


**Career-related  
Programme**

**IBCP: PLTW Engineering**  
 Rockville High School  
This program does meet Maryland State Career and Technology Education Requirements as a program completer as well as the IB Career-related Programme Requirements.



**Overview:** Students explore aerospace, mechanical, civil, and electrical engineering through a nationally recognized, hands-on curricula to develop a strong foundation for success in university math, science, technology, and engineering programs.

**Design. Build. Innovate. Your engineering journey starts here:**

- **Learn by Doing** – Tackle real-world challenges and practice the full engineering design process.
- **Team Up for Success** – Build communication, collaboration, and problem-solving skills.
- **Use Industry Tools** – Work with the same 3D design software trusted by Intel, Lockheed Martin, and Pixar.
- **Explore Engineering Fields** – Dive into designing, testing, and constructing circuits and electronic devices; study computer science principles; and/or explore aerodynamics, astronautics, and space life sciences.
- **Show What You Know** – Finish with a hands-on capstone project that showcases your skills and creativity.

*This program is taught by Certified Teachers using the PLTW Curriculum.*

*Transferable college credit for PLTW coursework at MCPS is supported by Rochester Institute of Technology. More information can be found here:*

<https://www.rit.edu/pltw/undergraduate-college-credit>



PLTW Engineering Course Sequence	
Freshman	Intro to Engineering Design
Sophomore	Principles of Engineering
Junior	Digital Electronics OR Aerospace Engineering OR AP Computer Science Principles
Senior	Engineering Design and Development

**Why choose Rockville High School?** At Rockville High School, an International Baccalaureate (IB) World School, students push their limits with challenging academics, a welcoming and inclusive community, and endless opportunities to get involved.

- Located in Rockville, MD—home to leading biomedical and tech companies—RHS puts students at the heart of innovation.
- Ranked among the **top 25 schools sending graduates to the University of Maryland's A. James Clark School of Engineering**.
- Proud to be a **PLTW Distinguished High School**, recognized for outstanding Engineering and Biomedical Science programs.



Rockville High School gives students the skills, experiences, and confidence to succeed in college, careers, and beyond.

### **Additional IBCP Program Requirements:**

- Students will complete the IBCP Core Components:
  - o Personal and Professional Skills (critical thinking course)
  - o The Reflective Project (a research-based essay on a career-based ethical issue)
  - o Language and Cultural Studies
  - o Community Engagement
- Students must also complete at least two IB courses
  - English Language and Literature
  - Spanish Language and Literature
  - French
  - Spanish
  - Environmental Systems and Society
  - Social Cultural Anthropology
  - Psychology
  - Biology
  - Chemistry
  - Computer Science
  - Physics
  - Math Analysis and Approaches
  - Math Applications and Interpretations
  - Visual Art

### **Sample IBCP Student Schedule**

	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
Period One	IB Language and Literature	IB Language and Literature
Period Two	Digital Electronics	Engineering Design and Development
Period Three	IB Personal and Professional Skills	IB Personal and Professional Skills
Period Four	Math	Math
LUNCH		
Period Six	Honor Physics	IB ESS
Period Seven	AP Precalculus	AP Calculus AB
Period Eight	AP World History	IB Psychology

**Prepare for College & Careers in STEM:** PLTW Engineering at Rockville High School gives students hands-on experience, industry-standard tools, and real-world projects that build skills for top universities and future careers. Launch your future in engineering and technology!

### **Engineering Careers**

- Aerospace | Biomedical | Chemical | Civil | Computer | Electrical | Mechanical

### **Related Careers**

- Manufacturing | Robotics | Research

**Skills for Any Career:** Even if you don't become an engineer, PLTW Engineering gives you a competitive edge. Hands-on projects build problem-solving, collaboration, and design skills that employers value across every industry.

### **Questions? Please contact us!**

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