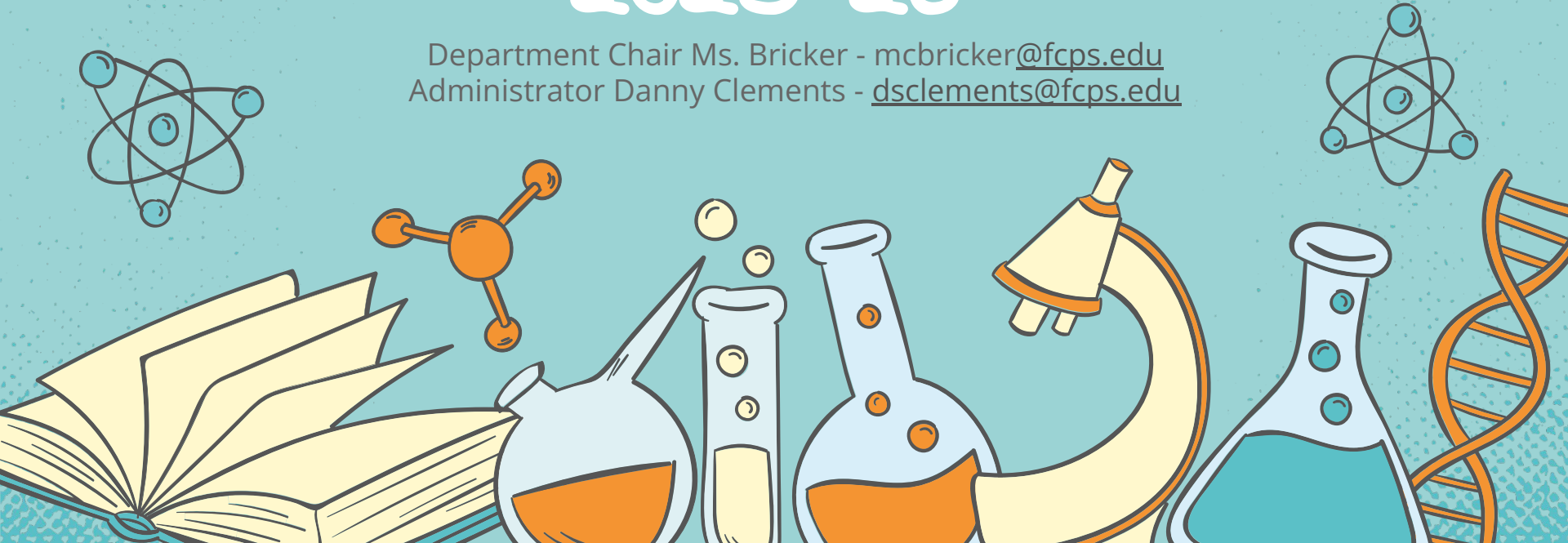


Robinson High School Science Course Selection 2025-26

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Standard Diploma



1st
Science
class

2nd
Science
Class

3rd
Science
Class

First 2 classes must be from 2 different disciplines - Bio, Chem, Earth Science, and Physics

3rd class can be from a different discipline or from one of the disciplines already taken

Advanced Diploma



1st
Science
class

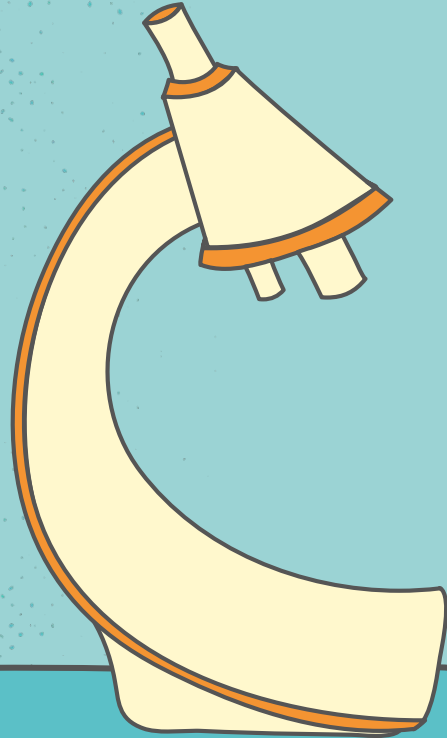
2nd
Science
Class

3rd
Science
Class

4th
Science
Class

First 3 classes must be from 3 different disciplines - Bio, Chem, Earth Science, and Physics

4th class can be a new discipline or from one of the disciplines already taken



09 Freshman Classes

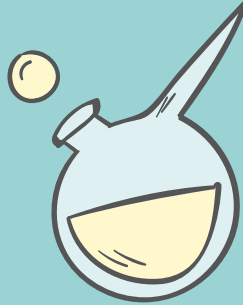


9th Grade Options



Biology 1

- Good transitional year; emphasis on development of organizational skills
- Most labs come with explicit directions; students are expected to read and follow on their own.
- Lab reports usually consist of answering direct questions and formulating a conclusion.



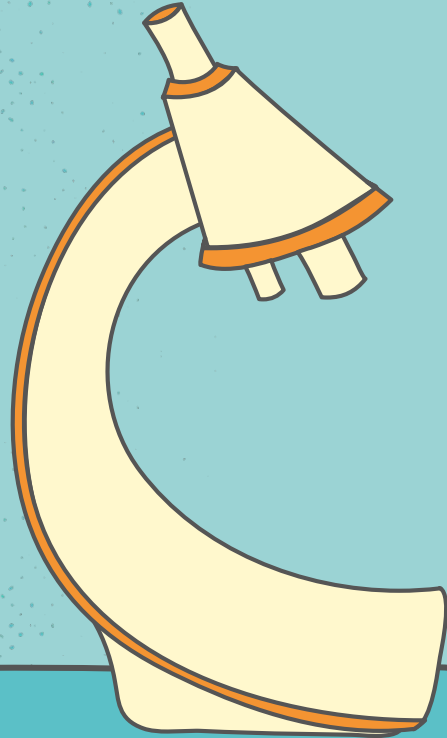
Honors Biology

- Expectation that students can and will manage their own long-term assignments.
- Strong emphasis on lab design where students must be able to develop and follow their own procedures.
- Lab reports require a higher level of analytical and abstract thinking and writing skills. Students need strong writing skills to communicate not only what happened but also start to explore why it happened.



Environmental Science

- Foundational science course for 9th grade students.
- Builds scientific processing skills and integrates biology, earth science, chemistry, and engineering to study the components of our environment.
- No Honors level or SOL for this course.
- 10th Grade - take Biology and SOL Test



10 Sophomore Classes



10th Grade Options



Chemistry 1

- Algebra 1 prerequisite (C- or better is recommended)
- Most labs come with explicit directions; students are expected to read and follow on their own.
- Lab reports usually consist of answering direct questions and formulating a conclusion.



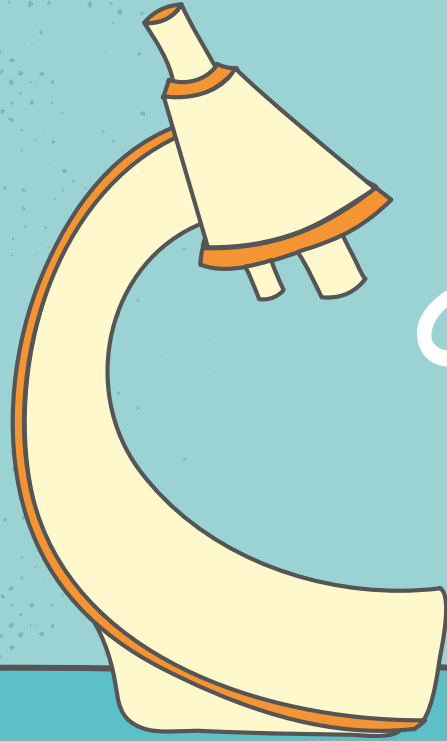
Advanced Chemistry for IB Schools

- Algebra 2 corequisite
- Strong math AND writing skills a must
- Lab reports require a higher level of analytical and abstract thinking and writing skills.



Active Physics

- Helps to build math skills
- No SOL
- Builds on science practices and knowledge necessary for future courses



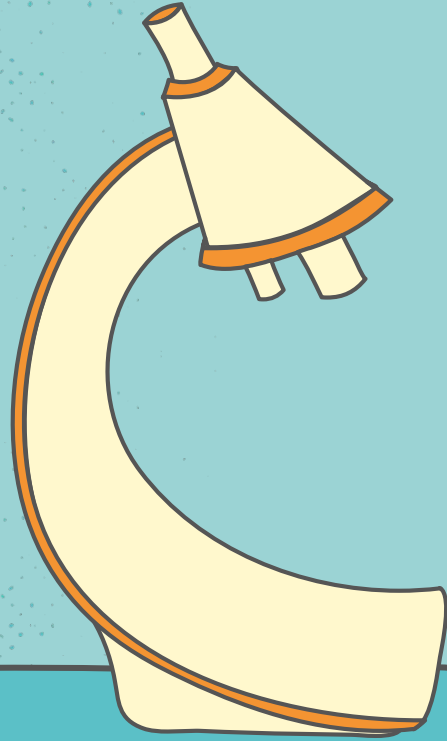
11th / 12th
General Science
Options



11th / 12th Grade Choices

General Science Options

Class	What to know	Recommended Prerequisites
Earth Science 1	Recommended for students who have not yet passed a Science SOL. Reviews basic concepts.	None
ES 2: Advanced Topics	Does not require Earth Science 1. Recommended for anyone interested in pursuing a degree in this discipline.	Should have completed: <ul style="list-style-type: none">• Biology• Chemistry or Earth Science 1
ES 2: Astronomy	This class requires a variety of math and computational skills. It is recommended for anyone who has a strong interest in this field of science.	Should have completed: <ul style="list-style-type: none">• Biology• 1 Additional science course
ES 2: Oceanography	Mostly in-class learning, focuses include: marine biology, ocean chemistry, geological connections (work outside of class mainly involves studying). Careers related to marine biology, conservation, ocean-atmosphere research, aquaculture, etc. should consider taking the class.	Should have completed: <ul style="list-style-type: none">• Biology• Earth Science 1 or Chemistry
Bio 2: Human Anatomy	Careers related to medical professions should consider taking this class as a solid introduction to the foundations that will be needed in future learning (based on biology, chemistry, and physics). Mostly in-class learning, but a lot of memorization of body parts and functions (work outside of class mainly involves studying).	Should have completed: <ul style="list-style-type: none">• Biology• Chemistry
Physics	Students should be able to solve a basic algebraic equation for one unknown, and be capable of scaling and plotting points on a graph / determine the basic relationship for a graph. Additionally students wanting to take this class should be able to effectively use measuring tools such as rulers, protractors and balances. This class is recommended for anyone interested in STEM or engineering fields.	Should have completed: <ul style="list-style-type: none">• Biology• Chemistry• Geometry



11th / 12th

IB Science
Options



11th / 12th Grade Choices

IB Science Options

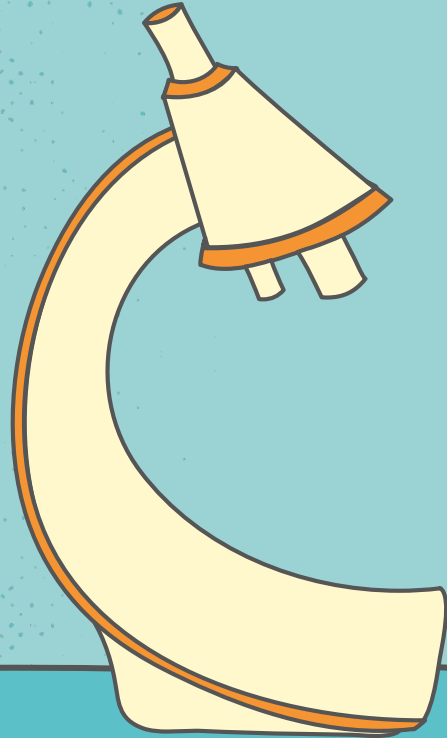
Class	What to know	Recommended Prerequisites
IB Physics 1	Recommended for students interest in STEM and Engineering fields. This class includes more writing and in depth explanations than general physics.	Should be enrolled in: <ul style="list-style-type: none"> • Precalculus or IB Math Analysis & App.
IB Physics 2	Standard level: Continuation of IB physics 1 Honors Level: This course averages about 1 hour of lab per week. Reviews of foundation materials are completed as homework.	Should have completed: <ul style="list-style-type: none"> • IB Physics 1
IB Biology Standard Level	This is a fast-paced one year course. The curriculum includes ecology, biochemistry, cell biology, DNA and inheritance, evolution, plant functioning, and human physiology. An Internal Assessment is required.	Should have completed: <ul style="list-style-type: none"> • Biology • Chemistry (Robinson recommends having a C or higher)
IB Biology Honors Level	This is a 2 year course. If not a IB diploma candidate then the student will have to take an additional science course for advanced diploma. Students looking at a life science career or major should consider the class (not ideal for students who don't have a true interest in biology). Rigorous workload, challenging content, strong focus on data analysis and writing skills. Should have solid foundation in chemistry, strong executive functioning skills (time management, organization, etc.)	Should have completed: <ul style="list-style-type: none"> • Biology • Chemistry (Robinson recommends having a C or higher) • Geometry

11th / 12th Grade Choices

IB Science Options



Class	What to know	Recommended Prerequisites
IB Chemistry	<p>Standard Level: Students considering a future in chemistry or medicine should consider the course. Students should have a strong math foundation. Students should be willing to spend time on their IA. The chemistry IA is very time consuming. Class time is provided but will require after school or RAISE time.</p> <p>Honors Level: Students should expect increased speed and depth of knowledge when compared to SL. Most foundation reviews are done as homework.</p>	<p>Should have completed:</p> <ul style="list-style-type: none"> Advanced Chemistry for IB
IB Environmental	<p>Standard Level: Investigate local-to-global issues that surround the resources of water, air, soil, and minerals leveraging prior knowledge of biology, chemistry and earth science. Develop an understanding of sustainable practices for using natural resource and dealing with the pollution generated when using resources. Learn about the unequal land use and resource usage between difference societies around the world and the impacts of population growth.</p> <p>Honors Level: Explore the topics of SL to a deeper level. Engage in learning around environmental law, economics, and ethics. It is a 12th grade course after completing IB SL.</p>	<p>Should have completed:</p> <ul style="list-style-type: none"> Biology Chemistry (Robinson recommends having a C or higher) Algebra 2 (Robinson recommends)
IB Sports Exercise Science	<p>This course only counts as a science course for IB diploma Candidates. Otherwise it is a Health credit. One year course covering human physiology and nutrition, movement analysis and biomechanics, and sports psychology. Students will learn how to collect and analyze fitness and sports data, review case studies, and develop their own nutrition and exercise plan based on personalized goals. A sports or fitness based Internal Assessment is required.</p>	<p>Robinson recommends that you should have completed Biology and Chemistry to be successful in this course.</p>



11th / 12th

Science based
electives



11th / 12th Grade Choices

Science Based Elective Options

Class	What to know	Recommended Prerequisites
Geospatial Analysis	<p>Advanced: Engage in the science of taking data, referencing it to a place on earth, and performing analysis to generate maps, apps, and dashboards for communication. Learn about the world around you while learning career-ready skills in GIS. Fun, engaging, project-based class with a 1.0 gpa bump</p> <p>Dual Enrollment: Same course content and objectives as Geospatial Analysis 1 AV. Direct access to JMU faculty. 3 college credits awarded (tuition fee \$300).</p>	<p>Should have completed:</p> <ul style="list-style-type: none"> • 2 Lab Sciences
Geospatial Analysis 2	<p>Advanced: Continue your learning from Geospatial Analysis 1 AV, now using professional software. Learn career-ready skills such as imagery analysis, 3D printing, advanced data visualization, and application of basic programming. Fun, engaging, project-based class with a 1.0 gpa bump.</p> <p>Dual Enrollment: Same course content and objectives as Geospatial Analysis 2 AV. Direct access to JMU faculty. 3 college credits awarded (tuition fee \$300)</p>	<p>Should have completed:</p> <ul style="list-style-type: none"> • 2 Lab Sciences • Geospatial Analysis 1
Forensics	<p>This is for any students interested in the field of forensics with a heavy emphasis in criminalistics. It is a Lab centered class that uses applied knowledge to collect and analyze evidence.</p>	<p>Should have completed:</p> <ul style="list-style-type: none"> • 2 Lab Sciences