

STEM STARTUPS

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

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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.

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.

You will work **really** hard in this class, and you will have clear deliverables and expectations that are critical to your startup's and your personal success. Every unit, there will be required assignments, as well as some you can choose. Completing the work and engaging in class guarantees you an A in the unit. Will your performance be measured? Absolutely - by the people who actually matter (like yourself and your customers) and based on metrics you define. Any grades that I'd give you would just be a distraction.

If, for any reason, you or I don't feel you're on track to receive an A, there will be no surprises. You will have a temporary "I" (incomplete), 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 (NR = needs revision) until it meets expectations through a continuous process of feedback and revision.

THE LOGISTICAL STUFF

Attendance

This class is team-project based. You need to be here and be on time. You need to contribute. If you know you'll be absent, plan ahead with your teammates and me. If you are absent, check in with your team the next day to see what you missed.

Team Participation

All team members are expected to be fully engaged at all times during class. 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 7:00-7:35am

M, Tu, Th 11:05-11:35am (B Lunch)

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.