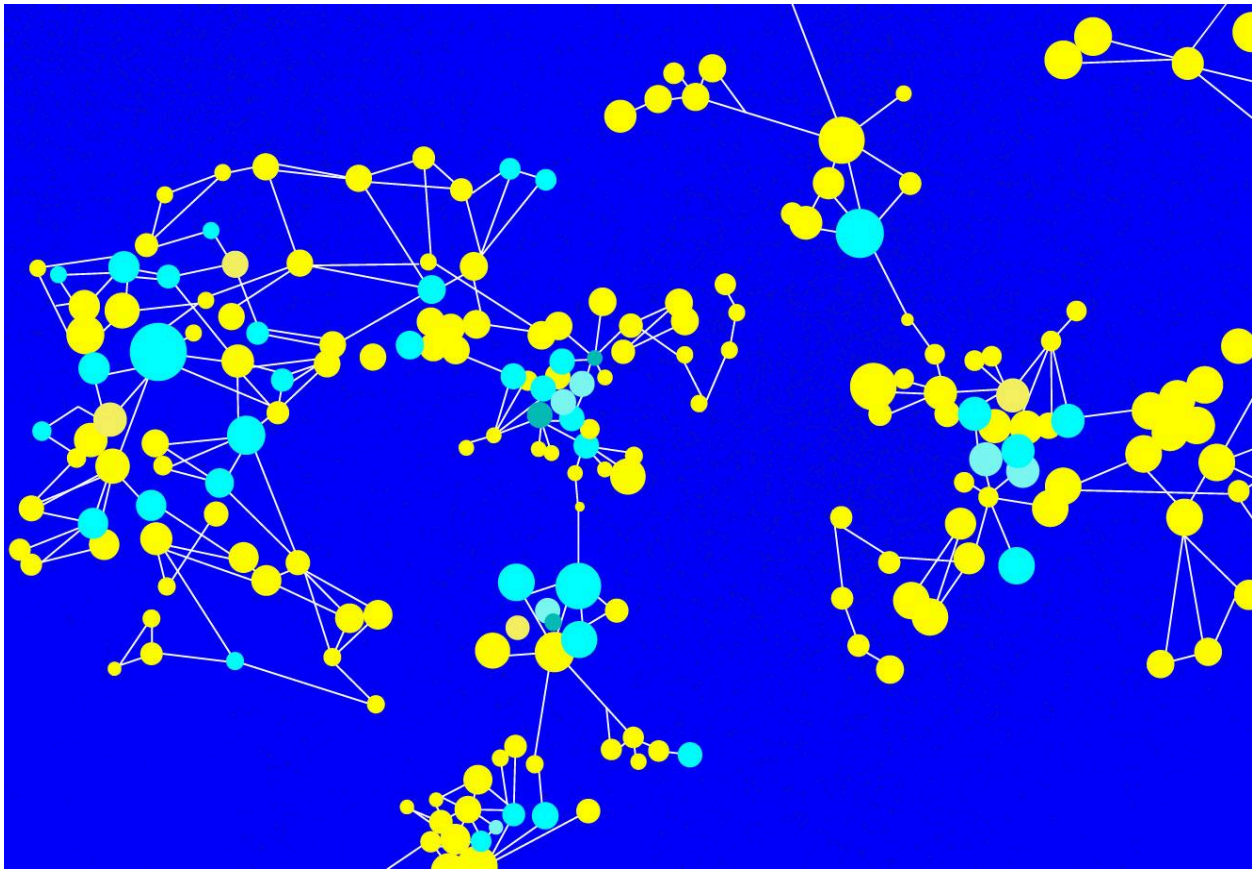
Stanford | ONLINE

XCS224W Machine Learning With Graphs

Course Syllabus



Graduate Education
Professional Certification
online | at Stanford | at work

Welcome

Welcome to XCS224W: Machine Learning with Graphs! This professional course is based on graduate-level material from Stanford's on-campus course, CS224W, adapted for a professional certificate format.

- Learn from Stanford graduate lecture videos that have been edited and segmented by topic for easier navigation, reference, and review.
- Complete guided homework assignments implementing content covered in the course lectures.
- Receive support from Stanford-affiliated Course Facilitators.
- Connect to a cohort of peers from diverse locations and professional backgrounds.

Course Platforms and Tools

CGOE Learning Management System: accessed via the mystanfordconnection site which you used to enroll in this course.

GitHub: to distribute code and data for the assignments.

Slack: for additional course support and class discussions.

Important Dates

April 4 afternoon Pacific Time: Slack and GitHub invites sent (Accept within 7 days)

➔ *Did not receive the Slack invite and it's **not in your spam**?*
- XCS224W.slack.com
- I have a Guest Account
- Log in using your credentials

➔ *Did not receive the GitHub Invite?*
- Email xcs224W-staff@stanford.edu
- Let us know if you'd like to receive the invite to a different email

April 7 noon Pacific all lecture videos become available.
- Log in to your mystanfordconnection account
- Click on the link titled "Course Videos and Assignments"

➔ Here is a video on how to navigate the course portal.

April 7 evening Pacific Time Course Facilitator connection emails sent out to learners.

➔ Course Facilitators serve as your primary point of contact for content and assignment related questions

April 25 at 5:00pm PST Drop/Transfer Deadline

Deadlines and Pacing

Course Start: April 7 **Course End:** June 15

Below is a *suggested* pacing guide. Please, note the assignment deadlines (all **11:59 PM Pacific**).

Week	Suggested Videos	Assignments		
		Release Date	Regular Deadline	Late Deadline
1&2 Apr 7 - Apr 20	Traditional Method for ML on Graphs Introduction to Graph Neural Networks	April 7	**Colab 1** April 20	
3&4 Apr 21 - May 4	Theory of Graph Neural Networks Knowledge Graphs		**Colab 2** May 4	**Colab 1** April 25
5&6 May 5 - May 18	A Network Motifs and Community Generative Models for Graphs		**Colab 3** May 18	**Colab 2** May 9
7&8 May 19 - Jun 1	Advanced Topics in GNNs Special Topics and Research on GNNs		**Colab 4** June 1	**Colab 3** May 23
9&10 Jun 2 - Jun 15			**Colab 5** June 15	**Colab 4** June 6 **Colab 5** June 20

Late Deadlines and Penalty Waiver

Late Deadlines: All assignment submissions can be turned in up to five days late and are assessed a penalty of -1 point per late day. After five days, the submission link will close, and entries will no longer be accepted.

Penalty Waiver: You have the option to remove late penalty points from any one assignment.

To *request* a penalty waiver, please complete the following Google form linked here**.** Please ensure that the email address used for your submission matches the one you used at enrollment. All requests will be applied at the end of the course.

Assignments and Grading

Each CoLab will consist of a notebook that contains guided cells as well as homework prompts. You'll upload your notebooks to the SCPD Gradescope autograder, which will report back your current score on the assignment. You are allowed to submit any assignment unlimited times before the stated due date so you can continue to get feedback and debug.

Here is a short description of each CoLab.

Learners may submit regrade requests on Gradescope within one week of the assignment grades being posted in cases of clear grading errors, such as miscalculations.

Certificate Requirements

The course is pass/no-pass, and no letter grades are granted. To pass the course, you must achieve a total score of 70% or higher on the assignments. Upon successful completion, you will receive a digital course certificate.

- There are a total of 300 base points (meaning 210 to achieve 70%).

Deliverables	Points
Colab 1	30
Colab 2	45
Colab 3	90
Colab 4	75
Colab 5	60
Total Available	**300**
Minimum Passing Total	**210 (70 %)**

Note: Please note that the course certificates will only be sent at the end of the course.

Course Facilitators and Support

We encourage posting any class/content-related questions in relevant Slack channels. This way, you'll likely get a faster response from either the course staff or your classmates. However, before you post, make sure you're familiar with the important course policies.

Additionally, starting from the first day of the course, you'll be connected to a Course Facilitator (CF). who will be your primary point of contact for content and assignment inquiries. They'll each lead a smaller group of learners, providing personalized support. Your Course Facilitator will keep you informed about important reminders and their availability for questions, potential online office hours, and 1:1 sessions.

Note on Code Assignments and Debugging

While the course team is here to support your experience, it is ultimately your responsibility to write, test, and debug your own coding assignments. Before reaching out to a CF or posting your question in Slack, it's expected that you have taken the reasonable step of performing an analysis yourself. CFs may view and provide guidance on your work; however, they will not provide exact answers on what to insert into your assignments. This policy is meant to ensure that you leave the course having mastered the material and enables CFs to focus on questions where their guidance is most impactful.

Drop/Transfer Policy

We don't want to see you go, but if you decide this is not the right course or time, there are two available options: either **drop** the course OR **transfer** to the next iteration of this course/another course within the AI Professional Program. All learners have the option to transfer a total of (1) time per course for their duration in the program. Once this one-time transfer is used for a particular course, no additional transfer requests for that specific course will be accepted. To request a drop or transfer, email ai-drop-transfer@stanford.edu Please include the course number and request type (drop or transfer) in the subject line to ensure your request is processed correctly.

Up until April 7	No cost for drop/transfer. If you drop, you will get a full refund.
Up until April 25	Once the course has begun, there will be a drop/transfer fee of $200, i.e.: If you request a drop, you will be reimbursed 100% of your tuition minus $200. If you request a transfer, there will be a $200 fee in the form of an invoice.

Important Note: No tuition refunds will be issued after the third week of the course.

Important Policies

Honor Code

Students will be asked to review and maintain the standard set forth by the Stanford Honor Code when completing quizzes and assignments in this course. You can review the section labeled Violations of the Honor Code for representative examples relevant to this course.

Students are strongly encouraged to form study groups, discuss, and work on homework problems in groups, and help each other; However, each student must write down the solutions independently and cannot refer to written notes from the joint session. **In other words, you must understand the solution well enough in order to reconstruct it independently.** Further, because we occasionally reuse assignment questions from previous years, you are expected not to copy, refer to, or look at the solutions in preparing your answers. It is an honor code violation to intentionally refer to a previous year's solutions

After completing this course, you are welcome to share your experience and credentials with others; however, **it is considered a violation of the honor code to share assignment solutions including on public platforms such as GitHub**. Faculty in the computer science department have strongly encouraged us to refrain from posting solutions for assignments, thus we ask that you **DO NOT** share the exact code.

Note on LLM Usage

Students are required to independently submit their solutions for AI Professional homework assignments. Collaboration with generative AI tools, such as Co-Pilot and ChatGPT, is allowed, treating them as collaborators in the problem-solving process. You may use these tools for guidance, but **you may *NOT* directly ask for answers or copy solutions, and you must acknowledge Generative AI tools as collaborators in your submission whenever used**. If you do consult an AI tool, use **critical judgment** and evaluate the output carefully. Ultimately, we want you to learn and develop your skills.

Employing AI tools to substantially complete assignments is prohibited and will be treated as a violation of the Honor Code Policy, **which may result in dismissal from the course.** We will actively monitor homework submissions to enforce this policy. For additional details, please refer to the Generative AI Policy Guidance.

For more information and examples on LLM usage, please Click Here.

Communication Guidelines

One of the benefits of this course is the opportunity to network with other course participants, to create study groups and to engage with course staff. We encourage this kind of interaction and want to make sure that it is a positive experience for everyone. It is imperative that no course participant is made to feel uncomfortable or their ability to learn or otherwise benefit from the course is impeded by the actions of another participant. Please use good judgment. Keep all interactions professional and focused on coursework or career networking. Maintain respect in all your interactions by using polite language, avoid using offensive language and be considerate of your colleagues' preferences regarding direct messaging. Please respect and uphold the rights and dignity of others regardless of race, color, national or ethnic origin, sex, age, disability, religion, sexual orientation, gender identity, or socio-economic status. Our team is always available either in Slack or via email, so please feel free to reach out to us if you have any questions or concerns.

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