

Syllabus

CSCI 513.01W – Python Programming for AI

Texas A&M University Commerce

Fall 2024

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Communication Response Time: 24 hours

(Please send a second email if you did not receive a response after 2 days)

Office Hours: Online through Zoom / On-campus meeting

Day	Time
Tuesday	11:00 am – 12:00 pm & 3:00 pm – 4:00 pm
Thursday	2:00 pm - 4:00 pm
Thursday (Zoom)	4:00 pm - 5:00 pm

Zoom Link

<https://tamuc.zoom.us/j/99366433835>

There are many ways to reach me. There is no substitute for face-to-face communication which often leads to more refined and focused questions resulting in your improved understanding. I strongly encourage you to take advantage of my office hours. Email is an easy way to ask questions outside of class but is not productive as face-to-face communication. We can also use Zoom or Skype for an online face to face communication.

Meeting Time and Place

Web Based Class

Textbooks

None

Prerequisite

None

Course Objectives

This course provides students with the fundamental computational thinking knowledge necessary for further study in the field of artificial intelligence. Students will be introduced to the fundamentals of Python programming applied to artificial intelligence problems.

The main objective of this course is to develop problem-solving strategies using Python as a programming language. This course will provide students with a solid understanding of computational concepts through hands-on practice on real world AI examples from various domains.

Topics:

Topics to be covered (as time permits):

- Python Foundations:
 - Introduction to Python
 - Variables, data types, & arithmetic expressions
 - Control flow structures (if/else, loops)
 - Functions
 - Lists, tuples, sets
 - Dictionaries
 - Object oriented programming
- AI Fundamentals:
 - NumPy
 - Pandas
 - Data cleaning & preprocessing
 - Basic machine learning algorithms
 - AI Applications

Course Outcomes

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

- Have solid foundation in core programming concepts
- Use various Python data types, data structures, decisions, and loops
- Use various AI related Python libraries
- Design programs using Object-oriented programming (OOP)
- Apply Python programming to various real-world AI problems
- Access web data using web scraping

Assignments & Project

There will be a number of programming assignments. In addition, each student will work on a programming project on an AI related problem, and then present it. More details about the project and its requirements will be provided later.

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, chatbots, or other software that has the capacity to generate code, and textual answers. Any use of such software is not allowed, and constitutes an instance of academic dishonesty (plagiarism).

Grading

- Assignments: 40% of grade
- Project: 10% of grade
- Midterm Exam: 20% of grade
- Final Exam: 30% of grade

Letter grades will be determined using a standard percentage of points scale:

Letter Grade	Cut-off Score
A	90%
B	80%
C	70%

D	60%
F	Below 60%

Doing all your assignments and project will help the borderline cases. Check your grades often. Any score may be disputed up to seven (7) days after the score is posted. After 7 days the score remains as-is.

Technology Requirements - LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

Access and Navigation

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

Communication and Support

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

Methods of Instruction

The course will consist mainly of recorded lectures, discussions and student presentations. Important material from the text and outside sources will be covered during the lecture. Therefore, watching the lectures are essential for success.

This syllabus contains an overview of what will be covered in class; for specific information, students are referred to the class web page maintained on D2L course management system. The course web page will contain lectures, assignments, project information and supporting material. Information on D2L will be updated

frequently so it is a good idea to check it regularly. Assignments are posted on D2L and should be submitted through D2L.

Late Submissions Policy

All work submitted electronically must be submitted by midnight of the due date. Late work will be deducted 10% for each day past the due date. Assignment will not be accepted after three days from the due date.

Tips for Success in the Course

- Check D2L at least once a day.
- Practice the examples and practice exercise we go through during the lectures.
- Start your assignment & project early.
- Do your own work. Please do not copy other's work.
- Contact the instructor if you have difficulties in lecture material and/or the assignments.
- Attend one of the office hours.

Make-up Policy

No individual make-up test will be permitted except in the case of a formal institutional excuse. There will be no makeup for project deliverables.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Tentative Course Outline

Week	Content
1	Syllabus & Variables, data types, & arithmetic expressions
2	Decisions ((if/else) & Repetition (loops)
3	Data Structures: Lists, Tuples, & Dictionaries
4	NumPy
5	Functions, I/O
6	OOP
7	OOP
8	Midterm Exam
9	Pandas
10	Pandas - Data cleaning & preprocessing
11	Basic machine learning algorithms
12	Web scraping
13	AI Applications
14	AI Applications
15	Final Project Presentation
16	Final Exam (comprehensive)

The course outline will adapt to the actual progress of the classes and may not be accurately the same as the table above.

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

Academic Honesty

"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Handbook, Policies and Procedures, Conduct). It is the policy of the University, that no form of plagiarism or cheating will be tolerated. Plagiarism is defined as the deliberate use of another's work and claiming it as one's own. This means ideas as well as text or code, whether paraphrased or presented verbatim (word-for-word). Cheating is defined as obtaining unauthorized assistance on any assignment. Proper citation of sources must always be utilized thoroughly and accurately. If you are caught sharing or using other people's work in this class, you will receive a 0 grade and a warning on the first instance. A subsequent instance will result in receiving an F grade for the course, and possible disciplinary proceedings. If you are unclear about what constitutes academic dishonesty, ask. For more details and the definition of academic dishonesty see the following procedures:

[Graduate Academic Dishonesty 13.99.99.R0.10](#)

Special Needs

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.