This is Chemistry 3A

If you are not enrolled or waitlisted, see your counselor

All others sign in before class, sign out after

- **Seats are available first to enrolled students**
- **Waitlisted students will have to stand if no available seating**

Chemistry 3A

Introductory General Chemistry

Course Administration & Policies

S. M. Halloran

Fresno City College

Course Facts & Information

Know your section: 43957 or 43958!

There are 30 students in each section

Both sections, 60 students total, will be here in room NS-101 (yes, here) from 5:00-6:20 p.m. on Tuesday and Thursday

Right after lecture, lab time in room NS-339 starting at 6:30 and going to 9:35 pm

Section 43957 goes to lab on Tuesdays
Section 43958 goes to lab on Thursdays

And yes, starting this 1st week, tonight for 43957!

Waitlisted Procedure

- Only students on waitlist have a chance of being added to course

- Enrolled students who are no-shows in 1st lecture get 24 hours to make contact with instructor as to why they did not attend & if they will continue

- Students attending 1st lecture (signed in) and who are on waitlist will be given Add Authorization if slots become available and in order of the queue of intent-to-enroll on waitlist. A message will be sent to add.

  Students on waitlist given Add Authorization have 24 hours to add the course, or the Add Authorization is removed & given to next student on waitlist

- The last day to add is the 1st day of the 3rd week (25 Aug)

That Guy Giving The Course

Mitch Halloran

- "Mitch"

- "Mister M", "Mister H", "Mister Mitch"

- "Dr. H", "Dr. Mitch", "Dr. M"
  seems to be FCC culture here

Probably not

- "Professor Halloran" (but thank you)

- "Mitchell" (certainly not! Not even Mom called me that except in a fit)

The Project

- To see you realize the objectives of the Chemistry 3A course in the Department of Chemistry at Fresno City College

- In 18 weeks

- Through implementation of the course design already developed

Communication Plan

- All projects—like your success in this course—write out a communication plan

- This is about what and how to communicate to move the project along

- What to communicate
  - Asking about how to solve a problem, understanding details of an assignment, when is a deadline
  - Helping each other with reminders, setting up an interactive meeting online or in person
- How to communicate
  - Email
  - Canvas online system

Recommendations for Successful Performance in Chem 3A

Syllabus

- The syllabus is your friend, your map to how the course is supposed to go

- Understand it well: generally, answers questions of highest importance to students

- Broad overview or outline of course content

- Materials for course: freely accessible online "book", lab gear (coat + goggles), scientific-grade calculator

- Grading: components of performance in course
  - ❑ Examinations: midterms and final
  - ❑ Homework: Assignments, including quizzes outside of lecture
  - ❑ Laboratory part of course: reports of experiments

SYLLABUS CHANGES

I will be making changes to the syllabus and putting them up hopefully before Thursday's (Aug 14) lecture

The last three list items under "Homework" will not be utilized in this course

Exams and Assignments

Experiment reports will be completed in person and turned in before leaving lab. (Unless special permission is given.)

Homework - There will be multiple homework assignments each week. These will consist of

- A Pre-lecture Assignment- This will be mostly just watching videos about the upcoming material and answering a couple simple questions.
- Online Homework- These will be posted in Canvas. (No cost to students.)
- Notebook Homework- Homework problems from the end of chapter questions to be done in a notebook, scanned, and uploaded. These will generally have answers in the book. To get credit you must show your work, including full units. No (Zero) credit will be given for conversion problems where full work with units is not shown. This will be enforced.
- Required "Learning Support" activities (Study Group, ETC, GRASP, Office Hours, etc).
- An End-of-Week Report/Reflection. You will be required to do at least one outside of class learning activity per week (ETC, Office Hours, GRASP, or Study Group Meeting). These will be reported on this form.
- Interview- you will be required to find a person in the career you are currently hoping to join, interview them and report on your interview in class.

Exams - There will be 4 Subject Exams. There will be no "Make-ups", however...

- Your lowest subject exam score may be replaced by your final exam if it is higher.
- Once per semester, you earn and "Exam Retake", for one of exams 1-3. The assignment to earn the Exam Retake is posted on Canvas and must be started within a week of taking the exam you would like to Retake.

Recommendations for Successful Performance in Chem 3A

Online Systems/Tools

- Canvas
  - Announcements – look for this regularly
  - Course Home Page
  - Quizzes
    - In-Class Exercises
    - Real quizzing
  - Assignments
  - Discussions
  - Chat

Interaction between instructor & student(s)

- Part-time instructors interact through Canvas and email

Email: Mitch.Halloran@fresnocitycollege.edu

Content on Canvas app Now

There is content on the Canvas app now

- Check Assignments typically

- It can also link to Quizzes

Course Welcome: Some Math, Some Chemistry

⚠ This is a preview of the published version of the quiz

Started: Aug 12 at 11:27am

Quiz Instructions

This quiz* is about elevating your awareness of the math you learned that is used in understanding concepts and solving problems in chemistry.

And about some chemistry that surrounds you in daily living.

* While the grouped or individual questions of this quiz are not scored for correct or incorrect answering, your participation in the quiz is evaluated in an Extra Credit category that can be used to help in the determination of a course grade

Question 1   1 pts

Basic algebra is used in chemistry. Particularly data will be plotted using on a XY grid, and an X value will be used to find a Y value on a line drawn using known X and Y values to set up the line. You are given the following data which are two points that will be used to connect a straight line. The data is plotted and the line drawn through the two points.

Which expression shows how to determine the slope of the line?

Chemistry Data

X	Y
3.5	6.2
17	52.3

(17, 52.3)

(3.5, 6.2)
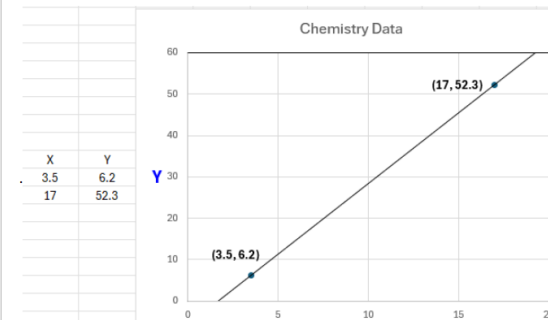
Recommendations for Successful Performance in Chem 3A

Attendance

- Being at lecture & certainly being in the lab is not optional: attendance is recorded

Time Commitment

- Reading, homework, study for exams/quizzes
- Generally thought to be at least twice time/effort commitment of the hours (units) of lecture+lab: 4 units → 8-12 hours additional per week

So for a 4-unit course:

- **Class time (in-person or online):** ~4 hours per week
- **Out-of-class study time:** ~8–12 hours per week
- **Total estimated time commitment: 12–16 hours per week**

ChatGPT estimate

Content For This Course

All of the content of this course, including the PowerPoints of these lectures (in PDF form), should be found in some place on the Canvas app

And if you don't find what you are looking for, send me a message right away

Teamwork

Throughout your career, you will learn that projects and programs have teams of people in order to get work done <u>successfully</u>.

While tasks in projects are done by individuals performing roles as part of the team, the overall work is a product of the team

The "project" here at FCC in this course is learning chemistry, so everyone will be part of a team

This team is your study group

The Study Group

- The Canvas LMS app was used to randomly group students into study groups in this course

- The study group is only one facet of your learning process, intended to initiate you into being part of a team in your learning goal

- Your instructor (me), your peers, resources of the College (tutors, tutoring services, counselors, other support staff) are always ready & present too
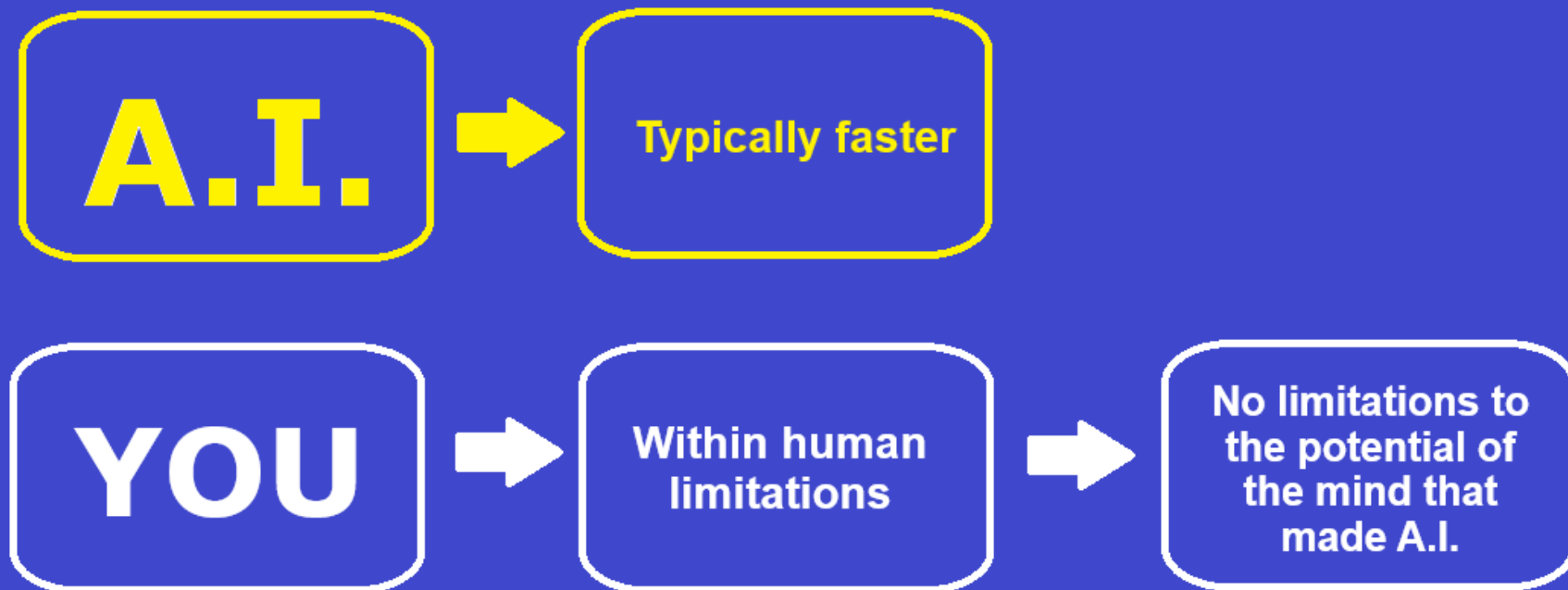
Artificial Intelligence in Learning & Academics

- The elephant in the room? Have you been talking about it in your course of learning?
- Will be transformative, but…
  - useful to you IF you use it properly
  - ChatGPT/Bing CoPilot/Gemini don't initiate the "what if" and "why" that drives discovery and exploration
  - A.I. does not and will not replace humans in asking questions that push discovery
  - Learning the foundations of a discipline—that is, getting that Associates or Bachelors or Doctoral degree—makes you that better thinker who is asking "what if" and "why"
- Doing that "homework"…
  - Helps you pass the test, yes
  - But also builds you as a discoverer, explorer, researcher, thinker

Artificial Intelligence in Learning & Academics

This is why you take Chem 3A & learn chemistry: to prepare you for doing what A.I. can't [ever] do

Analysis of Patterns & Signals, Information & Knowledge Recall

Discovery, Exploration, Inquisitiveness/ Curiosity, Research

A.I. → **Typically faster**

YOU → **Within human limitations** → **No limitations to the potential of the mind that made A.I.**

Artificial Intelligence in Learning & Academics

🧠 Humans vs 🤖 AI — Capabilities and Limits

Capability	Human Mind	AI
Understanding	Builds deep conceptual frameworks; connects abstract ideas to real-world experiences; can adapt knowledge to new, unfamiliar situations.	Recognizes patterns and applies known methods quickly, but doesn't truly "understand" concepts — it works from correlations in data, not meaning.
Reasoning Across Contexts	Can integrate knowledge from unrelated fields (e.g., chemistry + ethics + economics) to solve novel problems.	Works well when the problem is structured and similar to training data; struggles with integrating concepts from vastly different domains in creative ways.
Error Detection	Can notice when an answer "doesn't make sense" physically, chemically, or ethically, even without knowing the exact answer.	May produce a perfect-looking but fundamentally wrong answer ("hallucination"), without any internal alarm.
Creativity & Insight	Generates original hypotheses, finds elegant shortcuts, invents new problem-solving methods.	Can recombine known ideas in novel ways, but doesn't invent *truly new* scientific concepts without human framing.
Learning from Experience	Learns continuously from mistakes, success, and direct sensory experience.	Cannot self-learn from direct real-world experiences — only retrains when humans feed it new data.
Ethics & Judgment	Weighs social consequences, moral implications, and values in decisions.	Lacks intrinsic moral understanding — applies rules only as programmed.
Motivation	Has curiosity, drive, and personal goals — can choose to explore beyond requirements.	Has no self-motivation; runs tasks only when prompted.