

Middleton High School

Pre-Collegiate STEM Academy

Engineering Magnet

Middleton's Engineering Magnet Program is a nationally recognized pre-engineering curriculum of Project Lead the Way (PLTW). PLTW is a not-for-profit national program that forms partnerships with public schools, higher education institutions, and the private sector to increase the quantity and quality of college and career-ready students from our educational system. (www.pltw.org).

Engineering is often called a "Stealth" career meaning that much of the population does not fully understand what engineers do. Middleton offers 9 different Engineering

courses for students to explore a large selection of possible engineering careers.

Required courses will cover specific material from: Electrical, Computer, Design, Industrial, Manufacturing, Mechanical, and Structural engineering fields. Optional courses cover Aerospace, Civil Engineering and Architecture.

Engineering Students Will...

- Take five required courses in the PLTW track (IED, CIM, DE, POE, EDD – see back side), plus Technical Design 1, Technical Design 3 and one additional PLTW elective. PLTW electives include:
 - Aerospace Engineering (AE)
 - Civil Engineering and Architecture (CEA)
- Have the opportunity to take Dual Enrollment classes as HCC or USF.
- Learn from engineers and other mentors who are part of Engineering Design and Development, the senior Capstone Class.
- Earn the Engineering Core Certification, based on PLTW End-of-Course Exam Scores.
- Earn Autodesk AutoCAD, Fusion, Inventor and Revit certifications.
- Earn the Robotics Education Foundation Pre-Engineering and Robotics Certifications
- Earn the MSSC Certified Production Technician Certification.
- Experience hands-on engineering tasks that are based on real world problems in multiple engineering areas.

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Middleton Magnet High School

Course Sequence (Engineering) Course Sequence (Engineering)

(Standard Magnet Track)

Grade 9		Grade 10
ELA	English I Honors	English II Honors
Math	Geometry Honors	Algebra II Honors
Sci	Biology Honors	Chemistry Honors
Soc	AP Human Geography	AP World History
ENG	Intro to Engineering Design (IED) Honors	Computer Integrated Manufacturing (CIM) Honors
ENG	Technical Design 1	Digital Electronics (DE) Honors
Elec	World Language	World Language
Elec	Elective	Elective

Grade 11		Grade 12
ELA	AP English Lang & Comp	AP English Literature & Comp
Math	Pre-Calculus Honors	AP Calculus AB or BC
Sci	AP Chemistry	AP Biology or AP Physics 1
Soc	AP United States History	AP Economics Elective
ENG	Principles of Engineering (POE) Honors	Engineering Design and Development (EDD) Honors
ENG	PLTW Engineering Elective – Honors	Technical Design 3
Elec	HOPE	Elective or USF/HCC Dual Enrollment
Elec	Elective	Elective

* Prerequisite: Teacher and Administrator Approval

All courses at **Middleton Magnet High School** are taught on a two-day rotation cycle. Students attend four 95-minute periods each day. This schedule enables students to complete eight courses per year, rather than the traditional seven courses at most HCPS high schools. The addition of an 8th period allows students to include popular electives such as Band, Orchestra, Chorus, JROTC, Building Construction, Art, Agriculture or courses in another magnet program.



<http://middleton.mysdhc.org>
MHS Magnet Office: 813-233-3360 Ext. 234



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