



*A Tradition of Excellence*

TO: Tammy Prentiss, Superintendent  
 FROM: Dr. Carol Baker, Assistant Superintendent for Academics  
 Eric Martzolf, Hinsdale South Assistant Principal for Curriculum and Instruction  
 Jessica Hurt, Hinsdale Central Assistant Principal for Curriculum and Instruction  
 Dr. Julie Gaubatz, Hinsdale South Science Department Chair  
 Julie May, Hinsdale Central Science Department Chair  
 DATE: October 23, 2019  
 RE: District 86 Science Sequencing

**D86 Science Program Process:**

In order to align science curriculum between Hinsdale Central and Hinsdale South, it was necessary to look at the sequence of courses available to District 86 students. Since the course sequences at the two schools differed, a team was created to investigate the possible science program options that would provide district coherence. This team included six teachers, two department chairs, and five administrators from both schools. Their work included:

1. Creating D86 Science Program goals aligned to the D86 Strategic Plan to guide the science program analysis.
2. Analyzing various science course sequences to determine how each aligns with the D86 Science Program goals.
3. Incorporating feedback from science teachers from both schools on a draft version of the D86 Science Program.
4. Presenting and gathering feedback on a draft version of the D86 Science Program from a select group of students and parents representing both high schools.
5. Gathering input from six physics teachers from both schools on the most appropriate physics course offerings.
6. Refining the D86 Science Program based on all the feedback gathered.

**D86 Science Program Goals:**

GOAL 1 (ALIGNMENT)	GOAL 3 (COLLEGE & CAREER)	GOAL 5 (STUDENT CHOICE)
Align course fees, texts, objectives, semester exams, anchor assessments.	Align courses with college and career opportunities. <ul style="list-style-type: none"> <li>• Increase AP enrollment</li> <li>• Increase the # of students passing AP exams</li> <li>• Enrollment in capstone course(s)</li> <li>• Provide junior/senior courses matching high demand careers &amp; student interests</li> <li>• Courses are acceptable to colleges</li> </ul>	Provide informed student choice in coursework junior and senior year. <ul style="list-style-type: none"> <li>• Provide options for 11-12 specialization</li> <li>• Support level changes</li> </ul>
GOAL 2 (BIG IDEAS/INTEREST)	GOAL 4 (STRUCTURE)	GOAL 6 (SEL)
Increase student exposure to and interest in core sciences. <ul style="list-style-type: none"> <li>• Student experience more core sciences</li> <li>• Students experience more NGSS</li> <li>• Students enroll in more than the required 2 yrs of science, or the 3 yrs suggested by colleges</li> </ul>	Create a strategic and coherent science program. <ul style="list-style-type: none"> <li>• One course leads to another in terms of knowledge and skills, and in building interest</li> <li>• Courses align intuitively</li> <li>• Courses reflect student developmental level</li> <li>• Maximize teacher expertise</li> </ul>	Increase SEL considerations for students and parents. <ul style="list-style-type: none"> <li>• Decrease confusion on course selection</li> <li>• Decrease perceived need for tutoring</li> <li>• Support student ability to change levels</li> <li>• Support academic risk-taking</li> <li>• Courses address student academic needs</li> </ul>

**D86 Science Program:**

District 86 students will take a vertically-aligned sequence of science courses that build upon the skills and content of previous courses. This program allows students to experience four core sciences over three years while preparing for Advanced Placement (AP) and capstone courses.

FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
<p><b>Physics:</b> Physics in the Universe</p> <p>--OR--</p> <p><b>Physics Honors:</b> Physics in the Universe</p>	<p><b>Chemistry:</b> Chemistry of Earth Systems</p> <p>--OR--</p> <p><b>Chemistry Honors:</b> Chemistry of Earth Systems</p>	<p><b>Biology:</b> Biology of the Living Earth</p> <p>--OR--</p> <p><b>Advanced Placement Biology</b></p>	<p><u>Capstones:</u> Anatomy &amp; Physiology Earth Science</p> <p><u>Advanced Placement:</u> AP Biology AP Chemistry AP Environmental Sci AP Physics C AP Physics C-M AP Research AP Seminar</p>
	<p><u>Can be concurrent:</u> AP Physics C AP Physics C-M AP Seminar</p>	<p><u>Can be concurrent:</u> Anatomy &amp; Physiology Earth Science (capstone) AP Chemistry AP Environmental Science AP Physics C AP Physics C-M AP Research AP Seminar</p>	

**Moving forward:**

A primary focus for the freshman Physics curriculum and the sophomore Chemistry curriculum is the alignment with AP Physics and AP Chemistry. An additional focus is the incorporation of Earth Science Next Generation Science Standards. The sophomore Chemistry courses will also be designed to provide a foundation for AP Biology. A similar lens will guide the regular-level junior Biology curriculum development to prepare students who wish to take AP Biology their senior year.

The timeline for curriculum development and implementation of the new D86 Science Program is outlined below:

	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
<p><b>Physics and Physics-Honors:</b> Physics in the Universe</p>	<p><i>Develop Curriculum</i></p>	<p>CHS: Limited Enrollment</p> <p>SHS: All Freshmen</p>	<p><b>All D86 Freshmen</b></p>		
<p><b>Chemistry and Chemistry-Honors:</b> Chemistry of Earth Systems</p>		<p><i>Develop Curriculum</i></p>	<p>CHS: Limited Enrollment</p> <p>SHS: All Sophomores</p>	<p><b>All D86 Sophomores</b></p>	
<p><b>Biology:</b> Biology of the Living Earth and <b>AP Biology</b></p>			<p><i>Develop Curriculum</i></p>	<p>CHS: Limited Enrollment</p> <p>SHS: All Juniors</p>	<p><b>All D86 Juniors</b></p>

The D86 Science Program will be implemented at both schools by class cohort starting in August 2020. The D86 Science Program shifts current core course sequencing at Hinsdale Central; to assist in this sequence transition at Hinsdale Central, freshman enrollment will be limited in August 2020 and fully implemented with all incoming freshman in August 2021. All freshmen entering Hinsdale South in August of 2020 will begin in the D86 Science Program freshman courses.

To limit enrollment at Hinsdale Central for the freshman class entering August 2020, freshman can choose to participate in the new D86 Science Program courses or choose to follow course sequences similar to the current system at Hinsdale Central. Science placement for freshmen choosing the D86 Science Program sequence of courses will be based on student math placement, mirroring the practice at Hinsdale South. This placement allows for greater alignment of the freshman physics courses with student math experiences. Student placement for freshmen choosing to follow a sequence of courses similar to the current system will be based on student MAP math and reading scores, as has been the past practice at Hinsdale Central. Students who had previously been recommended for general-level science will have the option to take a freshman Earth science course or the new D86 freshman Physics course.

The course sequences available to next year’s freshman cohort at Hinsdale Central are summarized below:

	<b>2020-2021 Freshman Year</b>	<b>2021-2022 Sophomore Year</b>	<b>2022-2023 Junior Year</b>	<b>2023-2024 Senior year</b>
<b>Freshman placement based on MAP scores</b>	Biology --OR-- Biology Honors	Chemistry --OR-- Chemistry Honors	Physics --OR-- AP Physics 1	Elective --OR-- Advanced Placement
	Earth Science	<b>Physics:</b> Physics in the Universe	<b>Chemistry:</b> Chemistry of Earth Systems	<b>Biology:</b> Biology of the Living Earth
<b>Freshman placement based on freshman math course</b>	<b>Physics:</b> Physics in the Universe --OR-- <b>Physics Honors:</b> Physics in the Universe	<b>Chemistry:</b> Chemistry of Earth Systems --OR-- <b>Chemistry Honors:</b> Chemistry of Earth Systems	<b>Biology:</b> Biology of the Living Earth --OR-- <b>Advanced Placement Biology</b>	Capstone course --OR-- Advanced Placement