

[Plickers A](#)

[Plickers B](#)

[go/cs200WaitList](#)

Math Foundations of Computing

CS 200

Learning Goals (for today):

- Familiarize yourself with course basics
- Be able to describe learning
- Understand motivation for technology and group policies
- Distinguish statements, predicates, other

Learning Goals (for this Class):

- Ability to think like a computer scientist (using the tools of mathematics).
- Ability to communicate like a computer scientist (using the language of mathematics).
- Proficiency using common mathematical tools of computer science to solve problems.

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Outline...

About Me

- Shelby Kimmel
 - What to call? Professor Kimmel, Professor
 - Pronouns? she/her pronouns
 - Outside interest? Samulnori (Korean contemporary folk percussion)

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Learning from biological perspective

- Learning is the process of developing new connections between neurons in your brain.



Learning from biological perspective

- Learning is the process of developing new connections between neurons in your brain.
- New connections are created by repeatedly practicing new behavior. By practicing any task, can rewire your brain to become “smart” at that skill.

Learning from growth mindset perspective

Fixed Mindset

Growth Mindset

Learning from growth mindset perspective

Fixed Mindset	Growth Mindset
Task A is easy because I'm smart.	This is easy because my brain already has necessary connections.
Task B hard because I'm not smart with this type of thing.	This is hard because I need to create connections in my brain that weren't there before.

Self-test

	Fixed Mindset Reaction	Growth Mindset Reaction
Challenges	Avoid	Embrace
Effort	Problem	Progress
Criticism	Personal	Helpful
Failure	Evidence of inability	Temporary
Success of others	Threatening	Inspiring

Learning Take-aways

- Give yourself time

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- Learning is Uncomfortable (at first)

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- Give yourself time
- Learning is Uncomfortable (at first)
- Practice the skills you need

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- [Studies](#) show students who write notes on paper learn more than those who type
- [Studies](#) show students who use laptops/phones spend up to 1/3 of their time “zoning out” (using Instagram, checking e-mail, etc) and consequently have lower exam scores
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Policy: Use technology judiciously. Avoid unless you have a good reason for it.

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Group Problem Solving



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- Working in a group improves learning
- I don't care whether you get to the solution
- I care about whether groups are functioning in a way that helps you to learn

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- Active listening: rephrase what a group mate said

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What behavior should I look for in a group that is maximizing learning?

- Active listening: rephrase what a group mate said
- Ask questions if you don't understand
- Be skeptical of what others say – suggest alternate approaches.
- Encourage participation
- Make sure everyone in the group understands a point before moving forward

Website tour!

go/CS200

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