

STEM STARTUPS

also known as **Engineering 3** at Tesla STEM HS

Instructor: Melanie Kong | Email: mkong@lwsd.org | Twitter: [@STEMstartups](https://twitter.com/STEMstartups)

In STEM Startups (Engineering 3), students make their ideas real and change the world. Engineering 1 and 2 turn students into awesome designers and makers. Engineering 3 goes one step further. **We are creating the entrepreneurs of tomorrow.**

WHY STEM STARTUPS?

“The people who are crazy enough to think that they can change the world are the ones who do.”

Steve Jobs

Why are you here?

You're here because you want to solve real problems and make a difference in the world.

Why am I here?

I believe in your capacity to change the world. I'm your coach to help you do that.

This year will be a transformative experience for you. Creating a startup opens incredible opportunities for growth and connection. Some of you may choose to pursue your startup after this year, but even if not, you will be equipped with an entrepreneur's mindset that you can apply to any challenge you face ahead.

WHAT WILL YOU LEARN IN STEM STARTUPS?

In Engineering 1 and Engineering 2, you were developing the following skills:

- ✓ Design Thinking
- ✓ Problem Solving
- ✓ Technical Skills
- ✓ Documentation
- ✓ Communication
- ✓ Collaboration

In STEM Startups, you will grow your old skills and develop these new skills:

- ❑ Customer Development
- ❑ Business Modeling
- ❑ User Experience (UX) Design
- ❑ Project Management
- ❑ Startup Methodologies
- ❑ Creative Confidence

COURSE OVERVIEW

STEM Startups is broken into modules, each representing an iteration through the engineering design process.

Kickoff Challenges - 1st Quarter

Module 1: Design for People
Module 2: Build Something Cool
Module 3: Make Some Money

For the initial kickoff September - November, you complete fast design challenges focusing on each component of successful startups (business, people, technical) to develop targeted skills and to understand your classmates' skills and work styles.

Practice Round - 2nd Quarter

Module 4: Grow Your Ecosystem
Module 5: Practice Startup
Module 6: Find Your Story

You put those components together for a complete and fast-paced practice round creating a startup in November - December. Along the way, you grow your ecosystem through networking and find the perfect story and team for your real startup.

The Real Startup - 3rd and 4th Quarters

Module 7: Startup Phase 1 - Story
Module 8: Startup Phase 2 - Demo
Module 9: Startup Phase 3 - MVP

After your practice startup, you form new teams and select a problem that you tackle for the rest of the year. Each startup phase will carry you further in your execution of your startup, culminating in Demo Day in May, where you present your pitch in front of an external panel of entrepreneurs and investors.

Wind Down

Module 10: Give Back

As this emotional journey comes to a close, the last couple weeks are all about reflection, connection, and giving back.

(NO) GRADES

You will make mistakes in this class. You will learn and grow from them. Starting a startup is already fraught with fear of failure without having to worry about academic failure. So here's my promise to you.

Fear of Failure



Fear of Academic Failure

Don't worry about your grade in this class. You will get an A.

Why will you get an A? For starters...

- You will come to class every day, on time and ready to learn
- You will be fully engaged during class with your teammates and extend yourself outside of class
- You will be relentless about finding your own passion and reaching your own goals

You are an extraordinary young person trying to make a difference. I am your coach, not your referee. Giving you an A puts us on the same team and allows you to feel safer taking risks.

If, for some reason, you or I don't feel like you're on track to receive an A, there will be no surprises. You may have a temporary NC, and you and I, along with your parents/guardians, will work together as a team to get you back on track.

Ok, throwing out grades is great, but how will you know how you're doing in the class? FEEDBACK!

Feedback is crucial for your startup's success and for your individual growth. It's how you continue developing your strengths and learn from your mistakes - fail fast, fail often! You are expected to seek and use feedback from your users and customers, teammates and peers, teacher, and mentors. For your startup, you will stay agile and constantly adjust your approach based on feedback. For individual work or team checkpoints, you will revise your work until it meets expectations through a continuous process of submissions, feedback, and resubmissions.

THE LOGISTICAL STUFF

Attendance

Come to class. Your teammates and the rest of the world need you.

Note: From a pragmatic and selfish perspective, the connections you make in this class matter. You are in a room full of current and future entrepreneurs along with mentors from amazing organizations. Making a good impression starts with being present and on time. And, it's one of the few things Ms. Kong really cares about to give you credit for this class.

Team Participation

All team members are expected to be fully engaged at all times during class (*another one of the few things Ms. Kong really cares about*). You should assign project tasks evenly depending on your individual strengths and skill sets, but you are still responsible for understanding what's happening in all areas of your project, including preparing reports and presentations. If a team member is absent when a team deliverable is due, the team is still responsible for the deliverable.

Ownership

All intellectual property (IP) and earned revenue and funding belongs to you, the students, and not the instructor, the mentors, Tesla STEM High School, or Lake Washington School District.

Office Hours / Work Time

Office hours are held in room 215.

M - F 6:35-7:25am

Contact

Email me at mkong@lwsd.org.

I will respond within 48 hours.

Follow [@STEMstartups](https://twitter.com/STEMstartups) on Twitter.

THINK BIG. START SMALL. FAIL EARLY.