Engineering Curriculum Planner
Objective:
To assist high school students in planning their academic journey towards an engineering major, focusing on courses, extracurriculars, and additional opportunities like dual enrollment and community college classes.
Student Name: _____
Current Grade: _____
High School: _____
Target Engineering Major:

_____
Section 1: Core Academic Preparation Mathematics:
- **Recommended Courses:**

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Science:
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Algebra II
Pre-Calculus

AP Calculus AB/BC
Statistics (optional but beneficial)
Notes:

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• **Recommended Courses:**

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Action Item:

• Check your school's course offerings and plan to take these courses over your high school years.

Physics (Honors or AP)
Chemistry (Honors or AP)
Biology if interested in Bioengineering
Notes:

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Section 2: Engineering-Specific Courses and Electives AP and Honors:

- **AP Computer Science A** (for Computer Science)
- **AP Computer Science Principles** (for broader CS understanding)
- **AP Physics C: Mechanics** (for Mechanical Engineering)
- **AP Physics C: Electricity & Magnetism** (for Electrical or Aerospace Engineering)

- **Other Electives:**

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  Action Item:

• Discuss with your counselor which electives or AP courses align with your engineering interests.

Section 3: Extracurricular and Project-Based Learning Clubs and Competitions:

• Join or Start:

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Personal Projects: • Ideas:

Robotics, CAD, Engineering Design if offered

Notes:

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Robotics Club

Coding Club

Science Olympiad

Engineering/Project Design Competitions

Notes:

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Action Item:

• List potential clubs or projects and set goals for involvement or completion.

Section 4: Summer Programs and Internships

Summer Opportunities:

• **Programs:**

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Internships:

• **Local Businesses or Labs:**

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Action Item:

• Research and apply for at least one summer program or internship per year.

Section 5: Dual Enrollment and Community College

Build a robot or automate a home device

Develop a software project or app

Work on a sustainable design project

Notes:

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Look for engineering camps, university summer programs (e.g., MITES at MIT, Stanford's ELI)

Notes:

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Seek internships where you can work on real engineering problems or projects.

Notes:

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Dual Enrollment:

- **Courses to Consider:**

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Community College Courses:

- **Potential Classes:**

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Action Item:

- Meet with your counselor to plan dual enrollment or community college course participation.

Section 6: Networking and Mentorship Connecting with Professionals:

- **Strategies:**

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Calculus courses if not available in HS
Introductory engineering classes
Programming languages
Notes:

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Engineering Design
CAD (Computer-Aided Design)
More advanced math or physics

Notes:

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Attend career fairs or industry events
Use LinkedIn to connect with engineers
Informational interviews
Notes:

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Mentorship:
• **Finding a Mentor:**
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Action Item:
• Aim to secure at least one mentor or professional contact each year.
Section 7: Review and Adjust Annual Reflection:

- **What Worked:**
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- **Challenges:**
  ○ ○
- **Next Steps:**
  ○ ○
  Action Item:

• Schedule a yearly review with yourself or a mentor to adjust your plan.
Through school, community programs, or personal contacts Notes:

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_____ _____
_____
Which courses or activities were most beneficial for your engineering path?
Notes:

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_____ _____
What difficulties did you encounter, and how can you address them in future planning?
Notes:

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_____ _____
Adjust your plan based on this year's experiences and next year's opportunities.
Notes:

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_____ _____
This planner is your roadmap to build a high school curriculum tailored to your engineering aspirations. Remember, the key to success in engineering is not just what you learn but how you apply it. Use this document to track your progress, engage with opportunities, and ensure you're on the path to becoming an engineer.

Next Steps:

- Regularly update this planner with new courses, projects, or opportunities as they arise.
- Share this plan with your counselor, parents, or mentors for feedback and support.