


# Course Syllabus

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Instructor: In Suk Jang, Ph.D

Course Schedule: Online

Contact Info: [ijang@stevens.edu](mailto:ijang@stevens.edu) (<mailto:ijang@stevens.edu?subject=CS%20559%20WS:>)

Virtual Office Hours: Friday 11 AM – 12 PM Zoom: <https://stevens.zoom.us/j/98659341783>   
(<https://stevens.zoom.us/j/98659341783>)

Prerequisite(s): Math 222: Probability Theory

Corequisite(s): Math 222: Probability Theory

## COURSE DESCRIPTION

In this course, we will talk about the foundational principles that drive machine learning applications and practice implementing machine learning algorithms. Specific topics include maximum likelihood estimation, dimension reduction, supervised learning, unsupervised learning, neural networks, and non-parametric methods. The main goal of the course is to equip you with the tools to tackle new ML problems you might encounter in life.

## STUDENT LEARNING OUTCOMES


This course is designed to familiarize the students with some basic learning algorithms and techniques and their applications, as well as general questions related to analyzing and handling data sets. Several software libraries and data sets publicly available will be used to illustrate the application of these algorithms. The emphasis will be thus on machine learning algorithms and applications, with some broad explanation of the underlying principles. The lectures will cover the current and emerging topics in machine learning:

- Maximum Likelihood Estimator
- Linear Regression and Linear Discriminant Analysis
- Logistic Regression, Dimension Reduction
- Perceptron Learning and Support Vector Machines
- Decision Trees and Boosting
- Neural Networks and backpropagation
- Clustering: K-means and Mixture of Gaussians
- Non-parametric methods such as K nearest neighbors

After successful completion of this course, students will be able to...

1. Decision Theory - Explain Bayesian decision theory, the likelihood ratio, and minimum risk classification.
2. Maximum Likelihood Estimation - Implement Maximum Likelihood Estimation for Logistic Regression.
3. Dimensionality Reduction - Apply dimensionality reduction using Principal Component Analysis.
4. Linear Discriminant Functions - Implement classifiers using linear discriminant functions and Fisher's Linear Discriminant Analysis.
5. Non-parametric Learning - Implement k-nearest neighbors and perform non-parametric classification.
6. Clustering – Implement k-means clustering and perform EM for Gaussian mixtures.
7. Support Vector Machines - Explain the advantages of Support Vector Machines and margin maximization.
8. Boosting - Explain boosting and decision tree models.
9. Neural Networks – Implement backpropagation for basic neural networks and understand the concepts of deep neural networks.

## COURSE FORMAT AND STRUCTURE

This course is fully online. To access the course, please visit [stevens.edu/canvas](https://stevens.edu/canvas)  (<http://stevens.edu/canvas>). For more information about course access or support, contact the Technology Resource and Assistance Center (TRAC) by calling 201-216-5500.

## Course Logistics

All course materials, such as lecture slides and assignments, will be available on Canvas. Any course announcements or changes (e.g., assignment extensions, etc.) will be made via Canvas. Students are encouraged to have a daily notification set up.

- You are encouraged to "mentally enroll" in this course as if it occurred on Thursday. In other words, our weeks will run from Monday to Sunday. I will post information (online activities, discussion starters, etc.) for the upcoming week by Wednesday evening so that when you log in on Thursday, you can begin the new week.
- When assignments are due, they are due by 11:59 p.m. EST on the due date listed in the course schedule.
- Deadlines are unavoidable in being a professional, and this course is no exception. Course requirements must be completed and posted or submitted on or before the specified due date and delivery time deadline. Due dates and delivery time deadlines are in Eastern Time (as used in Hoboken, NJ). Please note that students living in distant time zones or overseas must comply with this course time and due date deadline policy. Avoid any inclination to procrastinate. Due dates have been established for each assignment to encourage you to stay on schedule.

- Assignments received every 24 hours after the due date will have 10% of the total points deducted.
- Assignments received more than two weeks late after the due date will receive 0 points.
- An assignment file should be appended by your username, such as "assignment1\_kim53.doc". This makes it easier for me to manage assignment files you download to my computer.

## Instructor's Online Hours

- The regular office hours will be Friday from 11 AM to 12 PM after the lecture review session. Students can make appointments on different days and times for any schedule conflicts except Tuesday and Thursday.
- For quick and short questions, students can send me emails via Canvas. I will be available via email and respond as soon as I am available (generally within 24-48) hours.
- When emailing me, please place the course number/section and the topic of the email in the subject line (i.e., CS559 WS – Assignment 2 Question). This will help me locate your emails more quickly when I scan the hundreds of emails that seem to make it into my box daily.

## Online Etiquette Guidelines

Your instructor and fellow students wish to foster a safe online learning environment. No matter how different or controversial they may be perceived, all opinions and experiences must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea, but you cannot attack an individual. Our differences, some of which are outlined in the University's inclusion statement below, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course ambiance. Please read the Netiquette rules for this course:

- Do not dominate any discussion. Allow other students to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.
- Avoid using vernacular and/or slang language as it could lead to misinterpretation.
- Keep an "open mind" and be willing to express even your minority opinion.
- Think and edit before you push the "Send" button.
- Do not hesitate to ask for feedback.

## COURSE MATERIALS

1. **Christopher Bishop, 2006, Pattern Recognition and Machine Learning**, Springer-Verlag New York, Inc.
2. Ian Goodfellow, Yoshua Bengio, and Aaron Courville, 2016, Deep Learning, MIT Press.
3. Trevor Hastie, Robert Tibshirani, and Jerome Friedman, 2008, The Elements of Statistical Learning, Second Edition, Springer New York Inc.
4. Richard Duda, Peter Hart, and David Stork, 2000, Pattern Classification, Second Edition, Wiley.
5. **The main lecture will be following Bishop.** However, students are not required to purchase the book.

## COURSE REQUIREMENTS

1. **Quiz (15%):** There will be weekly quizzes. The questions will be from the current week's topic, and the question types are multiple-choice, true/false, and calculations. Each quiz will be available from Tuesday, together with lecture videos, until Saturday at 11:59 p.m. Quizzes are considered participation in the class.
2. **Assignments (30%):** There will be five bi-weekly assignments. Each assignment is centered around an application and will deepen your understanding of the theoretical concepts. All assignments are expected to be submitted by the dedicated due date. Any late submissions without permission will be penalized according to the late submission policy.
3. **Project (20%):** There will be a team project, and the topic will be announced on Tuesday of the 10<sup>th</sup>
4. **Midterm Exam (15%):** The midterm exam will be taken on the 6th week. It will be online via LockDown Browser and cover topics discussed to date. All questions will be based on theory, not application. No coding questions will be asked.
5. **Final Exam (20%):** The final exam is a cumulative online exam. The format and details will be announced in week 12.

## TENTATIVE COURSE SCHEDULE

| Week | Monday Date | Topics                               | Reading (Bishop) | Assignments/Quizzes |
|------|-------------|--------------------------------------|------------------|---------------------|
| 0    | 8/27        | WebCampus Orientation Begins         |                  |                     |
|      |             | Fall 2024 Term begins on 9/3 Tuesday |                  |                     |
| 1    | 9/3         | Linear Regression                    | Ch 3             | HW 1, Quiz 1        |

|    |       |   |          |              |
|----|-------|---|----------|--------------|
| 2  | 9/10  | Linear Classification I                         | Ch 4     | Quiz 2       |
| 3  | 9/17  | Linear Classification II                        | Ch 4     | HW 2, Quiz 3 |
| 4  | 9/24  | Model Selection                                 |          | Quiz 4       |
| 5  | 10/1  | Neural Networks (NNs)                           | Ch 5     | HW 3, Quiz 5 |
| 6  | 10/8  | Midterm Review<br>Midterm Exam                  |          |              |
| 7  | 10/15 | Kernel Methods                                  | Ch 6     | Quiz 6       |
| 8  | 10/22 | Support Vector Machine                          | Ch 7     | HW 4, Quiz 7 |
| 9  | 10/29 | Clustering Techniques                           | Ch 9     | Quiz 8       |
| 10 | 11/5  | Continuous Latent Variables<br>Graphical Models | Ch 8, 12 | HW 5, Quiz 9 |
| 11 | 11/12 | Combined Models                                 | Ch 14    | Quiz 10      |
| 12 | 11/19 | Project Week                                    |          |              |
| 13 | 11/26 | Project Week                                    |          |              |
| 14 | 12/3  | Review  |          |              |
| 15 | 12/10 | Final Exam                                      |          |              |

## TECHNOLOGY REQUIREMENTS

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Canvas

## Technology skills necessary for this specific course

- Live web conferencing using Zoom
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video via Panopto

## Required Equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

## GRADING PROCEDURES

- Exceed expectations: This is representative of the quality of work we would expect to see from a ML professional within an organization. You demonstrate an expert ability to assess an organization and communicate your ideas for the application of different methods of analytics to solve business problems. Your analysis is thorough and well-written. Assignments in this category usually are A-range.
- Meets expectations: We can clearly understand your analysis. You are able to communicate ideas with gaps minor enough that we can figure out what it is you wanted to say. Your arguments and calculations are consistent. Assignments in this category usually are B-range.
- Nearly meets expectations: We understand, but we may need to follow up with a few questions about the details. There are some significant gaps in responding to the assessment criteria. Some of your explanations may not be articulated clearly or there may be some confusion in your assessment of an organization or communication of your ideas for the application of different methods of analytics to solve business problems. Assignments in this category usually are C-range.
- Does not meet expectations: It is clear you do not understand the concepts being described in this course. Multiple frames have not been addressed or are addressed insufficiently. Your descriptions and analysis are not written clearly. Assignments in this category usually are D-range.
- No credit: No credit was earned for this assignment, or no work was submitted. Assignments in this category usually are F-range.

## Late Policy

A 10% late submission penalty will be applied every 24 hours from the due date. All assignments must be submitted for passing consideration. Late assignments must receive my permission, and a penalty will be assessed. All written assignments must be submitted to the course website; email submissions or re-submissions are not accepted.

## Academic Integrity

This is a graduate-level course. All students, regardless of the status (full-time or part-time) or rank (graduate or undergraduate), will have an equal amount of work and will be equally evaluated.

### Generative AI Technologies

You may use AI programs e.g. ChatGPT to help generate ideas and brainstorm. However, you should note that the material generated by these programs may be inaccurate, incomplete, or otherwise problematic. Beware that use may also stifle your own independent thinking and creativity.

You may not submit any work generated by an AI program as your own. If you include material generated by an AI program, it should be cited like any other reference material (with due consideration for the quality of the reference, which may be poor).


Any plagiarism or other form of cheating will be dealt with under relevant Stevens policies.

## Undergraduate Honor System

Enrollment into the undergraduate class of Stevens Institute of Technology signifies a student's commitment to the Honor System. Accordingly, the provisions of the Stevens Honor System apply to all undergraduate students in coursework and Honor Board proceedings. It is the responsibility of each student to become acquainted with and to uphold the ideals set forth in the Honor System Constitution. More information about the Honor System including the constitution, bylaws, investigative procedures, and the penalty matrix can be found online at <http://web.stevens.edu/honor/>.


The following pledge shall be written in full and signed by every student on all submitted work (including, but not limited to, homework, projects, lab reports, code, quizzes and exams) that is assigned by the course instructor. No work shall be graded unless the pledge is written in full and signed.

***“I pledge my honor that I have abided by the Stevens Honor System.”***

Students who believe a violation of the Honor System has been committed should report it within ten business days of the suspected violation. Students have the option to remain anonymous and can report violations online at [www.stevens.edu/honor](http://www.stevens.edu/honor)  (<http://www.stevens.edu/honor>).

## Graduate Student Code of Academic Integrity

All Stevens graduate students promise to be fully truthful and avoid dishonesty, fraud, misrepresentation, and deceit of any type in relation to their academic work. A student's submission of work for academic credit indicates that the work is the student's own. All outside assistance must be acknowledged. Any student who violates this code or who knowingly assists another student in violating this code shall be subject to discipline.

All graduate students are bound to the Graduate Student Code of Academic Integrity by enrollment in graduate coursework at Stevens. It is the responsibility of each graduate student to understand and adhere to the Graduate Student Code of Academic Integrity. More information including types of violations, the process for handling perceived violations, and types of sanctions can be found on the [Office of Graduate Academics web page](https://www.stevens.edu/academics/graduate-study/office-of-graduate-academics-and-student-success)  (<https://www.stevens.edu/academics/graduate-study/office-of-graduate-academics-and-student-success>).

## Special Provisions for Undergraduate Students in 500-level Courses

The general provisions of the Stevens Honor System do not apply fully to graduate courses, 500 level or otherwise. Any student who wishes to report an undergraduate for a violation in a 500-level course shall submit the report to the Honor Board following the protocol for undergraduate courses, and an investigation will be conducted following the same process for an appeal on false accusation described in Section 8.04 of the Bylaws of the Honor System. Any student who wishes to report a graduate student may submit the report to the Senior Vice Provost for Graduate Education or to the Honor Board, who will refer the report to the senior vice provost. The Honor Board Chairman will give the Senior Vice Provost for Graduate Education weekly updates on the progress of any casework relating to 500-level courses. For more information about the scope, penalties, and procedures pertaining to undergraduate students in 500-level courses, see Section 9 of the Bylaws of the Honor System document, located on the Honor Board website.



# EXAM CONDITIONS

The exams will be taken online. All exams are closed exams except for the lecture notes. Any evidence of using third-party resources (e.g., ChatGPT, Internet, etc.) will be subjected to be reported, and the student will receive an F for the course.

## Midterm:


The midterm is an online exam, and it will be available in the course Canvas on the 7<sup>th</sup> week, from Tuesday (10/15) to Monday (10/21). Students can start the exam at any time during the period at their convenience, but it must be submitted by 10/21<sup>st</sup> at 11:59 PM. The midterm will cover topics discussed up to week 6.

## Final Exam:

The final exam is an online exam, and it will be opened on the 15<sup>th</sup> week, Tuesday (12/10<sup>th</sup>), in the Canvas course and will be available until Saturday (12/17<sup>th</sup>). Students can start the exam at any time during the exam period at their convenience, but it must be submitted by 12/17<sup>th</sup> at 11:59 PM. The final exam will be cumulative, covering all topics discussed during the semester.

# ACCOMMODATIONS

Stevens Institute of Technology is dedicated to providing appropriate accommodations to students with documented disabilities. The Office of Disability Services (ODS) works with undergraduate and graduate students with learning disabilities, attention deficit-hyperactivity disorders, physical disabilities, sensory impairments, psychiatric disorders, and other disabilities to help students achieve their academic and personal potential. They facilitate equitable access to the educational programs and opportunities offered at Stevens and coordinate reasonable accommodations for eligible students. These services are designed to encourage independence and self-advocacy with support from the ODS staff. The ODS staff will facilitate the provision of accommodations on a case-by-case basis.

For more information about Disability Services and the process to receive accommodations, visit <https://www.stevens.edu/student-diversity-and-inclusion/disability-services>  (<https://www.stevens.edu/student-diversity-and-inclusion/disability-services>). If you have any questions

please contact the Office of Disability Services at [disabilityservices@stevens.edu](mailto:disabilityservices@stevens.edu) (<mailto:disabilityservices@stevens.edu>) or by phone: 201.216.3748.

## Disability Services Confidentiality Policy

Student Disability Files are kept separate from academic files and are stored in a secure location within the Office of Disability Services. The Family Educational Rights Privacy Act (FERPA, 20 U.S.C. 1232g; 34CFR, Part 99) regulates disclosure of disability documentation and records maintained by Stevens Disability Services. According to this act, prior written consent by the student is required before our Disability Services office may release disability documentation or records to anyone. An exception is made in unusual circumstances, such as the case of health and safety emergencies.

## INCLUSIVITY

Stevens Institute of Technology believes that diversity and inclusiveness are essential to excellence in academic discourse and innovation. In this class, the perspective of people of all races, ethnicities, gender expressions and gender identities, religions, sexual orientations, disabilities, socioeconomic backgrounds, and nationalities will be respected and viewed as a resource and benefit throughout the semester. Suggestions to further diversify class materials and assignments are encouraged. If any course meetings conflict with your religious events, please do not hesitate to reach out to your instructor to make alternative arrangements.

You are expected to treat your instructor and all other participants in the course with courtesy and respect. Disrespectful conduct and harassing statements will not be tolerated and may result in disciplinary actions.


## Name and Pronoun Usage

As this course includes group work and class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect. This includes the ability for all students to have their chosen gender pronoun(s) and chosen name affirmed. If the class roster does not align with your pronouns and/or name, please inform the instructor of the necessary changes.

### Religious Holidays

Stevens is a diverse community that is committed to providing equitable educational opportunities and supporting students of all ethnicities and belief systems. Religious observance is an essential reflection of that rich diversity. Students will not be subject to any grade penalties for missing a class, examination, or any other course requirement due to religious observance. In addition, students will not be asked to choose between religious observance and academic work. Therefore, students should inform the instructor at the beginning of the semester if a requirement for this course conflicts with religious observance so that accommodations can be made for students to observe religious practices and complete the requirements for the course.

## MENTAL HEALTH RESOURCES

Part of being successful in the classroom involves a focus on your whole self, including your mental health. While you are at Stevens, there are many resources to promote and support mental health. The Office of Counseling and Psychological Services (CAPS) offers free and confidential services to all enrolled students who are struggling to cope with personal issues (e.g., difficulty adjusting to college or trouble managing stress) or psychological difficulties (e.g., anxiety and depression). Appointments can be made by phone (201-216-5177), online at <https://stevensportal.pointnclick.com/confirm.aspx>  (<https://stevensportal.pointnclick.com/confirm.aspx>), or in person on the 2<sup>nd</sup> Floor of the Student Wellness Center.

## EMERGENCY INFORMATION

In the event of an urgent or emergent concern about your own safety or the safety of someone else in the Stevens community, please immediately call the Stevens Campus Police at 201-216-5105 or on their emergency line at 201-216-3911. These phone lines are staffed 24/7, year-round. For students who do not reside near the campus and require emergency support, please contact your local emergency response providers at 911 or via your local police precinct. Other 24/7 national resources for students dealing with mental health crises include the National Suicide Prevention Lifeline (1-800-273-8255) and the Crisis Text Line (text “Home” to 741-741). If you are concerned about the wellbeing of another Stevens student, and the matter is *not* urgent or time sensitive, please email the CARE Team at [care@stevens.edu](mailto:care@stevens.edu) (<mailto:care@stevens.edu>). A member of the CARE Team will respond to your concern as soon as possible.

## Course Summary:

| Date            | Details   | Due            |
|-----------------|---|----------------|
| Fri Sep 6, 2024 |  <a href="https://sit.instructure.com/calendar?event_id=352016&amp;include_contexts=course_73720">2024F CS 559-WS Recording</a><br>( <a href="https://sit.instructure.com/calendar?event_id=352016&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352016&amp;include_contexts=course_73720</a> ) | 9am to 12:30pm |

| Date             | Details   | Due            |
|------------------|---|----------------|
| Sat Sep 7, 2024  |  <b><u>Quiz 1 - Linear Regression- Requires Respondus LockDown Browser</u></b><br><a href="https://sit.instructure.com/courses/73720/assignments/521832">https://sit.instructure.com/courses/73720/assignments/521832</a>                    | due by 11:59pm |
| Thu Sep 12, 2024 |  <b><u>2024F CS 559-WS Office Hours</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352030&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352030&amp;include_contexts=course_73720</a>   | 11am to 12pm   |
| Fri Sep 13, 2024 |  <b><u>2024F CS 559-WS Recording</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352017&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352017&amp;include_contexts=course_73720</a>      | 9am to 12:30pm |
| Sat Sep 14, 2024 |  <b><u>Quiz 2 Linear Classification 1 - Requires Respondus LockDown Browser</u></b><br><a href="https://sit.instructure.com/courses/73720/assignments/521833">https://sit.instructure.com/courses/73720/assignments/521833</a>               | due by 11:59pm |
| Mon Sep 16, 2024 |  <b><u>hw1</u></b><br><a href="https://sit.instructure.com/courses/73720/assignments/521827">https://sit.instructure.com/courses/73720/assignments/521827</a>  | due by 11:59pm |
| Thu Sep 19, 2024 |  <b><u>2024F CS 559-WS Office Hours</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352031&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352031&amp;include_contexts=course_73720</a> | 11am to 12pm   |
| Fri Sep 20, 2024 |  <b><u>2024F CS 559-WS Recording</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352018&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352018&amp;include_contexts=course_73720</a>    | 9am to 12:30pm |
| Thu Sep 26, 2024 |  <b><u>2024F CS 559-WS Office Hours</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352032&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352032&amp;include_contexts=course_73720</a> | 11am to 12pm   |
| Fri Sep 27, 2024 |  <b><u>2024F CS 559-WS Recording</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352019&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352019&amp;include_contexts=course_73720</a>    | 9am to 12:30pm |
| Thu Oct 3, 2024  |  <b><u>2024F CS 559-WS Office Hours</u></b><br><a href="https://sit.instructure.com/calendar?event_id=352033&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352033&amp;include_contexts=course_73720</a> | 11am to 12pm   |

| Date             | Details  | Due            |
|------------------|--|----------------|
| Fri Oct 4, 2024  |  <b>2024F CS 559-WS Recording</b><br><a href="https://sit.instructure.com/calendar?event_id=352020&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352020&amp;include_contexts=course_73720</a>      | 9am to 12:30pm |
| Thu Oct 10, 2024 |  <b>2024F CS 559-WS Office Hours</b><br><a href="https://sit.instructure.com/calendar?event_id=352034&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352034&amp;include_contexts=course_73720</a>   | 11am to 12pm   |
| Fri Oct 11, 2024 |  <b>2024F CS 559-WS Recording</b><br><a href="https://sit.instructure.com/calendar?event_id=352021&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352021&amp;include_contexts=course_73720</a>      | 9am to 12:30pm |
| Thu Oct 17, 2024 |  <b>2024F CS 559-WS Office Hours</b><br><a href="https://sit.instructure.com/calendar?event_id=352035&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352035&amp;include_contexts=course_73720</a>   | 11am to 12pm   |
| Fri Oct 18, 2024 |  <b>2024F CS 559-WS Recording</b><br><a href="https://sit.instructure.com/calendar?event_id=352022&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352022&amp;include_contexts=course_73720</a>      | 9am to 12:30pm |
| Thu Oct 24, 2024 |  <b>2024F CS 559-WS Office Hours</b><br><a href="https://sit.instructure.com/calendar?event_id=352036&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352036&amp;include_contexts=course_73720</a> | 11am to 12pm   |
| Fri Oct 25, 2024 |  <b>2024F CS 559-WS Recording</b><br><a href="https://sit.instructure.com/calendar?event_id=352023&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352023&amp;include_contexts=course_73720</a>    | 9am to 12:30pm |
| Thu Oct 31, 2024 |  <b>2024F CS 559-WS Office Hours</b><br><a href="https://sit.instructure.com/calendar?event_id=352037&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352037&amp;include_contexts=course_73720</a> | 11am to 12pm   |
| Fri Nov 1, 2024  |  <b>2024F CS 559-WS Recording</b><br><a href="https://sit.instructure.com/calendar?event_id=352024&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352024&amp;include_contexts=course_73720</a>    | 9am to 12:30pm |
| Thu Nov 7, 2024  |  <b>2024F CS 559-WS Office Hours</b><br><a href="https://sit.instructure.com/calendar?event_id=352038&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352038&amp;include_contexts=course_73720</a> | 11am to 12pm   |
| Fri Nov 8, 2024  |  <b>2024F CS 559-WS Recording</b><br><a href="https://sit.instructure.com/calendar?event_id=352025&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352025&amp;include_contexts=course_73720</a>    | 9am to 12:30pm |

| Date             | Details  | Due            |
|------------------|--|----------------|
| Thu Nov 14, 2024 |  <b>2024F CS 559-WS Office Hours</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352039&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352039&amp;include_contexts=course_73720</a> )   | 11am to 12pm   |
| Fri Nov 15, 2024 |  <b>2024F CS 559-WS Recording</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352026&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352026&amp;include_contexts=course_73720</a> )      | 9am to 12:30pm |
| Thu Nov 21, 2024 |  <b>2024F CS 559-WS Office Hours</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352040&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352040&amp;include_contexts=course_73720</a> )   | 11am to 12pm   |
| Fri Nov 22, 2024 |  <b>2024F CS 559-WS Recording</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352027&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352027&amp;include_contexts=course_73720</a> )      | 9am to 12:30pm |
| Thu Nov 28, 2024 |  <b>2024F CS 559-WS Office Hours</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352041&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352041&amp;include_contexts=course_73720</a> )   | 11am to 12pm   |
| Fri Nov 29, 2024 |  <b>2024F CS 559-WS Recording</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352028&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352028&amp;include_contexts=course_73720</a> )    | 9am to 12:30pm |
| Thu Dec 5, 2024  |  <b>2024F CS 559-WS Office Hours</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352042&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352042&amp;include_contexts=course_73720</a> ) | 11am to 12pm   |
| Fri Dec 6, 2024  |  <b>2024F CS 559-WS Recording</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352029&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352029&amp;include_contexts=course_73720</a> )    | 9am to 12:30pm |
| Thu Dec 12, 2024 |  <b>2024F CS 559-WS Office Hours</b><br>( <a href="https://sit.instructure.com/calendar?event_id=352043&amp;include_contexts=course_73720">https://sit.instructure.com/calendar?event_id=352043&amp;include_contexts=course_73720</a> ) | 11am to 12pm   |