CSCI 538 01W Artificial Intelligence

COURSE SYLLABUS: Summer I 2024

INSTRUCTOR INFORMATION

Instructor:	Derek Harter, Ph.D.
Office Location:	Science 355
Office Hours:	Zoom/By Appointment
University Email Address:	Derek.Harter@tamuc.edu
Preferred Form of Communication**:**	e-mail E-mail Subject Line must contain “CSci 538-01W-Name”

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Required:

Artificial Intelligence: A Modern Approach (4th Edition) by Stuart Russel and Peter Norvig ISBN-13: 978-0134610993 ISBN-10: 0134610997

Artificial Intelligence Foundations of Computational Agents by David L. Poole, and Alan K. Mackworth ISBN-13: 978-1107195394 ISBN-10: 9781107195394

Software Required

Students may develop your programs on any machine that you like: we encourage you to use your own equipment. We provide instructions for setting up a Python programming environment under Windows, OS X, and Linux.

You can use one of the several excellent Python IDEs available, with instructor materials covering PyCharm and Anaconda that are freely available for academic use and works on the major computing platforms (Windows, OS X, and Linux)

The *syllabus/schedule are subject to change.*

Course Description

This course presents a general overview of Artificial Intelligence, a fast-growing field in Computer Science that focuses on building rational or intelligent systems. The class covers the history, different fields, and social impact of AI. We also go over the major approaches, representational techniques, and core algorithms for the main branches of AI. Topics to be covered include various search techniques, planning, reasoning with propositional and predicate logic, evolutionary algorithms, and several natural language processing tasks as time permits. Students will also be introduced to Python and will solve a variety of AI problems using Python as a programming language.

Prerequisites: CSci 515 (Min Grade B)

Student Learning Outcomes

This course is similar to an exercise class. You learn new concepts and techniques, and then, exercise these new-found skills. Upon completion of this course:

1. Students will have an in-depth understanding of core areas of AI.
2. Students will gain an understanding of the trade offs and differences between various search strategies.
3. Students will be able to implement and test core AI algorithms.
4. Students will be able to choose the appropriate algorithm for solving an AI problem.
5. Students will be introduced to the current research in artificial intelligence. This will encourage them to define research problems and develop effective solutions.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Using computers, operating systems, program compilers and IDE. You are expected to be proficient in a high-level language like C++ or Java from taking 515 before this course.

Tips for Success in the Course

1. Check MyLeoOnline at least once a day for announcements and to review feedback on returned materials.
2. Read assignments and be ready for what we'll be implementing for the class assignments.
3. Ask if you don't understand something.
4. Get help (sooner rather than later) if you have problems:
    - the Academic Success Center also provides tutoring in the library for a wide variety of subjects

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    - make friends with at least one person in class so you can compare notes or check for anything you might have missed
    - get a study group together
5. Stay caught up as much as possible.
6. Get started on programs early so that you have time to get help if you find you need some help.
7. Do your own work. Consult with others about problem-solving strategies, but code it yourself.
8. What you get out of any class depends to a very large degree on what you're willing to put into it. Get in the habit of writing little practice programs to try out new language features as we learn them. As you write more programs (even small ones), the process becomes easier, you're much more likely to remember how the language works, and you get much better at programming logic (the hardest part of computer programming).
9. Know your own limits and don't over-extend yourself any more than necessary.

Instructional Methods

This course is lecture supplemented by text and D2L. To get started with the course, go to: https://leo.tamuc.edu. You will need your CWID and password to log in to the course.

1. Make-up examinations for exams will not be given. If you have a compelling and documented reason for not being able to attend the exam, you must make the alternative arrangements before the examination. Grades will not be curved for the course, and you will receive the grade that you earn through your performance on the assignments, exams, project, and bonus questions. There will be no individual exceptions to the grading policy, and, therefore grades of a C or F are possible.
2. No late work will be accepted except under special extenuating circumstances when prior arrangements have been made with the instructor.
3. Grades will be posted quickly after assignment due date since this is a 5 week course.
4. You are responsible to check your grades after each assignment. Please report any error or inconsistency to the instructor within 2 days if possible.
5. All assignments must be submitted using D2L if applicable. Students must adhere to any guidelines given for the content of submitted materials and programs in MyLeoOnline announcements.
6. All students are requested and required to access their university e-mail account and our MyLeoOnline course regularly. You may be contacted when important matters arise. If you have any questions about the course or need assistance, please contact the instructor and/or the TA in person during office hours or by e-mail at any time.

GRADING

Letter grades for the course will be assigned according to this scale of the percentages given below.

A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	59% or Below

Assessments

End-of-semester numeric scores will be weighted as follows.

- Assignments 50%
- Final Exam 40%
- Class participation 10% (including online quizzes and/or other activities)

Note: There will be a number of quizzes that will cover lecture material. Each week there would be an assignment and a quiz. They are to be solved independently and tightly related to the class materials. Neither late assignments nor makeup quizzes are allowed.

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

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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

Interaction with Instructor Statement

Please use e-mail and through the MyLeoOnline course to ask questions and for help, and to set up additional appointments if needed. We may use some of the MyLeoOnline virtual classroom tools this semester for online class feedback sessions.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

There will be no make up or extra credit for late assignments. You must turn in all assignments by the require due date, or notify the instructor with a valid reason for missing an assignment.

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.

University Specific Procedures

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

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

Students with Disabilities-- ADA Statement

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 162
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/

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.

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COURSE OUTLINE / CALENDAR

Note: This is a Summer 5 week course. The course is conducted from Monday 06/03 through Wednesday 07/03 (so actually more like 4 and ½ weeks).

Week	Topics
1	Python Programming, Agents
2	Search, NLP
3	Planning and Reasoning
4	Logic Agents
5	Regular Expressions, First Order Logic

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