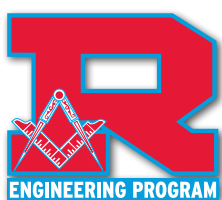




**BIOMEDICAL SCIENCES / ENGINEERING / LAW STUDIES  
PRE-PROFESSIONAL PROGRAMS**

**ARCHBISHOP RUMMEL HIGH SCHOOL**  
**TOUCHING HEARTS • TEACHING MINDS • CULTIVATING LEADERS**



For jobs in the 21st century, students are expected to read critically, work collaboratively, think creatively, solve complex problems, and manage information using digital technology and other communication tools.

Through the pre-professional programs at Archbishop Rummel High School, students will learn both in the classroom and inside real world environments such as medical centers, engineering offices, and courtrooms. Through community partnerships, students will learn from some of the area's top professionals in these industries.



The Biomedical Sciences program  
is a 4-year sequence of courses that  
students take in addition  
to the traditional required  
courses including  
biology, chemistry, and physics.

# BIOMEDICAL SCIENCES FOUR YEAR PROGRAM

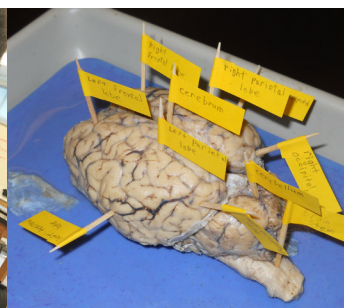
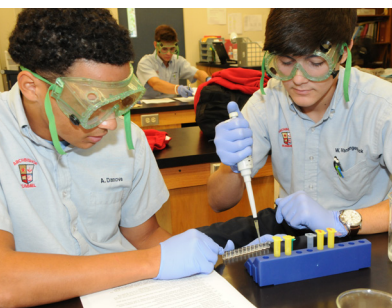


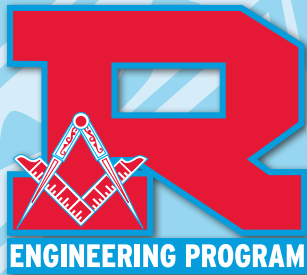
**YEAR 1 - PRINCIPLES OF THE BIOMEDICAL SCIENCES:** *Investigate various conditions including heart disease, diabetes, sickle-cell disease, high cholesterol, and infectious diseases.*

**YEAR 2 - HUMAN BODY SYSTEMS:** *Examine interactions of human body systems. Investigate structures of the human body.*

**YEAR 3 - MEDICAL INTERVENTIONS:** *Explore how to prevent and fight infection, screen DNA, diagnose and treat cancer, and prevail when the body begins to fail.*

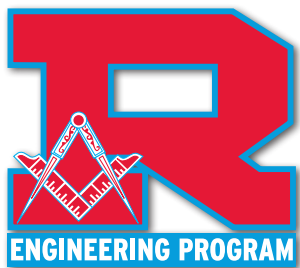
**YEAR 4 - BIOMEDICAL INNOVATION:** *Design innovative solutions for health challenges of the 21st century. Work on independent project with mentor professional.*





The Engineering Program is a 4-year sequence of courses. Students engage in open-ended problem solving, learn and apply the engineering design process, and use the same industry-leading technology and software as are used in the world's top companies. Students investigate topics giving them an opportunity to learn about different engineering disciplines before beginning post-secondary education or careers.

# ENGINEERING FOUR YEAR PROGRAM

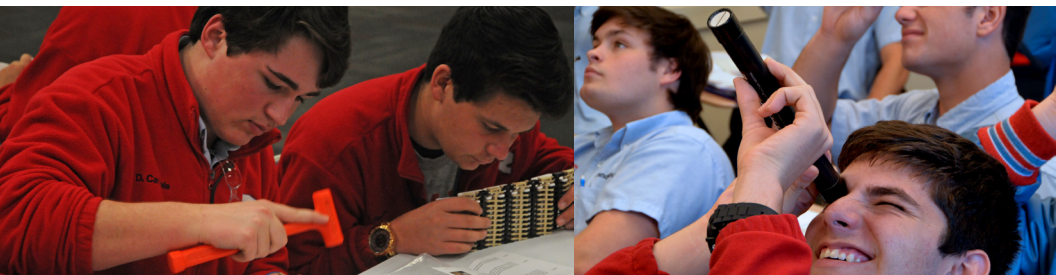


**YEAR 1 - INTRODUCTION TO ENGINEERING DESIGN:** *Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software, and use an engineering notebook to document their work.*

**YEAR 2 - PRINCIPLES OF ENGINEERING:** *Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.*

**YEAR 3 - CIVIL ENGINEERING AND ARCHITECTURE:** *Students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architecture design software.*

**YEAR 4 - ENGINEERING DESIGN AND DEVELOPMENT:** *The knowledge and skills students acquire throughout PLTW Engineering come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, completing EDD ready to take on any post-secondary program or career*





The Law Studies Program is a 4-year sequence of courses. Students learn how to think logically debate, act as an entrepreneur, develop an understanding of local, state, and federal law, and analyze evidence to present and judge in a forensic setting.

# LAW STUDIES FOUR YEAR PROGRAM



**YEAR 1 - SPEECH AND DEBATE:** *Examine principles of effective communication. Formulate persuasive and critical reasoning. Debate forensic issues.*

**YEAR 2 - PRINCIPLES OF FREE ENTERPRISE:** *Explore how to set up and manage a business. Work the stock market. Conduct ethical business transactions.*

**YEAR 3 - CIVIL AND CRIMINAL LAW:** *Explore how the justice system is organized. Examine how to navigate regulations and understand the consequences.*

**YEAR 4 - FORENSIC SCIENCES:** *Explore techniques for examining legal evidence using the sciences. Prepare legal arguments with evidence to use in a court of law.*





# Curriculum (5 year student)

**Band | Biomedical Sciences | Engineering | Law Studies**

8TH GRADE	HONORS (BAND AND NON-BAND)	ACADEMIC OR CORE	BAND OR BIOMEDICAL OR ENGINEERING OR LAW
	Religion 8	Religion 8	Religion 8
	Algebra I H	Pre-Algebra	Pre-Algebra
	English I H	English 8	English 8
	World Geography H	Reading 8	Reading 8
	Physical Science H	World Geography	World Geography
	Latin I H	Physical Science	Physical Science
	<b>Band</b> or PE	PE	<b>Band</b> or PE

9TH GRADE	Religion I	Religion I	Religion I
	Geometry H	Algebra I	Algebra I
	English II H	English I	English I
	World History H	Reading I	Biology
	Biology	Biology	Spanish I
	Latin II H	Spanish I	PE
	<b>Band</b> or <b>Biomedic.</b> or <b>Engineering</b> or <b>Law</b>	PE	<b>Band</b> or <b>Biomedic.</b> or <b>Engineering</b> or <b>Law</b>

10TH GRADE	Religion II	Religion II	Religion II
	Algebra II H	Geometry	Geometry
	English III H	English II	English II
	Fine Arts Survey Honors	World History	World History
	Elective*^	Biology I	Spanish II
	Elective*^	Spanish II	Science Elective
		Science Elective	<b>Band</b> or <b>Biomedical</b> or <b>Engineering</b> or <b>Law</b>
	<b>Band</b> or Option: <b>Biomedical</b> or <b>Engineering</b> or <b>Law</b>	PE	

11TH GRADE	Religion III	Religion III	Religion III
	Pre-Calculus H	Algebra II	Algebra II
	English IV AP	English III	English III
	American History AP	American History	American History
	Chemistry H	Chemistry	Chemistry
	PE (½) and ACT Prep (½)	PE (½) and ACT Prep (½)	PE
	Elective or <b>Band</b> Option: <b>Biomedical</b> or <b>Engineering</b> or Law Option: <b>Law</b>	Elective	<b>Band</b> or <b>Biomedical</b> or <b>Engineering</b> or <b>Law</b>

12TH GRADE	Religion IV	Religion IV	Religion IV
	Calculus AP	Advanced Math/ Pre-Calculus	Advanced Math
	English V AP	English IV	English IV
	Civics AP	Civics	Civics
	Physics H or Biology II H	Physics or Biology II or Environmental Science	Physics or Biology II or Environmental Science
	PE	Fine Arts Survey	Elective (Band) or Fine Arts Survey
	Elective	Elective	<b>Band</b> or <b>Biomedical</b> or <b>Engineering</b> or <b>Law</b>

\* Elective Choices: Computer Science AP, Latin III H, Statistics AP, Band, Biomedical, Engineering or Law.

^ At least one elective must be an Honors or AP course.

# REAL WORLD LEARNING ENVIRONMENT



## **Can my son enter more than one pre-professional program?**

*Because of time and state required courses, if students want to participate in the pre-professional program, they must choose only one of the courses in a single year.*

## **Can my son try the pre-professional program for a year to see if he likes the material?**

*Students can enter the pre-professional program as a freshman, but are not required to stay in the program for all four years. If he does not want to remain in the program after a year, he can choose to leave the program at the end of the year.*

## **If my son takes a pre-professional course, does it replace another required course?**

*The pre-professional courses will act as one of the student's electives over the four year program.*

## **How are the pre-professional classes taught?**

*Students will meet and learn from professionals in the field while viewing the necessary skills in practice. Students will be presented with a case study and will have to identify the problem and find the possible solutions through practice and field work.*

## **What are the benefits of the pre-professional program for the Archbishop Rummel students?**

*The courses help with a meaningful decision on course of study and career choice after college, enhance college application and scholarship opportunities, and provide internships for qualifying 3rd and 4th year students. Through the programs, students also get to know some of the area's leaders in the various professions, so they also develop networking and understand the state of local industries.*



**ARCHBISHOP  
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HIGH SCHOOL**  
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EDUCATION**



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