IS 480/580: Special Topics: AWS Academy Machine Learning

# Course Information

## Contact

Instructor: Hieu Pham, PhD

Office: 368 Business Administration Building

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Phone Numbers: 256.824.2331

Availability/Office Hours: By Appointment

## Details

Course Name: IS 480/580: Special Topics: AWS Academy Machine Learning

Mode of Delivery: Online

Credit Hours: 3

Semester/Year: Spring 2025

Meeting day, time, and location: Online

Prerequisites:

## Overview

## This course introduces students to the concepts and terminology of Artificial Intelligence (AI), machine learning, and generative AI. By the end of this course, students will be able to select and apply machine learning services to resolve business problems. They will also be able to label, build, train, and deploy a custom machine learning model through a guided, hands-on approach.

## Objectives

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

## Describe machine learning (ML)

## Implement a machine learning pipeline using Amazon SageMaker

* Use managed Amazon ML services for forecasting
* Use managed Amazon ML services for computer vision
* Use managed Amazon ML services for natural language processing
* Identify how Amazon ML services for generative AI are used

## Materials

### Required

* AWS Academy Account (free)

## Technology Statement

This course will use UAH’s learning management system, Canvas, as well as other technology tools. Students will be expected to have access to a computer with internet capabilities to fully participate in this course.

## Evaluation and Grading

The following grading scheme will apply in this course:

A = 90 <= grade  
B = 80 <= grade < 90  
C = 70 <= grade < 80  
D = 60 <= grade < 70  
F = grade < 60

Additionally, the instructor reserves the right to modify a student’s final grade, for the benefit of the student, if deemed necessary.

Evaluation and grading will be based upon weighted assignment groups.

Evaluation and grading will be based upon the following scale. The instructor will make every attempt possible to grade all assignments within 1 week.

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| --- | --- |
| **Assignment Groups** | **Percentage of Grade** |
| Labs | 50% |
| Assignments | 50% |
| **TOTAL** | **100%** |
|  |  |

## Missed Assignments/Make-Ups/Extra Credit

Homework assignments must be turned in for credit. A late homework will result in a reduction of homework grade, 20% of full grade per day. Any work turned in after the homework has been returned to the class, or after the solution has been posted will receive no credit. Homework may be graded immediately or after a few days. There is no guarantee that any late work will receive credit.

## Attendance Policy

This online course is accessible completely online and active participation will greatly improve your success in this course. Attendance will be monitored through required course interactions and assignment submissions. You are expected to log into the course to view lectures, complete course assignments, and to check updates related to the course.

## Communication & Instructional Continuity

Canvas and email will be used extensively for communication. You must ensure that you have an active Canvas account and UAH email address. Resources and assignments will be posted to Canvas and other online locations, as announced. You are responsible for checking your Canvas and UAH email accounts regularly. Monday through Friday I will attempt to respond within 24 hours. Saturday and Sunday emails will be answered within 48 hours.

If our regular scheduled class meeting is interrupted or the campus should unexpectedly close, students should immediately log onto Canvas and read any course announcements. Students are encouraged to continue the readings and other assignments as outlined on the course syllabus until otherwise advised. Any student who does not could fall behind in the course.

## Course Conduct

All students must treat others with civility and respect and conduct themselves in a way that does not unreasonably interfere with the opportunity of other students to learn. All communication between student/instructor and between student/student should be respectful and professional.

## Academic Honesty

Your written assignments and examinations must be your own work. Academic misconduct will not be tolerated. Examples of unacceptable behavior include plagiarism/use of prior work/use of Chegg and other online problem-solving sites/etc. To ensure that you are aware of what is considered academic misconduct, you should review carefully the definitions and examples provided in the [Student Handbook](https://www.uah.edu/dos/student-conduct/handbook). If you have questions in this regard, please contact me without delay.

Artificial Intelligence Statement

Allowance without Restriction - The use of artificial intelligence models for assistance in completion of work for this course shall be treated as collaborative work and should be properly documented and cited, regardless of the degree to which the models have been utilized.

## Copyright Hieu Pham, 2025

All federal and state copyrights in my lectures and course materials are reserved by me. You are authorized to take notes in class for your own personal use and for no other purpose. You are not authorized to record my lectures or to make any commercial use of them or to provide them to anyone else other than students currently enrolled in this course, without my prior written permission. In addition to legal sanctions for violations of copyright law, students found in violation of these prohibitions may be subject to University disciplinary action under the Code of Student Conduct.

## Discussion of Concerns

If you have difficulties or concerns related to this course, your first action should be to discuss them with your instructor. If such a discussion would be uncomfortable for you or fails to resolve your difficulties, you should contact the Dr. Wai Mok Department Chairperson. If you are still unsatisfied, you should contact Dr. Orman Associate Dean of the College of Business.

# Class Outline

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| --- |
| **Topic** |
| Introducing Machine Learning |
| Implementing a Machine Learning pipeline with Amazon SageMaker |
| Introducing Forecasting |
| Introducing Computer Vision |
| Introducing Natural Language Processing |
| Introducing Generative AI |

# University Information

## Disability Statement

The University of Alabama in Huntsville will make reasonable accommodations for students with documented disabilities. If you need support or assistance due to a disability, you may be eligible for academic accommodations. [Apply here](https://kea.accessiblelearning.com/s-UAH/ApplicationStudent.aspx) or contact [Disability Support Services](https://www.uah.edu/dss) (256.824.1997 or Wilson Hall 128) as soon as possible to coordinate accommodations.

## Pertinent UAH Policies

* [UAH Student Handbook](https://www.uah.edu/dos/office-of-student-ethics-education/handbook)
* [Academic Misconduct Policy](https://www.uah.edu/policies/02-01-67-academic-misconduct-policy)
* [Complete listing of UAH Policies and Procedures](https://www.uah.edu/policies)

## Campus Resources

The University of Alabama in Huntsville offers a range of student services to enhance the experience of students.

* [Academic Support Services](https://catalog.uah.edu/undergrad/support-services/academic-support-services/)—ASAP, Student Success Center, Tutoring, PASS, Academic Support Centers by College
* [Student Support Services](https://catalog.uah.edu/undergrad/support-services/student-support-services/)—Counseling Center, Disability Support Services, Student Health Services, Office of International Services, Multicultural Affairs, etc.
* [UAlert](https://www.uah.edu/ualert)—Sign up for UAH’s emergency notification system to receive urgent messages from the university
* [Registrar’s Office](https://www.uah.edu/registrar)—Academic Calendars, Course Registration, Student Records, Commencement
* [M. Louis Salmon Library](https://www.uah.edu/library)—Printed and Online Resources, Reference Services, Group Study Rooms, AV Resources, Printing
* [Office of Diversity, Equity, and Inclusion](https://www.uah.edu/diversity)—Anti-racism resources, LGBTQ resources, lactation rooms, name change requests, internet access assistance, Title IX
* [Canvas Support](https://community.canvaslms.com/t5/Student-Guide/How-do-I-get-help-with-Canvas-as-a-student/ta-p/498)—Call 844-219-5802 to report an issue with Canvas.
* [OIT Help Desk](https://www.uah.edu/oit/contact)—For technical support, contact the OIT Help Desk ([helpdesk@uah.edu](mailto:helpdesk@uah.edu); 256.824.3333)

NOTE: When submitting a support ticket include your name, your class, the element/assignment being affected, and a detailed description of the issue. Providing a [screenshot](http://www.take-a-screenshot.org/) is often very helpful in diagnosing an issue.

## Important Dates

[Review the semester dates and deadlines and the academic calendar.](https://www.uah.edu/registrar/calendars)

## Subject to Change

Every effort is made to follow the guidelines in the syllabus; however, if needed, the syllabus will be amended. You will be notified if changes are made.