

Point Loma Nazarene University
College of Natural and Social Sciences
Mathematical, Information, and Computer Sciences

CSC 3003: Python & Unix (3 units)

Spring 2026

Meeting Location and Times:

Rohr Science 365

Section 1 - MWF – 12:15 - 13:10

Section 2 - MWF – 2:55 - 15:50

Final Exam:

Section 1 - Friday May 8th 10:30 - 13:00

Section 2 - Wednesday May 6th 13:30 - 16:00

Instructor:

Professor Noah Spahn

nspahn@pointloma.edu

619 849 2491

RS 210

Books:

- *Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud* by Paul Deitel & Harvey M. Deitel
- *Python for Data & Analytics: A Business-Oriented Approach* by Daniel H. Groner

Course Description:

CSC3003/EGR3003

A course in Python programming that focuses on applications in data science, data analytics, and computational science. Programming exercises will emphasize data analysis techniques using modern third-party libraries. Students will also be introduced to UNIX based commands and utilities in data management and manipulation.

Learning Outcomes:

By the end of this course, students will be able to:

- Solve a variety of complex computational problems in Python
- Be comfortable utilizing command line interfaces in UNIX
- Present recently acquired knowledge to an audience with a variety of skill levels

PLNU Mission

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and

service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Department Mission

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

Additional Course Information

Cheating:

PLNU requires that each student turns in their own work. Turning in someone else's work, turning in work generated by an AI, turning in code a tutor wrote, or turning in code you found online is cheating. This activity will result in a 0.

Cheating on an exam will result in a 'F' in the class.

In addition, we will draft an academic integrity code of conduct for this class that will be posted on canvas and remain authoritative for the semester.

Missed Classes:

Homework missed due to PLNU activities (i.e., sports teams, choirs, etc), can be turned in the day after the student is back. Missed exams due to emergencies can be made up once the dean of students informs Professor Spahn that PLNU has approved the reason. Non-emergency missed exams will result in a zero. It is the student's responsibility to inform the professor of when they will be gone. Missed class activities, which are due to a non-dean of students' approved emergency, will result in a zero.

Late Assignments:

Late assignments will not be accepted in this class.

Required Books

- *Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud* by Paul Deitel & Harvey M. Deitel
- *Python for Data & Analytics: A Business-Oriented Approach* by Daniel H. Groner

Grading Distribution

Weekly Labs (Low-stakes knowledge check of weekly lessons)

20%

Midterm Exams (two exams, each worth 15%)	30%
Final Exam (In-person comprehensive exam)	25%
Presentations (Presentation of chapter materials + leadership in coding exercise)	5%
Weekly Quizzes (Low-stakes Wednesday pre-class quizzes)	5%
Synthesis Project (Cumulative project merging Unix and Python, requiring a 5-minute in-person "Live-Code" audit)	15%

Grading scale

A	B	C	D	F
A [92.5-100]	B+ [87.5-90]	C+ [77.5-80]	D+ [67.5-70]	F [0-60]
A- [90-92.5]	B [82.5-87.5]	C [72.5-77.5]	D [62.5-67.5]	
	B- [80-82.5]	C- [70-72.5]	D- [60-62.5]	

Final Examination Policy

Successful completion of this class requires taking the final examination on its scheduled day. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

PLNU Academic Accommodations Policy

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2533). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. Professors are able to view a student's approved accommodations through Accommodate.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course.

Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

Additional Course Information

Additional PLNU policies and practices that apply to this course can be found at the following link: <https://docs.google.com/document/d/11BgAANLOJ9tjt837d24EZ181ukM2qzHF/edit>

Weekly Topic Breakdown

Week	Date	Topic	Primary Reading
1	Jan 12	Unix Shell Basics	Navigation, Permissions, grep , find
2	Jan 19	Unix Power Tools	(MLK Mon) Pipes, Redirects, sed , awk
3	Jan 26	Python Intro	Groner Ch 1-2 / Deitel Ch 2
4	Feb 2	Control Statements	Groner Ch 3 / Deitel Ch 3
5	Feb 9	Functions & Modules	Deitel Ch 4
6	Feb 16	Strings & Regex	Unix grep vs Python re module
7	Feb 23	Lists & Tuples	Deitel Ch 5
8	Mar 2	Dictionaries & Sets	Groner Ch 4 / Deitel Ch 6
--	Mar 9	SPRING BREAK	No Classes
9	Mar 16	File I/O & CSVs	Groner Ch 5 / Deitel Ch 9
10	Mar 23	NumPy Arrays	Deitel Ch 7 / Groner Ch 6

11	Mar 30	Pandas Intro	Groner Ch 7 / Deitel Ch 7.14
12	Apr 6	Data Cleaning	(Easter Fri) Pandas <code>dropna</code> , <code>fillna</code>
13	Apr 13	Visualization	(Easter Mon) Matplotlib & Seaborn
14	Apr 20	Python for Automation	Using <code>os</code> and <code>subprocess</code> to run Unix cmds
15	Apr 27	Final Project Lab	Integration of Unix + Python Data