

CS 492

Introduction to Research

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Kyle C. Hale

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 - Office Hours: Wed 12PM-1:50PM



Agenda

- Course Overview
- Syllabus and Administrivia



Course Overview

- **Goal** - Prepare you for:
 - Doing research
 - Completing an Honors Thesis
- You should **dive in early!**
 - Figure out what interests you
 - Choose a research area
 - Plan courses accordingly



Things We'll Talk About: Motivation and Process

- Why you should do research and thesis
- What is the research process like?
- Reading the literature
- Charting your path towards a thesis



Things We'll Talk About: Practicum

- Research that CS professors are doing @ IIT
- Research that CS undergrads are doing @ IIT
- Career paths



Guest Lectures

- IIT College of Computing **Professors**
- **Undergraduates** who are doing/have done research



Syllabus



Prerequisites

- Formally: **no course prereqs.**
- You are enrolled in the Honors Research Specialization
- You are a first or second-year CS undergraduate



Online Resources

- 1. Course Website

- <https://khale.github.io/iit-ugrad-cs-research-class-site>

- static information

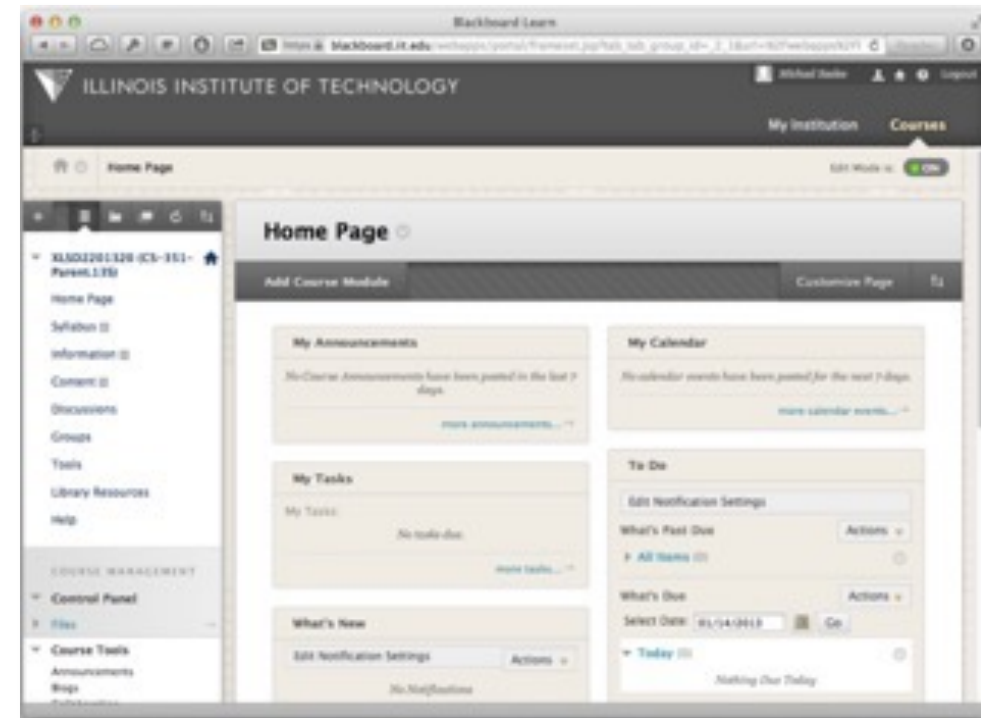
- lecture calendar
- announcements
- assignment handouts
- slides
- links
- useful links, etc.

The screenshot shows a web page for CS 492. On the left is a navigation sidebar with links for 'Course Calendar', 'Schedule', 'Staff', and 'Syllabus'. The main content area has a search bar and the author's name 'Kyle C. Hale'. The title is 'Introduction to CS Research, Fall 2022' with the subtitle 'CS 492 Honors Research Seminar'. A 'Week 1 Announcement' box contains a date 'Sep 30 · 0 min read' and two numbered items: '1 Visit Kyle's webpage' and '2 Visit Stefan's webpage'. Below this is an 'Announcements' button. A 'Welcome!' section follows, providing context about the course for undergraduates in the Computer Science Honors Research Specialization. At the bottom, there is a section for 'Useful Books and Resources' and a footer note: 'This site uses Just the Docs, a documentation theme for Jekyll.'



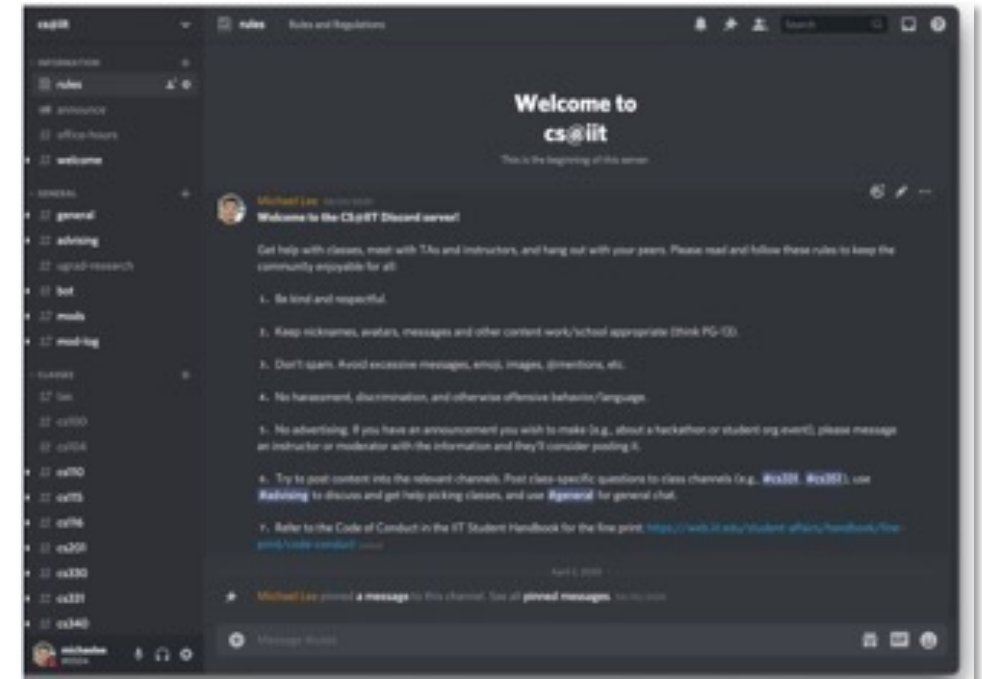
Online Resources

- Blackboard
 - Grades (that's it)



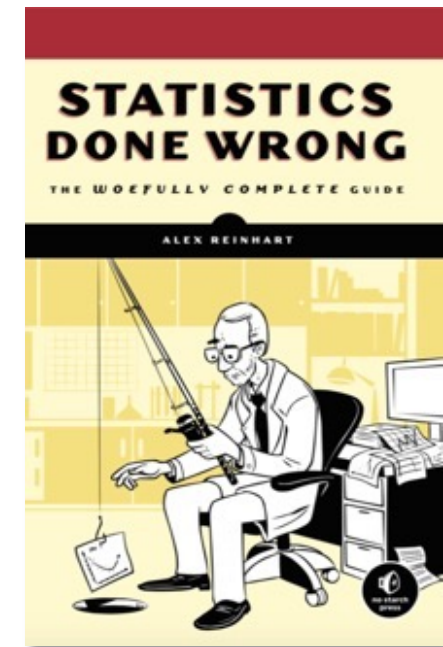
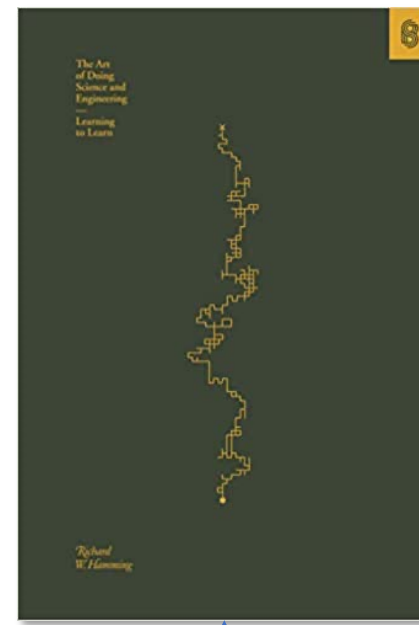
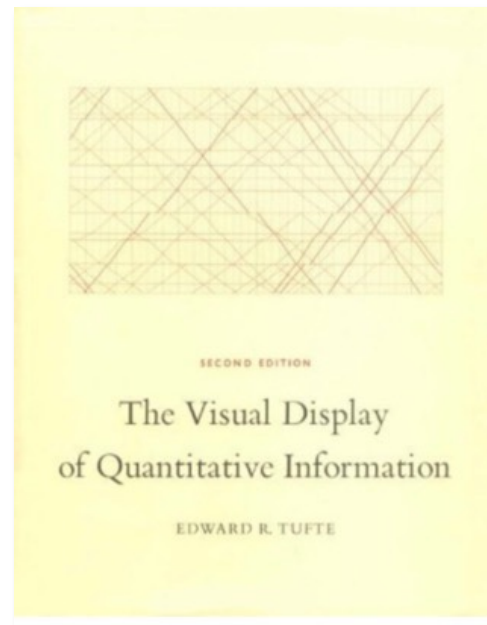
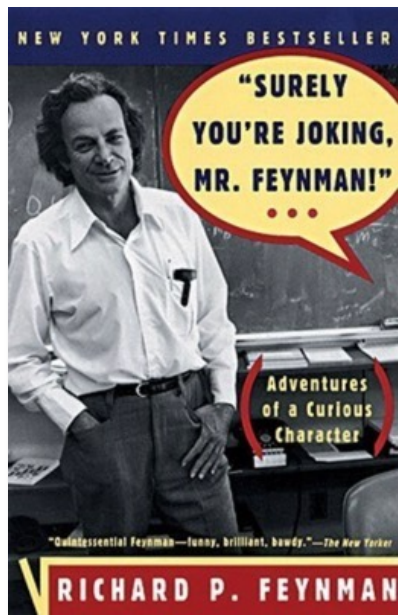
Online Resources

- Discord: discussion forum
 - Questions about:
 - class
 - research
 - advice, et.c
 - Text, audio chat, screen-sharing, etc.



Books

- **No required books**, but here are some that you should check out:



The Art of Doing Science and Engineering, by R. Hamming



Grading

- 25% Attendance
- 25% Participation
- 50% Assignments



Grade Scale

- A: 90-100%
- B: 80-89%
- C: 70-79%
- D: 60-69%
- E: 0-59%



Exams

- There are no exams



Assignments

- There will be two assignments (papers)
 - The first will be due in the middle of semester (midterm week)
 - The second will be due at the end



Your First Assignment

- Pick some area of CS
 - Ideas: machine learning, graphics, security, HPC, systems, databases, architecture
 - Must be represented by at least one faculty in our department
- Review faculty research in that area



Honors Specialization Requirements

- **CS 492** (this class)
- Six (6) credits of **CS 491 or CS 497** (can mix/match)
- \geq **two 500-level graduate courses** (approved by your advisor)
 - CS 597 doesn't count
- **Research project** advised by a CS faculty member, ends with honors thesis
 - Present this to committee in your last semester
 - *Ideally* results in published paper

