



Science Department
Michael Heinz, Department Chairman

BIOLOGY 400 HONORS

Credit: 1 unit

Eligible Grade Level: 9, 10, 11, 12

Grade Weighted

Prerequisites: Recommendation of Junior High Science Teacher, evaluation of assessment scores and junior high grades, and special placement by Science Department Chair.

Biology 400 is an accelerated introductory course, which meets the graduation requirements of a District 99 life science course. This course is designed to prepare students for future 400 (honors) level classes, advanced science classes, and college level biology by providing a challenging learning environment in which the curriculum is organized at a more rigorous pace conducive to the success of all Biology 400 level students. Scientific themes regarding biological systems, diversity among living things, energy, evolution, and human impact on our Earth systems will be highlighted throughout this course. Biology 400 students will be engaged in the application of science and engineering practices and are expected to demonstrate scientific literacy by participating in scientific discourse. Laboratory work is an integral and required part of the course and is highly analytical in nature.

- See attached placement scores for iReady, MAP and STAR testing.
- Demonstrates high levels of success in analytical and independent thought.
- Demonstrates strong verbal and written communication skills as well as reading skills.

BIOLOGY 300

Credit: 1 unit

Eligible Grade Level: 9, 10, 11, 12

Prerequisites: Recommendation of Junior High Science Teacher, evaluation of assessment scores and junior high grades, and special placement by Science Department Chair.

Biology 300 is an introductory course, which meets the graduation requirements of a District 99 life science course. Scientific themes regarding biological systems, diversity among living things, energy, evolution, and human impact on our Earth systems will be highlighted throughout this course. Biology 300 students will be engaged in the application of science and engineering practices and are expected to demonstrate scientific literacy by participating in scientific discourse. Laboratory work is an integral and required part of the course and is highly analytical in nature.

- See attached placement scores for iReady, MAP and STAR testing.
- Demonstrate success in science and analytical thought.
- Medium to high range in terms of reading skills and written communication.

BIOLOGY 200

Credit: 1 unit

Eligible Grade Level: 9, 10, 11, 12

Prerequisites: Recommendation of Junior High Science Teacher, evaluation of assessment scores and junior high grades, and special placement by Science Department Chair.

Biology 200 is an introductory course in the life sciences, meets the graduation requirements of a District 99 life science course. Scientific themes regarding biological systems, diversity among living things, energy, evolution, and human impact on our Earth systems will be highlighted throughout this course. The curriculum is organized at a more moderate pace, which is conducive to the success of Biology 200 students; 200 level courses utilize modified materials and activities to promote science reading and quantitative reasoning to support Biology 200 students in the application of science and engineering practices and demonstration of scientific literacy. Laboratory work is an integral and required part of the course.

- See attached placement scores for iReady, MAP and STAR testing.

- To better help us assess intangible abilities, please use the electronic recommendation guide to mark a number that represents your impressions about this student.
- It is assumed that the recommendation is good/solid, if not, please complete the section regarding the intangible characteristics.
- Mark 1-low level of concern, 2-moderate concern, 3-high level of concern in each area.

Comments: Student success requires correct placement. It is essential to have a balance between challenging the student and success in the course. Consider any intangible characteristics that you feel are valid.



D99 Science Placement Scores for Incoming Freshman 2019-2020

Recommended D99 Science Course	iReady Reading	iReady Math	MAP Reading RIT	MAP Math RIT	STAR Reading	STAR Math
Biology 400 Honors	642 +	556 +	236 +	251 +	1158 +	944 +
Biology 400 Honors or Biology 300	635-641	521-555	230-235	237-250	1039-1157	842-943
Biology 300	575-634	486-520	216-229	223-236	628-1038	734-841
Biology 300 or Biology 200	536-574	478-485	211-215	214-222	509-627	712-733
Biology 200	0 - 535	0 - 477	0 - 210	0 - 213	0 - 508	0-711



NEW SCIENCE COURSES PROPOSED FOR 2019-2020

- **These 2 courses will be offered for 2019-20 pending Board of Education Approval.**
- **Principles of Biomedical Science and Student Designed Research in STEM are electives and will NOT fulfill the D99 Science Graduation Requirement.**

PRINCIPLES OF BIOMEDICAL SCIENCE (Project Lead the Way - PLTW)

Credit: 1 unit

Eligible Grade Level: 9, 10, 11, 12

Prerequisites: None; This elective does not meet the science requirement for graduation.

This is the first course in the PLTW Biomedical Science pathway. The Principles of Biomedical Science (PBS) course provides an introduction to biomedical science through hands-on projects and problems. Students investigate concepts of biology and medicine as they explore health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. The activities and projects in PBS introduce students to human physiology, basic biology, medicine and research processes and allow students to design experiments to solve problems. Key biological concepts, including maintenance of homeostasis in the body, metabolism, inheritance of traits, and defense against disease are embedded in the curriculum.

STUDENT DESIGNED RESEARCH IN STEM

Credit: 1 unit

Eligible Grade Level: 10, 11, 12

Prerequisites: None; This elective does not meet the science requirement for graduation.

Students will experience science through individualized, original research. Student Designed Research in STEM will provide students with an opportunity to acquire skills and concepts inherent in the science research experience. This course is intended to teach students to be creative, careful, patient and exacting in their methods of study and laboratory investigations. Students will practice scientific thinking and learn scientific research methodologies. Students will develop the ability to communicate scientifically.



SCIENCE DEPARTMENT COURSE SEQUENCE (2019-2020)

FRESHMAN SCIENCE COURSES	SOPHOMORE SCIENCE COURSES
Students will take one of the following	Students will take one of the following
Biology 200 Biology 300 Biology 400 - Honors Bilingual Biology - South only Integrated Studies Biology - South only	Chemistry 300 Chemistry 400 - Honors Physical Science 200 - South only Physical Science 300
Concurrent elective options	Concurrent elective options
Principles of Biomedical Science (PLTW)**	AP Environmental Science Principles of Biomedical Science (PLTW)** Student-Designed Research in STEM**

JUNIOR SCIENCE COURSES	SENIOR SCIENCE COURSES
Students will take one of the following	Students will take one of the following
Physics 300 Physics 400 - Honors Chemistry 300	Physics 300 Anatomy and Physiology AP Biology AP Chemistry AP Environmental Science
Concurrent elective options	Concurrent elective options
Anatomy and Physiology AP Biology AP Chemistry AP Environmental Science Biology II: Research Questions in Biology* Principles of Biomedical Science (PLTW)** Research Topics in Earth Science* Student-Designed Research in STEM**	AP Physics C: Mechanics AP Physics C: Mechanics, Electricity and Magnetism Biology II: Research Questions in Biology* Principles of Biomedical Science (PLTW)** Research Topics in Earth Science* Student-Designed Research in STEM**

* Offered at North on alternate years. Offered at South every year.

**Offered in the 2019-20 academic year pending D99 school board approval.

Most college admissions criteria include a minimum of at least three laboratory, non-elective science credits. Students planning on attending college should take foundational science courses that specifically include Biology, Chemistry and Physics in addition to any electives of interest.