Update (10% of final grade)

Grading Scale: the course is graded using the University's default grading scheme:

**CWU** (account: Central Washington University)

| Name | Range | |
|---|---|---|
| A | 100% | to 94% |
| A- | < 94% | to 90% |
| B+ | < 90% | to 87% |
| B | < 87% | to 84% |
| B- | < 84% | to 80% |
| C+ | < 80% | to 77% |
| C | < 77% | to 74% |
| C- | < 74% | to 70% |
| D+ | < 70% | to 67% |
| D | < 67% | to 64% |
| D- | < 64% | to 61% |
| F | < 61% | to 0% |

**Make up tests and Late Homework Policy:**
Except in emergency situations, make-up tests are not allowed unless the student has been excused by instructor prior to the examination.

Similarly, late homework is generally NOT accepted.  However, incomplete homework IS.  Students who are unable to solve a particular homework problem are encouraged to

submit their work incomplete, along with answers to the following three questions, for up to 33.3% partial credit each:

- What you are trying to do (up to 33.3%)
- Why you think it isn't working (up to 33.3%)
- What you think you need to change (up to 33.3%)

Students who submit incomplete work by the deadline with these explanations may receive significant partial credit, while students who do not submit their work by the deadline cannot.

***This policy exists to relieve student stress and remove any incentive to plagiarize. It is the hope of the instructor that given the opportunity to receive credit by examining and explaining the gaps in their understanding, students are encouraged to do so rather than attempt to receive credit through plagiarism. Furthermore, students who are able to explain gaps in their understanding make it possible for the instructor to attempt to fill them, where students who choose to plagiarize force the instructor to attempt to guess what students do or don't understand.***

**Electronic Submission:**
It is the student's responsibility to double check if electronically submitted assignments uploaded successfully. After Canvas has been closed for submission of a particular assignment, further "re-submission"/"late submission" is not acceptable. For Midterm and Final exam, no late submission is acceptable after submission is closed and exam session time has been finished, i.e. student and instructor left the classroom/session. Any exam should be submitted through canvas (not email), and before canvas is closed for submission.

**General Considerations:**
If you are having difficulty with the course or with an assignment, post to Canvas for help! Whenever possible, use Canvas to access the instructor, TAs, and your fellow classmates for help.

**Accessibility and Accommodations**

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with the instructor. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Student Disability Services is located in Hogue 126. Call (509) 963-2214 or email Disability Services, ds@cwu.edu, for more information.

**Resources for Online Students**

CWU offers a variety of services and guidelines for current and future online students regarding admissions, degree-completion advising, Canvas and learning tool help, access to online library resources, and support for out-of-state students. Familiarity with these resources, broken down for future and current students, will greatly improve your knowledge of online support at CWU, the tools you'll need to engage with classes, and the essential steps and processes required for graduation.

Please refer to [our website for a complete list of available student resources.](#)

**Online Learning Basics for Students**

We at Multimodal recognize and embrace that online learning requires different strategies for students. Please refer to our Online Learning Basics page for [helpful strategies for completing your tenure at CWU online successfully](#).

**DIVERSITY AND INCLUSIVITY POLICY:**

CWU expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. For diversity and religious purposes, if adjustment for examinations or other activities ought necessary for completion of the program, that might be rescheduling examinations or activities or offering different times for examinations or activities. When needed, steps will be taken to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of the course or program. Students are required to formally request these accommodations within the first two weeks of the term. Thus, for the student's own benefit, *the student is required and strongly advised to contact the instructor by email informing about it already in the first week of the class, but no later than the second week of the class*.

*

[http://lawfilesext.leg.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Passed%20Legislature/5166-S.PL.pdf](http://lawfilesext.leg.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Passed%20Legislature/5166-S.PL.pdf)

*

[http://www.cwu.edu/resources-reports/cwup-5-90-040-academic-and-general-regulations#37](http://www.cwu.edu/resources-reports/cwup-5-90-040-academic-and-general-regulations#37)

**Disability Statement/ADA Statement:**

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with the instructor. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Disability Services is located in Hogue 126. Call (509) 963-2214 or email [ds@cwu.edu](mailto:ds@cwu.edu) for more information.

It is CWU's policy to not discriminate against qualified students with documented disabilities in its educational programs. Students with disabilities who require academic

adjustments in this class should first register with Disability Services here at CWU, and then submit an online request for special classroom accommodations and/or alternate testing. Students with disabilities who have not registered with the Disability Services (DS) are not eligible to receive accommodations/academic adjustments. Please contact DS for additional information or speak with your instructor if you have any questions.

Check for further details on CWU website: Equal Opportunity Policies and Programs - https://www.cwu.edu/resources-reports/cwup-2-35-equal-opportunity-policies-and-programs

**DISABILITY PROCEDURES:**
In any case if the student needs special arrangements for taking any exam for CS361, for the student's own benefit, *the student is required and strongly advised to contact the instructor by email informing about it already in the first week of the class, but no later than the second week of the class*. Also, contact with the same time-frame the Disability Services (DS) informing that the instructor was communicated about the need for special arrangements for the exams along the quarter in this class. The DS will then contact the instructor officializing that the student qualifies for the disability exam special arrangements.

**Academic Integrity Policy:**
CWU puts a very high value on academic integrity, and violations are not tolerated. Academic integrity is one of CWU's core principles to which all students must abide:

*I will practice academic integrity. Academic integrity is a basic guiding principle for all academic activity at CWU, allowing the pursuit of scholarly activity in an open, honest, and responsible manner. In accordance with the University's Code of Conduct, I will practice integrity in regard to all academic assignments. I will not engage in or tolerate any acts of falsification, misrepresentation, or deception because such acts of dishonesty violate the fundamental ethical principles of the university community and compromise the worth of work completed by others. I will levy penalties for academic dishonesty in accordance with published Central Washington University policy.*

Please see Student Rights and Responsibilities Policy
http://catalog.acalog.cwu.edu/content.php?catoid=35&navoid=1174

Any violation of academic integrity will receive academic and possibly disciplinary sanctions, including the possible awarding of an F grade which is recorded on the transcript and states that failure of the course was due to an act of academic dishonesty. All acts of academic dishonesty are recorded so repeat offenders can be sanctioned accordingly.

**Career Development Center:**
The Academic Career and Planning Center (ACPC) can assist students with the process of career and life planning through a full range of programs and services. You

may schedule appointments with the  staff to discuss issues including interests, skills, values, and goal setting, as well as how to find career information, internships, full-time jobs, and graduate schools. You are encouraged to utilize the provided services every year from your first semester to graduation.

Career Counseling - https://www.cwu.edu/career/career-counseling

Wildcat Career Network - https://www.cwu.edu/career/wildcat-career-network


*Disclaimer: Please note that the specifics of this course syllabus are subject to change, and you will be responsible for abiding by any such changes. Your instructor will notify you of any changes.*