

COURSE PREREQUISITES AND RECOMMENDATIONS*

Class of 2023 (and beyond) v.1/26/2021

* Any exception to a prerequisite should be directed to the Science and Technology Division Manager who (if supportive of) will request the final approval of the TJ administration.

Use the following to prepare for and/or evaluate your background for specific labs.

Laboratory	Prerequisite*	Recommended*
Astronomy & Astrophysics	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Advanced Astronomy: The Solar System (<i>sem</i>) Advanced Astronomy: The Universe (<i>sem</i>)
Biotechnology & Life Sciences	<ul style="list-style-type: none"> DNA Science I (<i>sem</i>) 	One or more of the following: <ul style="list-style-type: none"> DNA Science II, AP Chemistry, or AP Biology
Chemical Analysis and Nanochemistry	<ul style="list-style-type: none"> None 	One or more of the following (depending on project): <ul style="list-style-type: none"> AP Chemistry Intro Organic Chemistry with Instrumental Analysis (<i>sem</i>) AP Biology or AP Physics or AP Statistics or AP BC Calculus
Computer Systems	<ul style="list-style-type: none"> Data Structures including APCS-A 	One or more of the following: <ul style="list-style-type: none"> Artificial Intelligence Parallel Computing Computer Vision
Combined Engineering Research Lab	<ul style="list-style-type: none"> Any <i>TWO</i> (2) engineering/tech electives 	<ul style="list-style-type: none"> Any other engineering/tech electives
Microelectronics	<ul style="list-style-type: none"> Advanced Analog Electronics (<i>sem</i>) AND Advanced Digital Electronics (<i>sem</i>) 	One or more of the following: <ul style="list-style-type: none"> Advanced Audio Electronics Advanced Microprocessors Systems
Mobile & Web Application Development	<ul style="list-style-type: none"> Data Structures including APCS-A 	One or more of the following: <ul style="list-style-type: none"> Mobile App Dev (<i>sem</i>) Web App Dev (<i>sem</i>)
Neuroscience	Choose one of three separate tracks: 1. [AP Biology (year) AND Neurobiology (sem)] OR 2. [AP Calculus BC (year) AND Artificial Intelligence 1 (sem) AND Artificial Intelligence 2 (sem)], OR 3. [AP Calculus BC (year) AND Automation & Robotics 1 (sem) AND Automation & Robotics 2 (sem)]	One or more of the following: <ul style="list-style-type: none"> Advanced Digital OR Analog Electronics (See Prereq Chart for more suggestions by track)
Oceanography and Geophysical Systems	<ul style="list-style-type: none"> Advanced Marine Biology (<i>sem</i>) 	One of more of the following (depending on project): <ul style="list-style-type: none"> DNA Science 1 Conventional Energy Systems OR Alternative Energy Systems Advanced Prototyping 1 OR 2 AP Chemistry
Quantum Physics & Optics	<ul style="list-style-type: none"> AP Physics C (<i>year</i>) 	One or more of the following (depending on project): <ul style="list-style-type: none"> Relativity, Electrodynamics, & Quantum Mechanics Computational Physics OR Intro to Optical Systems OR AMT (Mathematics Techniques for Scientists and Engineers) Advanced Analog OR Digital Electronics