

SIADS 673: Introduction to Cloud Computing

Course Syllabus

Course Overview and Prerequisites

This course will serve as an introduction to cloud computing and teach students about cloud infrastructure, cloud management, methods to compare and contrast computing services, and performance, scalability, and availability of cloud resources for data related tasks. At the end of this course, students should be able to set up cloud based workflows for doing common data science tasks.

The prerequisites for SIADS 673 include:

- SIADS 643 Machine Learning pipelines
- SIADS 511: SQL & Databases

Instructor and Course Assistants



Michael Hess, Solution Architect Lead and Adjunct Lecturer in Information
Email: mlhess@umich.edu



Trevor Harkness, Web Developer at School of Information
Email: tharkne@umich.edu

Course Communication Expectations

Please use slack for all communications. If slack is not working for you, or there is privacy concern, please email mlhess@umich.edu directly. If you have a VISA form please send it to mlhess@umich.edu in the first week of class.

Textbook Information

There are selected readings that are inside the course with direct links to the text. There is no single textbook to read.

Learning Outcomes

- What makes all cloud vendors the same, and what makes some different.
- Explain the cloud paradigm, why it happened, and where it will be going in the future.
- Be able to compare and contrast different cloud platforms and offerings and form a recommendation to move their project forward.
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- Understand the infrastructure that runs the internet (firewalls, servers, networks, dns, disks, etc).
- Understand how to evaluate performance scalability and availability of cloud resources
- Be able to evaluate cloud hosted Data Science tools for your use case.
- Have the skillset to build a cloud hosted environment for their data science compute needs.
- Use AWS's built-in machine learning services.

Course Schedule

- **Each assignment is due on Mondays at 11:59PM US Eastern.**

Weekly Office Hours via Zoom (Ann Arbor, Michigan time):

The schedule of office hours can be found by clicking on the **Live Events** link in the left-hand navigation menu. Additionally, most office hours will be recorded and archived so that you can retrieve them at a later date. Office hours recordings can be found in the respective week/module of the course. **Office Hours by *Michael Hess on Wednesdays at 7 PM; Trevor Harkness on Fridays at 3:30 PM.***

Grading

| Week in Course | Tasks each week | Due |
|----------------|---|---------------------------------------|
| Week 1 | Letter from Laurence, Module 1 Feedback | Monday, 2/12 at 11:59PM US Eastern |
| Week 2 | Learn about new AWS services, Request from Raj, Module 2 feedback | Monday, 2/19 at 11:59PM US Eastern |
| Week 3 | Request from HR, Text Message from Kelly, Request from a client, Academy Sage maker | Monday, 2/26 at 11:59PM US Eastern |

| | | |
|--------|--|-----------------------------------|
| | project, Module 3 feedback | |
| Week 4 | Chatbot request from client, Dashboard cost calculation, Cloud usage cost calculation, Week 4 Feedback | Monday, 3/4 at 11:59PM US Eastern |

Note: All assignments are required to earn credit for this course.

Letter Grades, Course Grades, and Late Submission Policy

If an assignment is submitted late, the assignment grade will be docked 10% per day .

The grading scale for this course is as follows:

| | |
|----|------|
| A | 95%+ |
| A- | 90% |

| | |
|----|-----|
| B+ | 87% |
| B | 83% |
| B- | 80% |
| C+ | 77% |
| C | 73% |
| C- | 70% |
| D+ | 67% |
| D | 63% |
| D- | 60% |
| F | 0% |

Academic Integrity/Code of Conduct

Refer to the [Academic and Professional Integrity](#) section of the UMSI Student Handbook (access to Student Orientation course required).

Accommodations

Refer to the [Accommodations for Students with Disabilities](#) section of the UMSI Student Handbook (access to the Student Orientation course required). Use the [Student Intake Form](#) to begin the process of working with the University's Office of Services for Students with Disabilities.

Accessibility

If you have accessibility issues with the material in this class, please reach out to the instructional team.

Student Mental Health

Refer to the University's [Resources for Stress and Mental Health website](#) for a listing of resources for students.

Student Services

Refer to the [Introduction to UMSI Student Life](#) section of the UMSI Student Handbook (access to the Student Orientation course required).

Technology Tips

- Working Offline
 - If you have an issue with ongoing access to the coursera platform, and have docker running on your local computer, please reach out to the instructional team for help getting setup offline.