

## Engineering Preparation Pathways

### Length of Engineering AS Program

Starting in MTH 263 Calculus I, the Engineering AS is 66 credits. Completing the program in two years requires 16-17 credits/semester. Please refer to Engineering AS major page.

Starting in MTH 161 Precalculus I and MTH 162 Precalculus II adds 6 credits, for a total of 72 credits, and can add 1-2 semesters of preparation time to the two-year degree.

Starting in developmental math (MTE) adds more credits and more preparation time. Students requiring developmental math should visit the Advising Center.

### GPA goals

Guaranteed Admission Agreements specify minimum GPA requirements. It is more important to achieve the target GPA than to finish in two years.

### Engineering Preparation Pathways

Students who are not yet ready for Engineering can take classes in the Science AS major that will also count toward an Engineering major. Three pathways are provided, corresponding to three different Math starting points.

Pathway (choose one)	MTH 162 ready Two Year Program	MTH 161 ready Two Year Program	MTH 161 ready Three Year Program
Features	- Take Precalculus II in the first semester  - Take Calculus II in the first summer	- Take Precalculus I and II in the first semester  - Take Calculus II and one social science class in the first summer	- Take Precalculus I and II in two semesters  - No summer classes required
Academic Workload	16-17 credits/semester 55-65 hrs/wk	16-17 credits/semester 55-65 hrs/wk	11-13 credits/semester 40-45 hrs/wk
First Semester	<b>MTH 162 Precalculus II</b>  ENG 111, English I CHM 111 Chemistry I CST 100 Public Speaking Social Science Elective	<b>MTH 161 Precalculus I</b> <b>MTH 162 Precalculus II</b>  ENG 111, English I CHM 111 Chemistry I CST 100 Public Speaking	<b>MTH 161 Precalculus I</b>  ENG 111, English I CHM 111 Chemistry I CST 100 Public Speaking
Second Semester	<b>First Engineering classes</b>	<b>First Engineering classes</b>	<b>MTH 162 Precalculus II</b> ENG 112, English II Social Science Elective Social Science Elective

Summer	MTH 264 Calculus II	MTH 264 Calculus II Social Science Elective	None needed
Third Semester	Sophomore Engineering curriculum	Sophomore Engineering curriculum	<b>First Engineering classes</b>

### **Academic workload**

Academic workload is the number of hours required per week for class meetings, homework, reading, reports, test preparation, group work, etc. It is determined by multiplying the number of credits by 3-4, to reflect the amount of work required outside of class (generally 2-3 hours for every hour in class, and 3 hours for STEM classes). Full-time Engineering workload for a two-year program is 55-65 hours/week. Summer classes occur in only 8-10 weeks, for the same work, so the workload per week is almost twice as many hours as for a regular semester class.

### **SDV 101 Orientation to STEM**

It is recommended to take this 1 credit class during the summer before the first semester to reduce the first semester workload. SDV 100 is an acceptable alternative. Taking it during the first semester adds 1 credit and 2 hours/week to the academic workload.

### **MTH161/162 in the same semester**

When both Precalculus I and II are taken in the same semester, they are taken in consecutive 8-week sessions, so that the content is covered twice as fast as if they were taken in separate 15-week regular semester sessions. Only strong math students should attempt this.

### **Students with AP or Dual Enrollment Credit**

Credit for English, Humanities, or Social Science courses may allow a student to start in the MATH 161 Ready Three Year Program, and finish the Engineering AS in 2.5 years.