

# How to Prepare for a STEM Degree — Starting in High School

STEM Mentorship Matters  
- Meeting #3 -

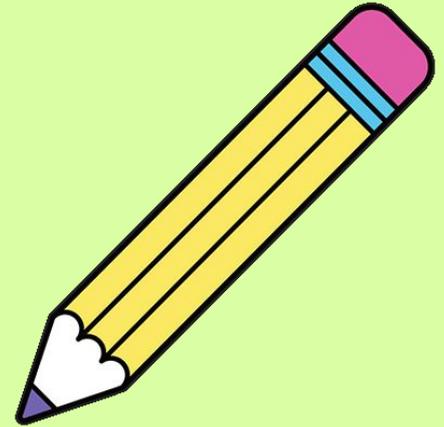
Marcus, Kent, and Isaac

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- Take the Right Classes
- Build STEM Skills Outside Class
- Get Real-World Experience
- Learn about your Interest
- Building a STEM Mindset

# Key Takeaways

- **Math:** Algebra II → Precalculus → Calculus (if possible)
- **Science:** Physics, Chemistry, Computer Science
- **Tech/Engineering Electives:** Robotics, CAD, shop, coding
- **English/Communication:** Writing & presentations matter too



# Take the Right Classes

- **Join clubs:** Robotics, Science Olympiad, Math Club
- **Compete:** Engineering, coding, or science fairs
- **Try small projects:** build a bridge, code a game, design an app
- **Learn online:** Khan Academy, MIT OCW, YouTube STEM channels



## Build STEM Skills Outside Class

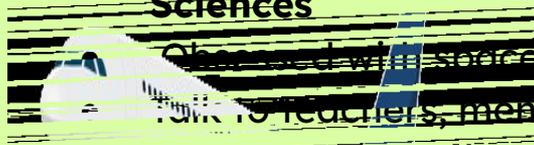
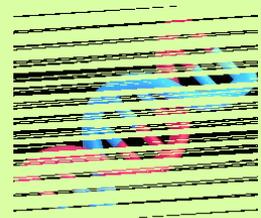
- Attend engineering camps or summer programs
- Try internships or job shadowing with local companies
- Participate in STEM fairs or hackathons
- Volunteer in projects that need problem-solving



# Get Real-World Experience



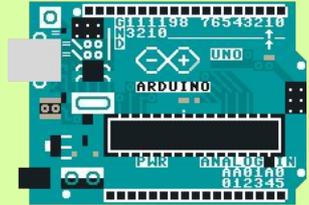
- Like tech or gaming → maybe **Computer or Software Engineering**
- Enjoy chemistry or lab work → **Chemical Engineering**
- Like building or fixing things → **Mechanical or Civil Engineering**
- Fascinated by biology → **Biomedical Engineering or Life Sciences**



Obsessed with space or planes →  **Aerospace Engineering**  
Talk to teachers, mentors, or engineers about what they do.



Take quizzes or personality tests to explore engineering fields.



# Learn About Your Interests

- Be **curious** and always ask “why” and “how” -> Wanting to know more is very important in STEM.
- Embrace failure as part of learning
- Keep trying — persistence is key!



## STEM Mindset

**OpenStax** — Free digital textbooks covering physics, biology, chemistry, and math.

[openstax.org](https://openstax.org)

**Khan Academy** — Free lessons and practice exercises in math, science, and computer science. [khanacademy.org](https://khanacademy.org)

**Code.org** — Interactive coding and computer science platform for beginners. [beginners.code.org](https://beginners.code.org)

**PhET Simulations (University of Colorado Boulder)** — Interactive science and math simulations to visualize concepts. [phet.colorado.edu](https://phet.colorado.edu)

**Visionlearning** — Free modular lessons explaining science via real-world applications.

[visionlearning.com](https://visionlearning.com)

**Efficient Engineer** — Video tutorials on engineering fundamentals for various disciplines.

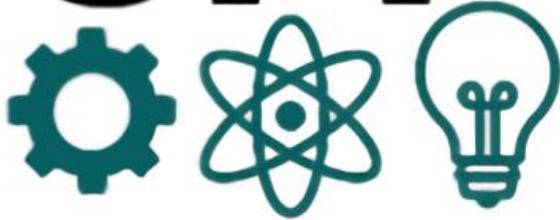
[efficientengineer.com](https://efficientengineer.com)

**Reddit - r/EngineeringStudents Resources Wiki** — Community-curated engineering textbooks, tutorials, and study tips.

[r/EngineeringStudents/wiki/resources](https://r/EngineeringStudents/wiki/resources)

# Next Steps

# SM<sup>2</sup>



## CONTACT US

Join Our Discord!

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