

The Dayton Regional STEM School

HIGH SCHOOL COURSE SELECTION GUIDE



2024 – 2025

THE REAL WORLD STARTS HERE

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Message from the Superintendent

The information contained in this booklet is to assist you in planning your educational program at the Dayton Regional STEM School. This guide is designed to provide information for cooperative planning to meet your educational objectives. You are invited to call and arrange a conference with your counselor concerning your educational program. Choose your program of study wisely with consideration for abilities, interests, and goals. The course descriptions are written to ensure that students schedule courses that are appropriate to their ability level and career interest that satisfy graduation requirements.

Please read the course descriptions carefully, ensuring that you understand the prerequisites, expectations, and graduation requirements. Discuss classes with other students, teachers, and your parents to determine whether the level of difficulty of the class is what you expect and within your level of ability. Please complete your requests with considerable thought regarding graduation requirements, future interest, and level of difficulty.

Our Mission

The mission of the Dayton Regional STEM School is to prepare and inspire the next generation of leaders and innovators.

Our Vision

We will create an innovative learning community whose members are prepared to lead and serve.

Project Based Learning

At DRSS, we focus on using Project Based Learning in our curriculum. This teaching practice involves students learning through projects that address real-world problems and challenges. Throughout their education at DRSS, students will routinely learn the content through the process of completing projects. We rely on our large group of local partners to assist in providing authentic problems to allow our students the opportunity to give back to the community.

Five Qualities

In addition to our regular instruction, we teach, practice, model and assess the following “five important qualities” at the Dayton Regional STEM School:

PERSISTENCE – INQUIRY – COMMUNICATION – CREATIVITY – COLLABORATION

High School Course Scheduling

Schedule Changes

Once schedules are finalized, changes will only be permitted for educational necessity. In the spring of each school year, you are given the opportunity to select your own course of study. Because of this selection process, you are expected to follow through with your course commitments.

IMPORTANT: SCHEDULE CHANGES MUST BE REQUESTED BY THE END OF THE FIRST FULL WEEK OF THE SEMESTER! WITHDRAWAL FROM HIGH SCHOOL CREDIT CLASSES AFTER THIS DATE WILL RESULT IN LOSS OF COURSE CREDIT AND A “WITHDRAWAL F” ON YOUR TRANSCRIPT, WHICH CALCULATES AS AN “F” IN YOUR GPA.

Course Request Process

All students will be provided a digital copy of the Dayton Regional STEM School’s Course Selection Guide. This guide will be posted on the Schoology “Class of” pages for each grade level for student and parent review.

All students will complete a paper course selection form to select the classes they would like to take the following year. Once the courses are selected, current sophomore and junior students will meet with a counselor or administrator to finalize their course selections. Current 8th grade and 9th grade students will submit an online form confirming Honors and elective selections if applicable and turn their course selection sheet into their advisor.

Students who are requesting the Honors section of a math course or College Credit Plus will go through an approval process before being scheduled into these courses.

Honors Math Course Eligibility (9th and 10th Grade)

Students who are requesting the Honors section of a math course will go through an approval process before being scheduled into Honors courses. Students must meet the following criteria to qualify:

Honors Math

- Student with an “A” grade point average in math for the previous school year
- Students with a “B” average in math for the previous school needs approval by a teacher

Course Offerings

In order to maximize staff resources and available course offerings, student requests will drive section numbers and course offerings. Administrative discretion may be exercised for upper-level courses and to ensure adequate credits are available to provide proper graduation requirements for all students.

DRSS Graduation Requirements

In order to receive a diploma from the Dayton Regional STEM School, students must earn a total of 24 credits as described below.

- 4 credits of mathematics
- 4 credits of laboratory sciences
- 4 credits of language arts
- 3 credits of social studies
- 1 credits of computer science
- 1 credit of fine arts
- ½ credit of wellness
- ½ credit of fitness
- ½ credit of internship
- 5 ½ credits of electives
- 24 Total Credits**

Selective colleges and universities may prefer or require high school foreign language credits. Students should familiarize themselves with post-secondary admissions requirements. See your school counselor for assistance.

Work-Based Learning

Work-Based Learning (WBL) is designed to provide authentic learning experiences to students that link academic, technical, and professional skills. The following experiences in each grade will fulfill the total 250 WBL hours required for graduation:

Grade 9	College and Career Fair, Workplace Simulation, Job Shadow Experience, 10 Hours of Community Service, Portfolio Capstone Project
Grade 10	College and Career Fair, Workplace Simulation, Job Shadow Experience, 10 Hours of Community Service, Portfolio Capstone Project
Grade 11	College and Career Fair, Workplace Simulation, Preparation/Completion of 80-Hour Summer Internship, 10 Hours of Community Service, Portfolio Capstone Project
Grade 12	College and Career Fair, Workplace Simulation, Internship Reflection, 10 Hours of Community Service, Portfolio Capstone Project

Students can earn an optional **Professional Development Cord** to wear at graduation if they complete 5 additional WBL experiences at school or in the community that are personalized to their career and future interests. Examples could include: extra job shadows or internships, experiential learning or pre-apprenticeships, earned industry credentials, conferences or events focused on career/professional growth, additional community service hours, mentorship programs, and more student-identified experiences!

State Graduation Requirements

In addition to completing all credit requirements listed above, the State of Ohio also requires that students meet specific testing requirements and earn two diploma seals. Please click this [link](#) to view a summary of Ohio's Graduation Requirements for the Class of 2023 and beyond.

Testing

The following end-of-course state tests that students are required to take are:

Algebra I (minimum competency score of 684 required)
Geometry
American Government
American History
English Language Arts II (minimum competency score of 684 required)
Biology

Students who do not pass the tests will be offered additional support and must retake the test at least once. Alternative pathways for graduation will be available.

Diploma Seals

Students must earn two of the following diploma seals before graduation. Progress towards earning a seal will be tracked by the school counselors and administration at DRSS and for most students will require no additional efforts outside of the normal course completion and state-mandated testing requirements. If students are not making progress towards earning two seals, the student's counselor will be in contact to help guide them through the process.

OhioMeansJobs Readiness Seal
Industry-Recognized Credential Seal
College-Ready Seal

Military Enlistment Seal
Citizenship Seal
Science Seal

Honors Diploma Seal
Technology Seal
Community Service Seal

Ohio Honors Diploma Criteria

The State of Ohio offers the opportunity of earning an Honors diploma to all students that exceed the state's minimum graduation diploma requirements. For more information about Ohio Honors Diploma requirements please [click here](#).

Grading System

Report cards will be distributed quarterly. Course credit is assigned upon completion of the course. Credit will not be awarded for courses marked as "Incomplete" or Failed.

DRSS Grading Scale

A 89.5% or higher
B 79.5% to 89.4%
C 69.5% to 79.4%
F 0 – 69.4%

The DRSS grading scale will be: A, B, C, or F. "I" (In Progress) designation will only be used on a case-by-case basis. Report cards will have numeric grades (grading scale above), alpha grades will appear on high school transcripts.

Please see an administrator for the information on the grade appeal process.

College Entrance Exams

ACT

The ACT Assessment is a curriculum-based test designed to measure high school students' college readiness and academic achievement in four skill areas: English, mathematics, reading, and science. The writing portion, which is optional, measures a student's skill in planning and requires writing a short essay.

PSAT/NMSQT

The PSAT Assessment is similar to the SAT in measuring the ability to understand and process elements of reading, writing, and mathematics. Not only is the PSAT practice for the SAT; if the student's scores, during junior year, meet the annual benchmark, the student will qualify for the National Merit and/or National Achievement Award.

SAT

The SAT Assessment is a measure of critical thinking skills students need for academic success in college. The SAT assesses how well students analyze and solve problems- skills learned in school that are needed in college. High school juniors and seniors typically take the SAT.

Many four-year colleges and universities in the United States require either the ACT or the SAT for admissions purposes. Review specific university admissions guidelines for more information.

When to take College Entrance Exams

College Entrance exams are very important and should be taken with more than a casual interest due to the fact that all scores become part of a student's permanent record. They should not be taken without forethought and planning.

Sophomores can take the ACT and/or SAT in the winter, spring, or summer.

Juniors *should* take the ACT and/or SAT at least one time during their junior year. (All juniors will take the ACT in the spring at DRSS.)

Seniors *should* take the ACT and/or SAT in the summer or fall, leaving enough time for colleges to receive scores before application deadlines.

*Any additional testing attempts are to be arranged and paid for by students and their families.

Information about these tests, as well as test-prep activities, can be found at [ACT](#) or [SAT](#).

College Credit Plus

College Credit Plus (CCP) provides an opportunity for students, grades 7-12, to take courses and earn high school and college credit at the same time. The purpose of this program is to promote rigorous academic pursuits and to provide a wide variety of options for the college-ready student.

Important Note regarding CCP Course Content from the Ohio Department of Education:

"The subject matter of a course enrolled in under the college credit plus program may include mature subject matter or materials, including those of a graphic, explicit, violent, or sexual nature, that will not be modified based upon college credit plus enrollee participation regardless of where course instruction occurs."

Please keep in mind that the reason that families select DRSS for the education of their children is in part due to the integrated nature of our school and project-based learning teaching philosophy.

The Project Based Learning environment, infused with collaborative instructional strategies, does not easily lend itself to offsite CCP participation. Students, who leave the school for a part of the day, may not realize the full benefit of the connections that run between the subject areas and may also find it difficult to participate in the fully integrated units. For these reasons, we recommend that parents approach this option with caution and much forethought. It is our recommendation that offsite college options for DRSS students are not considered before the junior year of high school.

Families that desire extensive offsite CCP participation in earlier grades are advised to return to their home district so that we may open up a space for a student that wants to attend DRSS in person.

Please also note that all students must still meet the DRSS graduation requirements (including internship).

Students interested in taking College Credit Plus (CCP) classes need to complete the following items to be considered eligible for the program:

1. Must return a signed Intent to Participate statement; a component of the student's course selection form.
2. Return and sign the Authorization form to the student's school counselor (for students new to CCP and/or DRSS).
3. Must complete a required assessment (ACT, SAT, ALEKS, or Accuplacer) from the college/university and test "College Ready." Students will be given the opportunity to take the ALEKS test at DRSS through Sinclair Community College.
4. Must complete an application with the college/university offering the course by the college's deadline.

Eligibility to participate in the CCP program requires the DRSS student/parent to attend a mandatory College Credit Plus presentation during the Spring.

There is no guarantee that CC+ credits will transfer to your chosen university/college. Students must contact each college/university to determine whether the credits will count toward their chosen major.

College/university advisors are responsible for helping students choose their courses, but the student must work with their high school counselor to ensure that students are still meeting graduation requirements. It is the student's responsibility to provide their school counselor with their off-campus college course schedule immediately after registration and to inform the school counselor IMMEDIATELY of any schedule changes.

Grades for CC+ courses will become a part of a student's permanent high school and college transcript. Students are advised to use caution when deciding to take college level classes. College tuition will be charged for any courses that are failed.

The Dayton Regional STEM School may deny a student's request to take CCP classes if they do not meet minimum requirements or become ineligible due to failure to achieve minimum performance standards in college courses.

College Credit Plus Pre-Requisite Requirements

Due to recent changes to college policies related to CCP placement, eligibility varies depending on individual student situations (GPA, test scores, etc.). Each student will be evaluated on an individual basis. For more information, please contact the CCP coordinator, Steve Federinko (steven.federinko@daytonstemschool.org).

College Credit Plus Deadlines

May 1 – University application deadline

July 1 – Deadline to finish all required preliminary testing

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College Credit Plus Courses

Course #	Course Title	Credit Hours	Credit Earned Through	Location
425/430	Chinese 1010 & 1020	6 (year-long)	Wright State University	DRSS Campus
445/450	Chinese 2010 & 2020	6 (year-long)	Wright State University	DRSS Campus
480/485	Chinese 3010 & 3020 (CCP Chinese 4)	6 (year-long)	Wright State University	Wright State Campus
340	English Composition I	3	Sinclair Community College	DRSS Campus
341	English Composition II	3	Sinclair Community College	DRSS Campus






The Dayton Regional STEM School has developed a 15- and a 30-credit option for students wishing to pursue college credit while in high school. The details are listed in the table below.

15+ Credit Option			
Course Option	Course Name	Grade Level	Credit Total
CHI 1010/1020	Chinese 2A & 2B (WSU)	10	6
CHI 2010/2020	Chinese 3A & 3B (WSU)	11	6
PSY 1100	Psychology (SCC)	11 or 12	3

30+ Credit Option			
Course Option	Course Name	Grade Level	Credit Total
ENG 1101	English Composition I (SCC)	12	3
ENG 1201	English Composition II (SCC)	12	3
PSY 1100	Psychology (SCC)	11 or 12	3
SOC 1101	Sociology (SCC)	11 or 12	3
CHI 1010/1020	Chinese 2A & 2B (WSU)	10	6
CHI 2010/2020	Chinese 3A & 3B (WSU)	10	6
CHI 3010/3020	Chinese 4 at WSU	12	6

STEM Honors – Career Specializations

Career Technical Education (CTE) provides students of all ages with the academic and technical skills, knowledge and training necessary to succeed in future careers and to become lifelong learners. The Dayton Regional STEM School offers courses in three career technical pathways and one design pathway. Students at DRSS are exposed to all pathways through courses that are integrated into the core curriculum. In the junior and senior years of high school students may select courses in a particular pathway to continue their development in that career field. The pathways and the associated courses are listed below. **Students must complete at least four of the corresponding criteria to complete a pathway.** Students who complete a pathway will receive a certificate of completion and will wear a special cord or medallion at graduation.

<h3>Health Sciences</h3> <ul style="list-style-type: none"> Biology Wellness and Fitness Anatomy and Physiology Medical Interventions Healthcare Design and Development Fitness Evaluation and Assessment Health Sciences Experiential Learning Health Sciences Internship 	<h3>Computer Science</h3> <ul style="list-style-type: none"> Principles of Computer Science Robotics Computer Programming Computer Hardware Network Professional Game Design I/II/III Cyber Operations TAC Experiential Learning IT/Computer Science Internship 	<h3>Chinese</h3> <p>*3 Courses to Earn Pathway*</p> <ul style="list-style-type: none"> Chinese 1 Chinese 2 CCP Chinese 1010/1020 Chinese 3 CCP Chinese 2010/2020 Chinese 4 CCP Chinese 3010/3020 
<h3>Engineering</h3> <ul style="list-style-type: none"> Engineering Science Robotics Principles of Engineering Digital Electronics Physics Engineering Design and Development CAMP Dossier Experiential Learning Engineering Internship 	<h3>Design</h3> <ul style="list-style-type: none"> Art Visual Communication Architecture and Design Ceramics Game Design I/II/III Art and Science of Materials Art Based Independent Study Art Based Experiential Learning 	

Industry-Recognized Credentials

Industry-recognized credentials are an innovative approach to truly recognize and account for a student's hard work in becoming career ready. Possessing an industry-recognized credential not only helps a student prove competency and capability in a given field, but also demonstrates to the community and employers that the student is knowledgeable, properly trained and equipped to carry out their duties. Please see below for a list of courses in which students can earn credentials.

Course Name	Industry-Recognized Credential
Computer Hardware	CompTIA-A+
Network Professional	CompTIA Network+
Robotics	FANUC-Handling Tool Operation & Programming
Cyber Operations	CyberOps Associate
TAC Assistant Experiential Learning	Information Technology Pre-apprenticeship
Engineering Design & Development	Lean Six Sigma Yellow Belt and Green Belt
Healthcare Design & Development	Lean Six Sigma Yellow Belt and Green Belt
Health Sciences Experiential Learning	STNA

Art

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
100	Art	9	Year	1	None	\$0
110	Architecture & Design	11, 12	Year	1	None	\$25
130	Ceramics	11, 12	Year	1	None	\$25
871	Art & Science of Materials	12	Year	1	Chemistry	\$25
120	Visual Communication	10-12	Year	1	None	\$25

100 – Art

Prerequisite: None Grade: 9 Length: Year Credit: 1

The DRSS Art program offers students a range of experiences in making, responding to, and presenting artwork. Exploring and expanding students' personal voices through various media, design process thinking, and decision-making, are cornerstones of the program. Curriculum is structured to be inter-disciplinary and collaborative in nature. This allows students to experience connections between arts and the creative process across disciplines and to recognize applications in professional and daily life. This is a required course for all 9th grade students.

This course is part of the Design Pathway.

110 – Architecture and Design

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$25

This course serves as an introduction to architecture with a focus on design. Starting with drawing as a foundation, students move through a series of design exercises focusing on principles of design as applied to space and structure while referencing examples of historical and contemporary architects and architecture. Finally, students learn professional approaches to architectural design including the design process and building physical as well as virtual models.

Several field trips enrich student's experience of the built environment and students have an opportunity to participate in AIA Dayton's Annual Student Design Competition and compete for scholarships.

This course is part of the Design Pathway.

130 – Ceramics

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$25

This class will introduce students to building with clay. Emphasis will be placed on the design elements: line, shape, texture, and color. Focus will be on hand building techniques: pinch, coil, and slabs. Functional, as well as sculptural applications will be explored. Introduction to traditional and historical ceramic arts will be incorporated into the studio experiences. Various glaze and surface decoration techniques for finishing work will be introduced in the beginning class. Learners will be introduced to basic clay properties, glazing, and firing techniques.

This course is part of the Design Pathway.

871 – Art and Science of Materials

Prerequisite: Chemistry Grade: 12 Length: Year Credit: 1 Fee: \$25

This year long interdisciplinary curriculum is focused on studying the properties and capacities of manufacturing materials of ceramics, metals, polymers and composites through the lens of Chemistry and Art. In the Chemistry lab students learn about the chemical and physical properties of these materials and in the Art studio students manipulate the materials creatively. Students are introduced to practical and contemporary manufacturing applications of materials and are exposed to related careers in manufacturing, design and advanced manufacturing. This interdisciplinary approach serves as an introduction to the capacities and potentials of manufacturing materials. The course is co-taught by the Art and Chemistry instructors and can be designated as either an art or chemistry credit.

This course is part of the Design Pathway.

120 – Visual Communication

Prerequisite: None

Grade: 10, 11, 12

Length: Year

Credit: 1

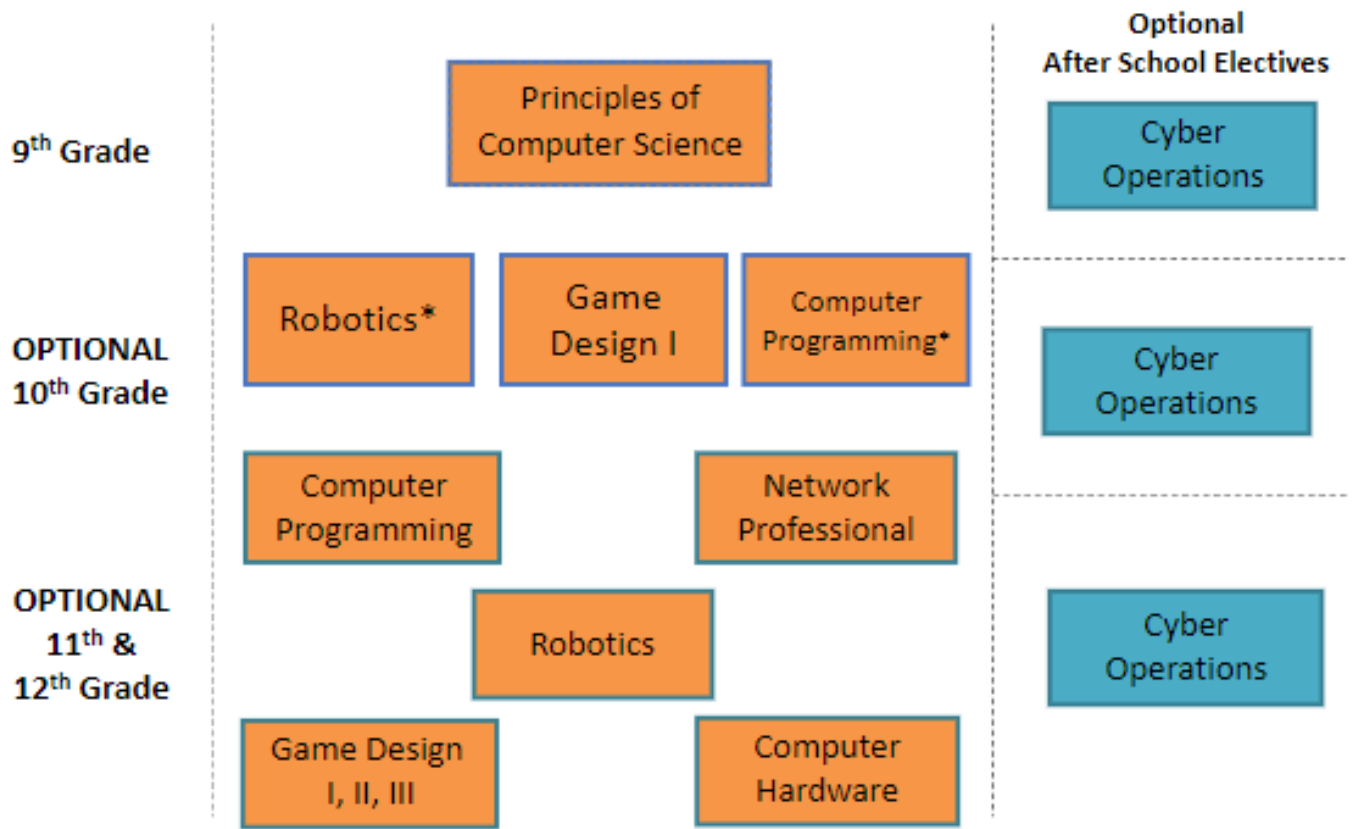
Fee: \$25

Part of the DRSS Design Pathway, this course will appeal to students pursuing a career interest or amateur passion in digital design. Students learn to combine art and technology to communicate messages. Principles of design and image creation/manipulation, along with typography, interactive media, and animation are explored through project work. Students use industry-standard software including Photoshop, Illustrator and Adobe Animate, along with web-based applications. Work is focused on in-class studio time and helps students develop critical thinking, problem solving, and communication through the design thinking process. Exploration of design careers, such as graphic design, illustration, digital photography, animation, and user experience are woven into the course.

This course is part of the Design Pathway.

Computer Science

DRSS High School Computer Science Sequence



**-Pre-requisites required for Sophomores. See course description.*

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
910	Principles of Computer Science	9	Year	1	None	\$0
920	Robotics	10-12	Year	1	10 th Grade: must have taken POCS, Geometry or have teacher rec.	\$10
945	Computer Programming	10-12	Year	1	Geometry	\$10
950	Computer Hardware	11, 12	Year	1	None	\$10
955	Network Professional	11, 12	Year	1	None	\$10
960	Game Design I	10-12	Year	1	See description	\$10
960A	Game Design II	11	Year	1	Game Design I	\$10
960B	Game Design III	12	Year	1	Game Design II	\$10
961	Cyber Operations	9-12	Year	0.5	None	\$0
ITCAP	TAC Assistant	12	Year	1	See description	\$0

910 – Principles of Computer Science

Prerequisite: None Grade: 9 Length: Year Credit: 1

This first course in the IT career field is designed to provide students with a working knowledge of computer concepts and essential skills necessary for work and communication in today's society, as well as survey several different career fields within IT and programming. Students will learn safety, security, and ethical issues in computing, social networking, security, and artificial intelligence. Students will also learn about input/output systems, computer hardware, operating systems, mobile app development, database management, and cybersecurity.

This course is part of the Computer Science Pathway.

920 – Robotics

Prerequisite: Principles of Comp Sci or Geometry Grade: 10-12 Length: Year Credit: 1 Fee: \$10

Students will explore programming, engineering, electronics, and controls principles in robotics applications. The course revolves heavily around project and team-based learning opportunities. The course will have two primary components. First, students will explore the design thinking process and its applications in a competitive robotics space. Then, we will explore robotics platforms and their real-world use in manufacturing, medicine, and more.

This course satisfies requirements in both the Computer Science and Engineering Pathways.

945 – Computer Programming

Prerequisite: Geometry Grade: 10-12 Length: Year Credit: 1 Fee: \$10

Students will learn vocabulary, concepts, and practice of software design and computer programming. They will practice software development through a series of projects to produce graphical, web, mobile, and object-oriented applications. They will use professional tools, a variety of operating systems, and several different, popular languages. Coding will be done in a context of modern software engineering practices. Students will also share presentations on current events in the information technology industry, and examine the history of computer software technology through the parallel history of video gaming. The course ultimately prepares students for the AP Computer Science exam and entry level professional certification in Java. There is no assumption of computer programming experience; the only prerequisite is knowledge of two- and three-dimensional geometry.

This course is part of the Computer Science Pathway.

950 – Computer Hardware

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$10

Students will learn to install, repair, and troubleshoot computer hardware systems. They will perform preventative maintenance practices and learn techniques for maintaining computer hardware security. Communication skills and professionalism in troubleshooting situations will be emphasized. This course prepares students for the CompTIA A+ 220-1101 (Core 1) and 220-1102 (Core 2) certification exams. Students use multiple learning formats to learn how to install, manage, and secure computer hardware and master home and corporate OS environments.

At the end of this course, students will take a credentialing exam to earn their CompTIA-A+ industry-recognized credential.

This course is part of the Computer Science Pathway.

955 – Network Professional

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$10

Students will install, configure, and troubleshoot network hardware and peripherals. Students will learn networking by exploring the OSI model, network topologies, cabling and security. Students will design networks, know how to select physical devices, and be able to configure the equipment. Knowledge and skills relating to the securing and maintaining operation and usage of networks and network protocols will be developed. This course prepares students for the TestOut Network Pro, CompTIA's N10-007, TestOut's Security Pro and CompTIA's Security+ SY0-601 certification exams. Students gain the knowledge and skills they need to install, configure, maintain, and secure a network for a small business.

At the end of this course, students will take a credentialing exam to earn their CompTIA Network+ industry-recognized credential.

This course is part of the Computer Science Pathway.

960 – Game Design I

Prerequisite: See Below Grade: 10-12 Length: Year Credit: 1 Fee: \$10

Students must complete the Virtual Museum Project as part of Mr. Potts' 9th grade class before joining this course. Game Design I is an introductory course that explores skills related to video game design and development. Students will use computer technology along with 21st century skills to conduct research, work in a team setting and solve problems in order to become competitive in the video game industry. Topics include career exploration, game design, computer programming, 3D modeling and simulation and game engines. Students will work on a capstone project to develop an original video game. Final approval of course participation will be determined through a selection process at the completion of the school year.

This course satisfies requirements in both the Computer Science and Design Pathways.

960A – Game Design II

Prerequisite: Game Design I Grade: 11, 12 Length: Year Credit: 1 Fee: \$10

Game Design II is a continuation of the skills that students begin learning in Game Design I. Students must pass Game Design I to take this course. Students will begin making a new capstone building from the skills learned in Game Design I. Using computer technology along with 21st century skills to conduct research, work in a team setting and solve problems in order to become competitive in the video game industry will continue to drive learning. Outside partners will provide expertise as advanced skills are introduced such as using source control software to manage their project.

This course satisfies requirements in both the Computer Science and Design Pathways.

960B – Game Design III

Prerequisite: Game Design II Grade: 12 Length: Year Credit: 1 Fee: \$10

Game Design III is a continuation of the skills that students learn in Game Design I and II. The capstone project will challenge students to work as a large development team becoming immersed in the various stages and roles of the game creation process. This course will have students utilize all of the skills from Game Design I and II to make their original game together as a single development team. Using computer technology along with 21st century skills to conduct research, work in a team setting and solve problems in order to become competitive in the video game industry will continue to drive learning. Outside partners will provide expertise as advanced skills are mastered.

This course satisfies requirements in both the Computer Science and Design Pathways.

961 – Cyber Operations

Prerequisite: None Grade: 9-12 Length: Year Credit: 0.5

Through hands-on project-based learning, students will develop their skills in cybersecurity. Students will work in groups to complete various projects leading to the final project for the course. During the final project, students will use the skills they developed to build and defend their own network while attempting to gain access to their peers' networks through a capture-the-flag-style project. This course does not require any prerequisites or prior knowledge, just a desire to learn. All students will be provided an opportunity to take the Cisco CyberOPs Associate certification exam at no cost to the student.

This course is part of the Computer Science Pathway.

ITCAP – TAC Assistant Experiential Learning

Prerequisite: None Grade: 12 Length: Year Credit: See description

The credits earned for this course will be based on scheduled hours and may occur over one semester or the entire year. This experiential learning opportunity provides the student with research and service-learning experiences with the Dayton Regional STEM School Technology Assistance Team (TAC). Students in the TAC Assistant position will receive assignments directly from the TAC staff. The work completed will support the technology needs of the school and will provide real world experiences to help prepare students for careers in Information Technology. Students should have an interest in enhancing their technology skills through hands-on application.

After completing this course, students will earn the Information Technology Pre-Apprenticeship credential.

This course is part of the Computer Science Pathway.

Engineering

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
900	Engineering Science	9	Year	1	None	\$0
860	Physics	11, 12	Year	1	Algebra 2	\$0
915	Principles of Engineering	11, 12	Year	1	*not offered until '25-'26*	\$10
916	Digital Electronics	11, 12	Year	1	None	\$10
918	Engineering Design & Development	11, 12	Year	1	None	\$10
920	Robotics	10-12	Year	1	Principles of Computer Science if taking in 10 th grade. None for 11 th and 12 th .	\$10
ENGCAP	CAMP Assistant	12	Year	1	See course description	0

900 – Engineering Science

Prerequisite: None

Grade: 9

Length: Year

Credit: 1

Engineering Science (ES) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the ES course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering and manufacturing standards, and technical documentation. ES gives students the opportunity to develop skills and understanding of course concepts through activity-, problem-, and projectbased learning. Students will employ engineering and scientific concepts in the solution of engineering design problems. In addition, students use Autodesk Inventor 3D solid modeling design software package to help them design solutions to solve proposed problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course. Students will also learn how to document their work in an engineering notebook, and communicate their solutions to their peers and members of the professional community. In addition, students will learn the fundamentals of 3D printing, as well as laser cutting and vinyl laser printing. They will propose various solutions to problems or issues in their lives, and print or laser cut solutions after a thorough use and practice of the design process.

This course is considered a science credit and is part of the Engineering Pathway.

860 - Physics

Prerequisite: Algebra 2

Grade: 11, 12

Length: Year

Credit: 1

Students should have a strong foundation in algebra to prepare for this algebra-based Physics course. Through the course, students will address physics topics and develop professional competency skills through inquiry, teamwork, and problem solving. The fall portion of the course covers motion, forces, energy, and features an engineering design projectile motion (catapult) project. The spring portion of the course covers electricity, magnetism, waves, sound, light and optics; it features a photonics (lasers) experience with CAMP Dossier. The course will culminate with special topics in modern physics, exposing students to what's currently going on in the world of physics.

This course is considered a science credit and is part of the Engineering Pathway.

915 – Principles of Engineering (NOT OFFERED DURING THE '24-'25 SCHOOL YEAR)

Prerequisite: None

Grade: 11, 12

Length: Year

Credit: 1

Fee: \$10

Principles of Engineering (POE) is a high school-level survey course of engineering. The course exposes students to some of the major concepts that they will encounter in a post-secondary engineering course of study. Students have an opportunity to investigate engineering and high-tech careers and to develop skills and understanding of course concepts through activity-, problem-, and project-based learning. Students will continually hone their interpersonal skills, creative abilities, and problem-solving skills based upon engineering concepts. Students will develop strategies to enable and direct their own learning. Students will employ engineering and scientific concepts in the solution of engineering design problems, develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges, learn software programming (RobotC), and work with Vex robotics parts, motors and sensors to solve various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community. Additionally, students will apply the principles of physics to define and calculate the forces present in truss systems, as well as ballistics, and statics. This course is one of the most challenging of the PLTW survey courses, and will challenge students of all levels.

This course is considered a science credit and is part of the Engineering Pathway.

916 – Digital Electronics

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$10

Digital Electronics (DE) is the study of electronic circuits that are used to process and control digital signals, which are represented by two discrete voltages or logic levels. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Through Project Based Learning students will analyze, design, and build electronic circuits, while also developing their professional skills and creative abilities. The course will culminate in a student-driven circuit design project. Students will keep engineering notebooks as documentation that will be graded throughout the year.

This course is considered a science credit and is part of the Engineering Pathway.

918 – Engineering Design and Development

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$10

Engineering Design and Development (EDD) is an engineering capstone course, in which students will develop and apply skills in brainstorming, research, critical thinking, data collection, CAD, fabrication, collaboration, and professional communication. Students will identify a real-world challenge and then research, design, and test a solution, ultimately presenting their unique solutions to a panel of experts. In addition, students will hear from different engineering professionals about career opportunities and learn about patent law. Throughout the course, students will work to earn their Lean Six Sigma Yellow Belt and Green Belt industry-recognized leadership credentials. Students will keep engineering notebooks as documentation that will be graded throughout the year. This course is taught parallel to Healthcare Design and Development.

At the end of this course, students will take a credentialing exam to earn their Lean Six Sigma Yellow Belt and Green Belt industry-recognized leadership credentials.

This course is considered a science credit and is part of the Engineering Pathway.

920 – Robotics

Prerequisite: Principles of Comp Sci or Geometry Grade: 10-12 Length: Year Credit: 1 Fee: \$10

Students will explore programming, engineering, electronics, and controls principles in robotics applications. The course revolves heavily around project and team-based learning opportunities. The course will have two primary components. First, students will explore the design thinking process and its applications in a competitive robotics space. Then, we will explore robotics platforms and their real-world use in manufacturing, medicine, and more.

This course satisfies requirements in both the Computer Science and Engineering Pathways.

ENGCAP – CAMP Assistant - Experiential Learning

Prerequisite: See below Grade: 12 Length: Year Credit: 1

The Center for Advanced Manufacturing and Photonics (CAMP) offers an opportunity for students to work with the advanced technology machines at CAMP Dosser. Students will learn to safely operate the machines, develop/ tweak designs, and create helpful products for DRSS staff and students. Assistants will use their analytical and problem-solving skills to find the most effective solutions for the jobs requested. Students will experience a professional work environment as they follow standard operating procedures, collaborate with others, and work independently on important tasks. Students will be expected to accomplish specific goals in a timely manner adhering to high quality standards. At the end of this course, students will have learned the science and technology involved in the high-tech machines and will be able to add the experience and multiple skills developed during this course to their resume. The students will be given the opportunity to complete independent research on new techniques and technology and acquire credentials related to the advanced manufacturing industry.

After completing this course, students will earn the Industrial Manufacturing Technician Pre-Apprenticeship credential.

This course is part of the Engineering Pathway.

Students who are requesting this course must meet and agree to the following requirements:

- Earn a B or above in Engineering Science
- Must attend summer training session during Summer 2024
- Must return for Summer 2025 to train new CAMP assistants

Foreign Language

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
400	Chinese 1	9-12	Year	1	None	\$0
410	Chinese 2	10-12	Year	1	Chinese 1	\$0
425/430	CCP Chinese 1010 & 1020*	10-12	Year	1	Chinese 1	\$0
440	Chinese 3	11, 12	Year	1	Chinese 2 or equivalent	\$0
445/450	CCP Chinese 2010 & 2020*	11, 12	Year	1	CCP Chinese 1010 & 1020	\$0
455	Chinese 4	12	Year	1	Chinese 3 or equivalent	\$0
480/485	CCP Chinese 3010 & 3020*	12	Year	1	CCP Chinese 2010 & 2020	\$0

*- See course description for CCP requirements

COURSE AVAILABILITY IS DEPENDENT ON NUMBER OF STUDENTS WHO SIGN UP

400 – Chinese 1

Prerequisite: None Grade: 9-12 Length: Year Credit: 1

This course is the first year of the four years of Chinese courses offered at DRSS. It is designed for students with no previous knowledge of the Chinese language. This course introduces the official Chinese language, Mandarin. The class emphasizes building a solid foundation in the Pinyin system of pronunciation, vocabulary, and sentence patterns in daily life communicative contexts. Students will acquire their language skills to carry on simple conversations in Chinese. Reading and writing will be developed in conjunction with speaking and listening skills. Along with learning the language, students will also explore culture highlights throughout the year.

This course is part of the Chinese Pathway.

410 – Chinese 2

Prerequisite: Chinese 1 Grade: 10-12 Length: Year Credit: 1

In this class, students will practice the four language skills of listening, speaking, reading, and writing in meaningful contexts. Students will further build up their Chinese vocabulary and syntactic knowledge through topics such as making an appointment, school life, and transportation. Through the year, students will learn through different tasks and projects and exposure to various aspects of Chinese cultures involving in the different units. The course offers an essential foundation for students who are interested in further studying the Chinese language in their junior year (Chinese 3).

This course is part of the Chinese Pathway.

425 – College Credit Plus Chinese 1010

Prerequisite: Chinese 1 Grade: 10-12 Length: Year Credit: 1

430 – College Credit Plus Chinese 1020

Prerequisite: Chinese 1 Grade: 10-12 Length: Year Credit: 1

These courses count as 1 high school credit and 6 college credits. Any student attempting CC+ classes must register with and meet the institution's admission/testing requirements. The requirements usually involve minimum ACT, SAT, college's placement scores and/or a minimum GPA, and/or a recommendation.

This is the 1st year College Credit Plus Chinese course offered by Wright State University. Although this course is originally for students with no knowledge of the Chinese language at WSU, it is offered to DRSS students who have completed Chinese 1 during their freshman year.

In a Chinese immersed environment, students will continue developing their four language skills (listening, speaking, reading and writing) based on their fundamental knowledge acquired in Chinese 1. In addition to expanding their vocabulary and learning additional grammatical structures, students will apply their knowledge in a highly dynamic interactive environment through different tasks and projects. Students will also explore the cultural highlights after each lesson. The course offers a solid foundation for students who are interested in further studying the Chinese language in their junior (CC+ Chinese 3) and senior years (WSU CH3010).

This course is part of the Chinese Pathway.

440 – Chinese 3

Prerequisite: Chinese 2 Grade: 11, 12 Length: Year Credit: 1

In this course, students continue to develop language skills in listening, speaking, reading, and writing. They will expand their vocabulary and review the basic grammatical structures through their everyday life conversations. This course is designed for students to carry on conversations and express themselves by speaking and writing in Chinese, to accomplish tasks, interpret and exchange information, and to communicate in a culturally appropriate manner. Task-based language teaching using authentic materials will be emphasized in this course throughout the year.

This course is part of the Chinese Pathway.

445 – College Credit Plus Chinese 2010

Prerequisite: CCP Chinese 2A & 2B Grade: 11, 12

450 – College Credit Plus Chinese 2020

Length: Year Credit: 1

These courses count as 1 high school credit and 6 college credits. Any student attempting CC+ classes must register with and meet the institution's admission/testing requirements. The requirements usually involve minimum ACT, SAT, college's placement scores and/or a minimum GPA, and/or a recommendation.

CCP Chinese 3 is the second level of CCP Chinese courses offered by Wright State University and the third level Chinese class at Dayton Regional STEM School (DRSS). After completing a CCP course, students earn dual credits from high school and college. In the class, students gain an advanced overview of the Chinese language and culture in a Chinese-immersed environment through listening, speaking, reading, and writing. In addition, they will apply their knowledge in a highly dynamic interactive environment through different tasks and projects, including a pen pal project with Mingdao High School in Taiwan. Through this year-long project, the students gain authentic real-life language learning experiences. Students from both high schools learn the language and cultural perspectives of each other through the ten exchanges on online learning platforms such as Padlet and Flipgrid. The themes of the exchanges are related to the textbook units, and the topics reflect world trend issues. The course offers a solid foundation for students interested in further studying the Chinese language in their senior year (CCP Chinese 4 or Chinese 4).

This course is part of the Chinese Pathway.

455 – Chinese 4

Prerequisite: Chinese 3 or equiv. Grade: 12 Length: Year Credit: 1

In this course, students continue to develop language skills in listening, speaking, reading, and writing. Students will expand their vocabulary and review the grammatical structures through not only their daily life conversations but also broader topics in the community. This course is designed for students to carry on deeper conversations and express themselves better by speaking and writing in Chinese, to accomplish tasks, interpret and exchange information, and to communicate in a culturally appropriate manner. Task-based teaching using authentic materials will be emphasized in this course throughout the year.

This course is part of the Chinese Pathway.

480 – College Credit Plus Chinese 3010

Prerequisite: CCP Chinese 3A & 3B Grade: 12

485 – College Credit Plus Chinese 3020

Length: Year Credit: 1

These courses count as 1 high school credit and 6 college credits. Any student attempting CC+ classes must register with and meet the institution's admission/testing requirements. The requirements usually involve minimum ACT, SAT, college's placement scores and/or a minimum GPA, and/or a recommendation.

Further development of advanced linguistic proficiency and complex conversation skills with emphasis on cultural aspects of communication. Taught in Chinese.

This course is taught on Wright State University's Dayton campus. Students that sign up for this course MUST provide their own transportation to and from Wright State's Campus.

This course is part of the Chinese Pathway.

General Electives

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
CCEXP	College and Career Exploration	10, 11	Year	1	None	\$0
FAS	Faculty Assistant (Full Year)	12	Year	1	None	\$0
FAS2	Faculty Assistant (One Semester)	12	Sem	0.5	None	\$0
IRES	Independent Research	12	Year	0.5-1	None	\$0

CCEXP – College and Career Exploration

Prerequisite: None Grade: 10, 11 Length: Year Credit: 1

What is College? FAFSA? Loans? What do I want to do after high school? Adulting? Career? This course is designed to allow students to explore and learn about college, career, and life exploration. Students will be introduced to a variety of colleges and universities, Common App, intro college essay writing, intro to college boards, and scholarships. Students will use YouScience data to help guide them through Work Based learning, Job Shadow, and Internships. In addition, students start their journey learning about the basics of personal finance and financial literacy. Lastly, students will discover the wonderful world of Adulting. These skills will aid them in interviewing, obtaining a job, preparing meals, and starting to build an independent life after college and into adulthood. Welcome to College and Career Exploration!

FAS – Faculty Assistant (Full Year)

Prerequisite: None Grade: 12

FAS2 – Faculty Assistant (One Semester)

Length: Sem or Year Credit: 0.5 or 1

This course can be taken for a semester or for an entire year. In this class students will provide support to teachers and/or staff. Assignments may include grading, setting up labs, working on special projects, or small group tutoring. By taking this class students will get involved in activities within the school so that they may develop academically as well as socially. Research has shown that students who are involved at their school do well academically as their motivation and time management skills improve.

IRES – Independent Research

Prerequisite: None Grade: 12 Length: Year Credit: 0.5 or 1

Independent Research is a self-paced course that will utilize an online learning system such as EdX to provide course content. Course progress will be monitored by DRSS Staff, but students will be responsible for completing the course content independently. Students will have the opportunity to deep-dive into any topic they wish to learn more about. This is a great course for students who wish to explore different topics of interest to them or that are related to their future career pursuits.

Course credit will be earned based on the number of hours required to complete each class. Students may be able to complete multiple classes over the course of the year.

This course can be used towards the completion of the Design Pathway (must be art-based).

Health Sciences

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
205	Wellness	10	Sem	0.5	Required for 10 th grade	\$0
210	Fitness	10	Sem	0.5	Required for 10 th grade	\$0
211	Fitness Evaluation & Assessment	11, 12	Year	1	None	\$10
911	Anatomy and Physiology ⁺	11, 12	Year	1	*not offered until '25-'26*	\$25
912	Medical Interventions ⁺	11, 12	Year	1	Biology	\$25
919	Healthcare Design and Development	11, 12	Year	1	None	\$25
MEDC AP	Health Sciences Experiential Learning	12	Year	1	None	\$25

⁺ This course is considered a science credit

205 – Wellness

210 – Fitness

Prerequisite: None

Grade: 10

Length: Year

Credit: 1

In this course, students will study the impact of behavioral choices on the health of individuals, families, and the community through project-based learning. Students will learn and demonstrate health-enhancing behaviors and work towards achieving personal wellness and fitness goals. Topics to be studied include CPR, suicide prevention, nutrition, dimensions of wellness, health-related fitness components, and sexual health. In addition, the course will integrate concepts covered in biology to help students better understand how the body functions and how diseases develop. Students in this course will also participate in a variety of team and individual physical activities in order to improve their level of fitness. By the end of the course, students will have developed lifelong fitness skills.

This course is part of the Health Sciences Pathway.

211 – Fitness Evaluation and Assessment

Prerequisite: None

Grade: 11, 12

Length: Year

Credit: 1

Fee: \$10

In this elective course, students will complete comprehensive fitness evaluations and develop individualized training programs. Students will administer lab and field tests of cardiovascular endurance, body composition, joint flexibility and muscular strength, power, and endurance. Emphasis is placed on assessing body composition, neuromuscular flexibility, agility, balance, coordination, and proprioception. Additionally, students will identify components of physical fitness and communicate how physical activity impact health and wellness. Students will work out 3-4 days each week.

This course is part of the Health Sciences Pathway.

911 – Anatomy and Physiology (NOT OFFERED '24-'25 SCHOOL YEAR)

Prerequisite: Biology

Grade: 11, 12

Length: Year

Credit: 1

Fee: \$25

Students must earn a minimum of a B in Biology to take this course.

Anatomy and Physiology is a yearlong course that provides students an opportunity to explore the intricate and sophisticated relationship between structure and function in the human body. This course offers students an environment in which they may probe topics such as homeostasis, anatomical and physiological disorders, medical diagnosis and treatment, biochemistry, cytology, histology, and a survey of the many body systems that comprise the human body. Laboratory activities and projects will reinforce concepts and principles presented in this course. Students may also participate in a field trip to the Human Anatomy and Physiology Lab at Wright State University.

This course is considered a science credit and is part of the Health Sciences Pathway.

912 – Medical Interventions

Prerequisite: Biology Grade: 11, 12 Length: Year Credit: 1 Fee: \$25

Students must earn a minimum of a B in Biology to take this course.

Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

This course is considered a science credit and is part of the Health Sciences Pathway.

919 – Healthcare Design and Development

Prerequisite: None Grade: 11, 12 Length: Year Credit: 1 Fee: \$10

Healthcare Design and Development (HDD) is a health sciences pathway capstone course, in which students will develop and apply skills in brainstorming, research, critical thinking, data collection, physical design, fabrication, collaboration, and professional communication. Students will identify a real-world challenge and then research, design, and test a solution, ultimately presenting their unique solutions to a panel of experts. In addition, students will hear from different engineering professionals about career opportunities and learn about patent law. Students will keep engineering notebooks as documentation that will be graded throughout the year. This course is taught parallel to Engineering Design and Development.

At the end of this course, students will take a credentialing exam to earn their Lean Six Sigma Yellow Belt and Green Belt industry-recognized leadership credentials.

This course is part of the Health Sciences Pathway.

MEDCAP – Health Sciences Experiential Learning

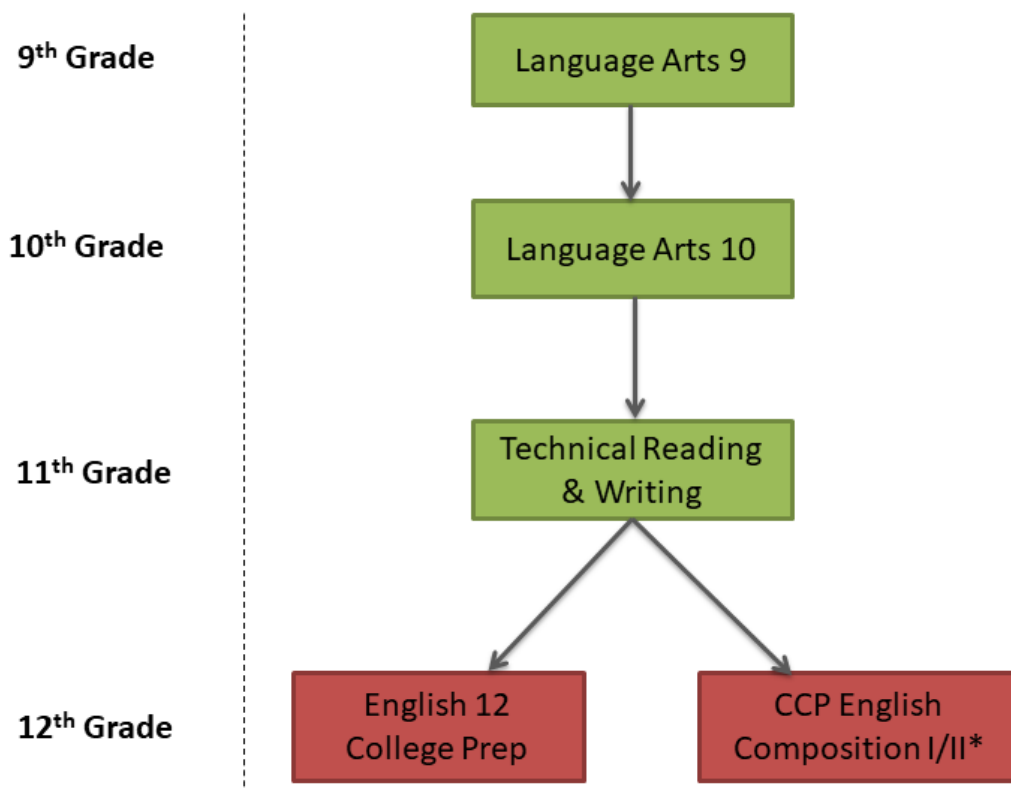
Prerequisite: None Grade: 12 Length: Year Credit: 1 Fee: \$10

Credits earned for this course will be based on scheduled hours and may occur over on semester or the entire year. This experiential learning opportunity provides students with research, teaching, and service-learning experiences in community organizations, businesses and industry that will enable them to discover and develop confidence in their ability to engage in productive and significant work. This experience may be a continuation of the student's internship, or may include a pre-apprenticeship assignment. Students must submit a proposal that provides the location, hours and the type of work that will be completed. A DRSS mentor will be provided and weekly logs will need to be submitted to document the time spent in experiential learning. Students may have the opportunity to take State Tested Nurse Aide (STNA) exam upon successful completion of course.

This course is part of the Health Sciences Pathway.

Language Arts

DRSS High School Language Arts Sequence



Four language arts credits are required for graduation.

** - CCP English Composition I&II are offered on the DRSS campus. 6 semester credit hours through Wright State earned for whole year course.*

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
300	Language Arts 9	9	Year	1	None	\$0
310	Language Arts 10	10	Year	1	None	\$0
320	Technical Reading & Writing**	11	Year	1	None	\$0
350	English 12 College Prep	12	Year	1	None	\$0
340	CCP English 1101: English Composition I*	12	Sem	0.5	Qualifying Placement test score	\$0
341	CCP English 1201: English Composition II*	12	Sem	0.5	CCP ENG 1101	\$0

*- See course description for CCP requirements

** - Students interested in NCAA eligibility are required to meet with school counselor

300 – Language Arts 9

Prerequisite: None Grade: 9 Length: Year Credit: 1

The ninth-grade integrated language arts course is a series of units that incorporate the six components of language arts – reading, writing, speaking, listening, viewing, and visual representation. In this course, students will read classic and contemporary literature written by a variety of authors. Students will also read and analyze non-fiction text and/or media that complement the literature being analyzed. Critical reading, thinking, and listening are central and are developed through whole class discussions as well as small group discussions, and Socratic seminars. Writing is used for personal reflection as well as demonstration of learning. Student writing is taken through the various stages of the writing process – initial drafting, revising, peer review, editing, and proofreading/polishing – for craftsmanship and possible publication. During the writing process, vocabulary, grammar, and syntax will also be addressed.

310 – Language Arts 10

Prerequisite: None Grade: 10 Length: Year Credit: 1

In this course, students explore our interconnected world through reading and writing a variety of texts. Students read fiction and non-fiction that address topics they are learning in their other courses, as well as to better understand the world around them. Students engage in the writing process, including prewriting and generation of ideas, writing a rough draft, peer critique, revision, editing, and final draft production. Emphasis is on developing organizational skills for writing longer pieces and on adapting one's writing "voice" to appeal to a specific target audience. Larger written projects often have a "real-world" audience; most writing is made public in some way. Students also learn various resources to support individual research, with a focus on finding credible and reliable sources of information. Students study basic grammar and language usage both as readers and as writers, discovering more complex sentence structures and advanced punctuation skills. Students regularly participate in formal and informal presentations.

320 – Technical Reading and Writing

Prerequisite: None Grade: 11 Length: Year Credit: 1

The purpose of Technical Reading & Writing is to help students understand the elements of technical and professional writing and communication by completing written assignments, workshops, oral presentations, collaborative research projects, daily group work, and peer-review. Students will learn to read and analyze business and technical materials, gaining an understanding of how to model and prepare workplace documents, resumes, cover letters, instructions, usability tests, reports, proposals, and science manuscripts. Because this course is the 11th grade language arts class at DRSS, during one quarter, students will compose a creative narrative piece that incorporates science and/or math. This course will ultimately guide students in technical reading and writing for their other STEM classes, including effective note-taking skills, reading strategies, considering the rhetorical situation when writing, as well as editing & proofreading for errors in mechanics, usage, grammar, and spelling (M.U.G.S.). Additionally, students will practice skills that will be useful for taking the SAT and ACT.

350 – English 12 College Prep

Prerequisite: None Grade: 12 Length: Year Credit: 1

This course is a yearlong (non-college credit) course designed to introduce students to the principles needed to be successful after high school. The course will be writing-intensive with a focus on developing skills in critical reading, self-reflection, effective written communication, research, as well as the use of technology that will aid students in their future endeavors. Students will generate a variety of writing pieces and projects. Students will be expected to use the accepted conventions for specific genres, tasks, and audiences.

340 – College Credit Plus English 1101: English Composition I

Prerequisite: Placement test score Grade: 12 Length: Semester Credit: 0.5

This course counts as 0.5 high school credits and 3 college credits. Any student attempting CC+ classes must register with and meet the institution's admission/testing requirements. The requirements usually involve minimum ACT, SAT, college's placement scores and/or a minimum GPA, and/or a recommendation.

In English Composition I students learn reflective, analytical and argumentative writing strategies, incorporating sources and personal experience. Students will negotiate between public and private rhetorical situations and purposes to achieve academic literacy. They will write multiple drafts using a recursive writing process as they work toward fluency in style and mechanics.

341 – College Credit Plus English 1201: English Composition II

Prerequisite: CCP ENG 1101

Grade: 12

Length: Semester

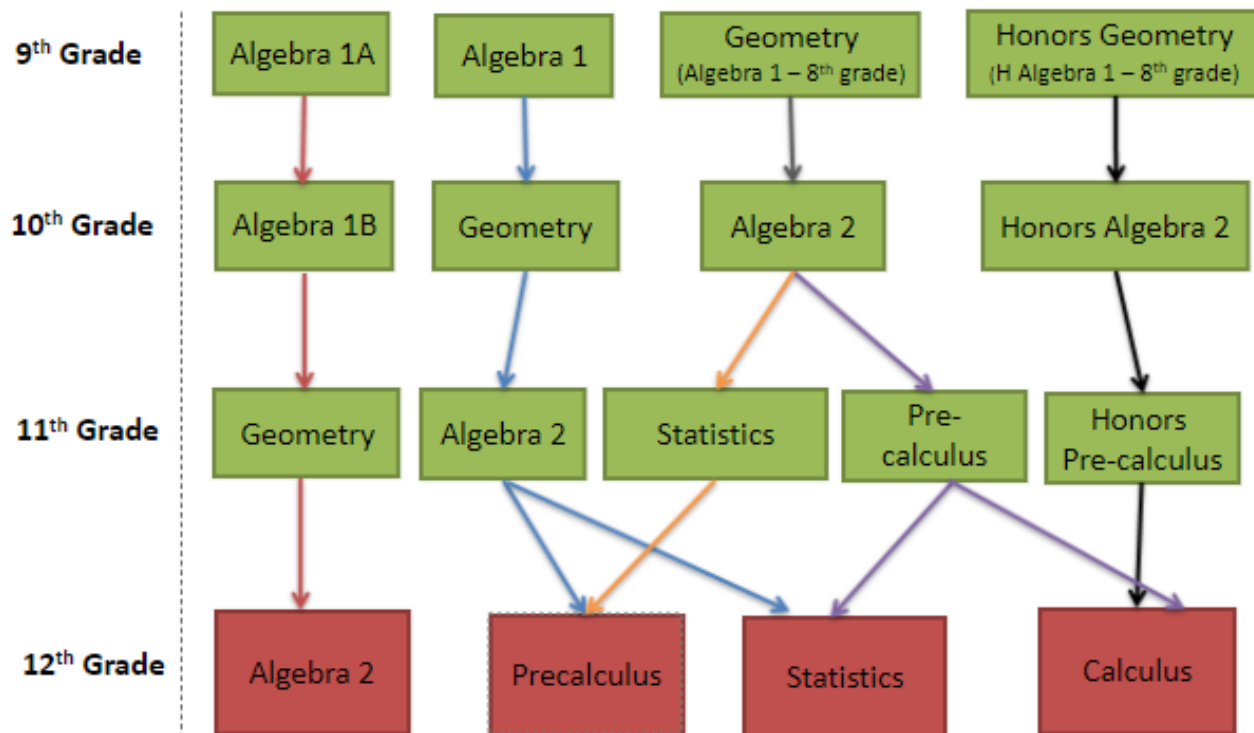
Credit: 0.5

This course counts as 0.5 high school credits and 3 college credits. Any student attempting CC+ classes must register with and meet the institution's admission/testing requirements. The requirements usually involve minimum ACT, SAT, college's placement scores and/or a minimum GPA, and/or a recommendation.

English Composition II, building on the skills in English Composition I, develops rhetorical literacy through research, critical reading and multi-genre writing tasks. Through major and minor, cumulative and stand-alone assignments, students construct arguments and analyses, ethically incorporating academic sources while developing their own voices as writers and citizens.

Math

DRSS High School Math Sequence



Four math credits are required for graduation. Students who take Algebra 1 in 8th grade receive one credit of math. Additional math credits above the four required credits can be taken for elective credits.

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
503	Algebra 1B	10	Year	1	Algebra 1A	\$0
500	Algebra 1	8, 9	Year	1	None	\$0
9510	Geometry	9, 10	Year	1	Algebra 1	\$0
9515	Honors Geometry*	9, 10	Year	1	See course description	\$0
1540	Algebra 2	10, 11	Year	1	Geometry	\$0
1544	Honors Algebra 2*	10, 11	Year	1	See course description	\$0
535	Pre-Calculus	11, 12	Year	1	Algebra 2	\$0
536	Honors Pre-Calculus*	11, 12	Year	1	See course description	\$0
560	Statistics	11, 12	Year	1	Algebra 2	\$0
552	Calculus	12	Year	1	Pre-Calculus	\$0

*- students interested in taking the honors section of a course must meet the Honors requirements

503 – Algebra 1B

Prerequisite: Algebra 1A

Grade: 10

Length: Year

Credit: 1

Algebra 1B is the second course of a two-year series which will cover all topics in a traditional one-year Algebra 1 course. The slower pace will allow time for personalized intervention and mastery of core content. Upon successfully completing Algebra 1B, the student will take the Ohio End of Course Exam for Algebra. Algebra 1B covers solving and graphing linear equations and inequalities, reading and interpreting word problems, solving quadratic equations by graphing, by factoring, by completing the square, and by the quadratic equation, understanding functional relationships using graphs and charts, and working with rational and irrational expressions to solve simple rational and radical equations.

500 – Algebra 1

Prerequisite: None

Grade: 8, 9

Length: Year

Credit: 1

Students closely examine a variety of functions in this course, and study methods for solving problems involving those functions. These functions include linear, quadratic, and exponential. Students study connections between the graphical, numerical (table), and symbolic (equation) representations of each of these functions. Students apply representations to real life situations to solve problems about the situations. They use data to create models to solve problems and predict outcomes. Students often work in cooperative groups to participate in inquiry learning. Students are given carefully created problems and work together to explore the underlying mathematics.

9510 – Geometry

Prerequisite: Algebra 1

Grade: 9, 10

Length: Year

Credit: 1

Geometry is the second course in a sequence of college preparatory mathematics courses. Key concepts addressed in the course are: transformations and symmetry; relationships between figures (such as similarity and congruence); properties of plane figures (such as equal or perpendicular sides or diagonals); measurements of plane figures (such as area, perimeter, and angle measure); measurements of three-dimensional shapes; tools for analyzing and measuring shapes (such as the Pythagorean Theorem, trigonometric ratios, and coordinate geometry); investigation and proof; geometric construction; algebra; and probability. The course is structured around problems and investigations that build spatial visualization skills, conceptual understanding of geometry topics, and an awareness of connections between different ideas. Students often work in cooperative groups to participate in inquiry learning. Students are given carefully created problems and work together to explore the underlying mathematics. Honors Geometry students will cover the same topics but will look more deeply at many of these topics. Honors students will be expected to write and use mathematical arguments at a higher level of rigor.

9515 – Honors Geometry

Students who are requesting the Honors section of this course must meet the following requirements:

- Students with an “A” grade point average in math for the previous school year
- Students with a “B” average in math for the previous school year needs a teacher recommendation

1540 – Algebra 2

Prerequisite: Geometry

Grade: 10, 11

Length: Year

Credit: 1

The focus of the Algebra 2 course will be problem solving, particularly using algebraic equations. The course will introduce new Algebra 2 concepts with frequent steps back to reinforce vital Algebra I concepts needed to move forward in math. Algebra topics include: solving equations and problems involving linear, quadratic and exponential functions, polynomial and rational expressions, irrational and complex numbers, logarithmic functions and inverses. Specific Algebra 2 topics to be addressed include solving systems of equations, matrices, sequences and series, and basic counting theory including combinations and permutations, which will lead to a section on probability. In the latter half of the year trigonometry will be introduced, as it is certainly fundamental to many real-world problems. Basic trigonometry functions will be defined, and the coursework will focus on the right triangle, solving for general triangles, the unit circle, and trig identities. Concepts covered throughout the year will be reinforced with STEM word problems, which illustrate the application of these concepts. In addition, special puzzles and projects will instill the importance of persistence in solving hard problems.

1544 – Honors Algebra 2

Students who are requesting the Honors section of this course must meet the following requirements:

- Students with an “A” grade point average in math for the previous school year
- Students with a “B” average in math for the previous school year needs a teacher recommendation

535 – Pre-Calculus

Prerequisite: Algebra 2

Grade: 11, 12

Length: Year

Credit: 1

536 – Honors Pre-Calculus

Pre-calculus lays the foundation for the study of Calculus. We use a calculator-based graphing approach to explore functions. Using graphs and their transformations, students find characteristics of graphs such as extrema, domain, range, and limits of the function and intervals where functions are increasing or decreasing. The limiting behavior of graphs are determined graphically. We transform graphs geometrically by horizontal or vertical stretches and shrinks, and reflection with respect to the axes. We specifically study properties of exponential, logarithmic, rational, and trigonometric functions. Working cooperatively, students explore problems numerically, algebraically, and graphically using hands-on and technological methods. This course may also include applications of matrices, parametric equations, and polar coordinates.

Students who are requesting the Honors section of this course must meet the following requirements:

- Student with an “A” grade point average in math for the previous school year
- Students with a “B” average in math for the previous school year needs a teacher recommendation

560 – Statistics

Prerequisite: Algebra 2 Grade: 11, 12 Length: Year Credit: 1

Students will work with probability, data collection, descriptive and inferential statistics, probability, and technological tools to analyze statistics. The main foci of the course will be exploring data, planning a study, producing models using probability theory, and making statistical inferences. Students will work with statistical measures of centrality and spread, methods of data collection, methods of determining probability, binomial and normal distributions, hypothesis testing, and confidence intervals. Students will use multiple representations to present data including written descriptions, numerical statistics, formulas, and graphs. Students who desire to take the AP exam at the end of the year will need to do extension work to prepare for the test.

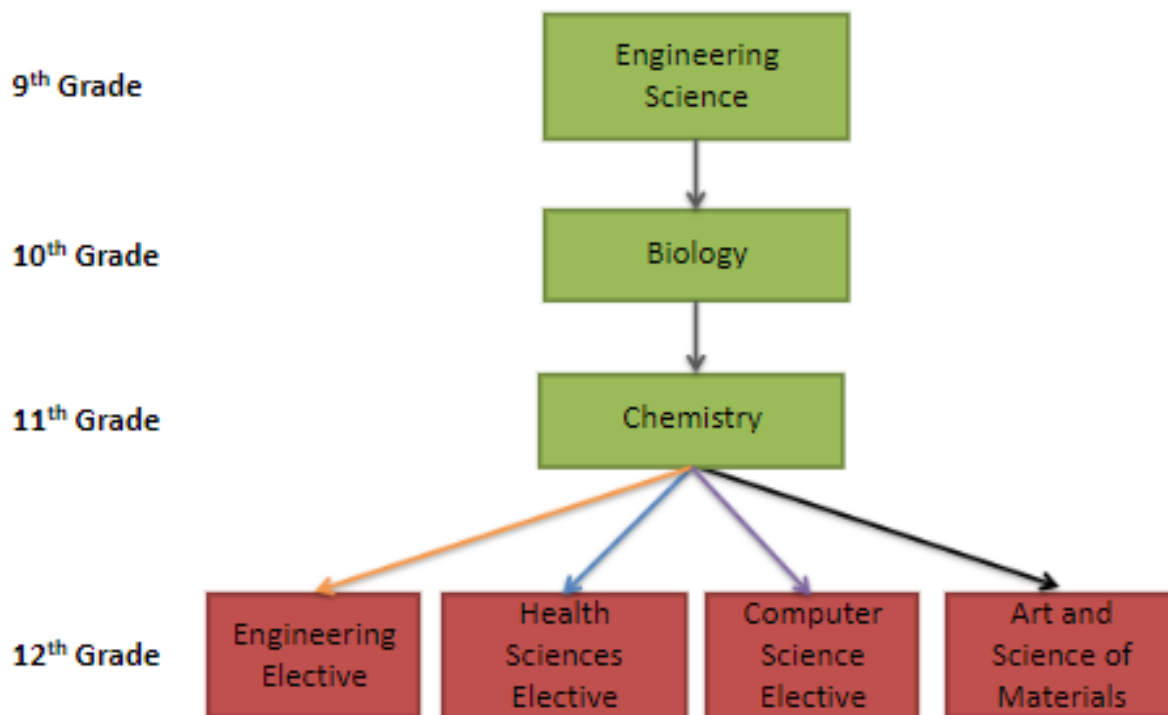
552 – Calculus

Prerequisite: Pre-Calculus Grade: 12 Length: Year Credit: 1

In Calculus, students work individually and cooperatively to develop a conceptual understanding of derivatives, integrals, and the relationship between the two as expressed in the Fundamental Theorem of Calculus. Students express concepts, problems, and solutions geometrically, numerically, analytically, and verbally. Students use technology to explore concepts, confirm results, and produce models.

Science

DRSS High School Science Sequence



Four science credits are required for graduation.

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
900	Engineering Science	9	Year	1	None	\$0
810	Biology	10	Year	1	None	\$0
820	Chemistry	11	Year	1	None	\$0
870	Art and Science of Materials	12	Year	1	Chemistry	\$0
860	Physics	11, 12	Year	1	Algebra 2	\$0

900 – Engineering Science

Prerequisite: None

Grade: 9

Length: Year

Credit: 1

Engineering Science (ES) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the ES course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering and manufacturing standards, and technical documentation. ES gives students the opportunity to develop skills and understanding of course concepts through activity-, problem-, and project-

based learning. Students will employ engineering and scientific concepts in the solution of engineering design problems. In addition, students use Autodesk Inventor 3D solid modeling design software package to help them design solutions to solve proposed problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course. Students will also learn how to document their work in an engineering notebook, and communicate their solutions to their peers and members of the professional community. In addition, students will learn the fundamentals of 3D printing, as well as laser cutting and vinyl laser printing. They will propose various solutions to problems or issues in their lives, and print or laser cut solutions after a thorough use and practice of the design process.

This course is considered a science credit and is part of the Engineering Pathway.

810 – Biology

Prerequisite: None Grade: 10 Length: Year Credit: 1

In this life science course, students investigate the four unifying themes of biology: heredity, evolution, diversity and interdependence of life and cells. They will explore concepts of biology and medicine to determine factors that led to the death of a fictional person. Students will be introduced to human physiology, biology, medicine, healthcare careers, and research processes while allowing them to design their own experiments to solve problems.

This course is considered a science credit and is part of the Health Sciences Pathway.

820 – Chemistry

Prerequisite: None Grade: 11 Length: Year Credit: 1

Students learn chemical and physical principles by exploring a specific focus area in which chemistry is *relevant to societal issues or technological advancements*. They will apply the methods of science through experiments and learn to communicate scientific and quantitative information. The focus area will vary from among topics such as art, food and nutrition, the environment, forensic science, the material world, and others. The course develops scientific thinking and helps students understand important interdisciplinary connections. Topics of study include: structure of matter, states of matter, reactions, descriptive chemistry, chemical calculations, atomic theory, stoichiometry, electrochemistry, chemical bonding, thermochemistry, periodicity, and solution chemistry.

870 – Art and Science of Materials

Prerequisite: Chemistry Grade: 12 Length: Year Credit: 1

This year long interdisciplinary curriculum is focused on studying the properties and capacities of manufacturing materials of ceramics, metals, polymers and composites through the lens of Chemistry and Art. In the Chemistry lab students learn about the chemical and physical properties of these materials and in the Art studio students manipulate the materials creatively. Students are introduced to practical and contemporary manufacturing applications of materials and are exposed to related careers in manufacturing, design and advanced manufacturing. This interdisciplinary approach serves as an introduction to the capacities and potentials of manufacturing materials. The course is co-taught by the Art and Chemistry instructors and can be designated as either an art or chemistry credit.

This course is part of the Design Pathway.

860 – Physics

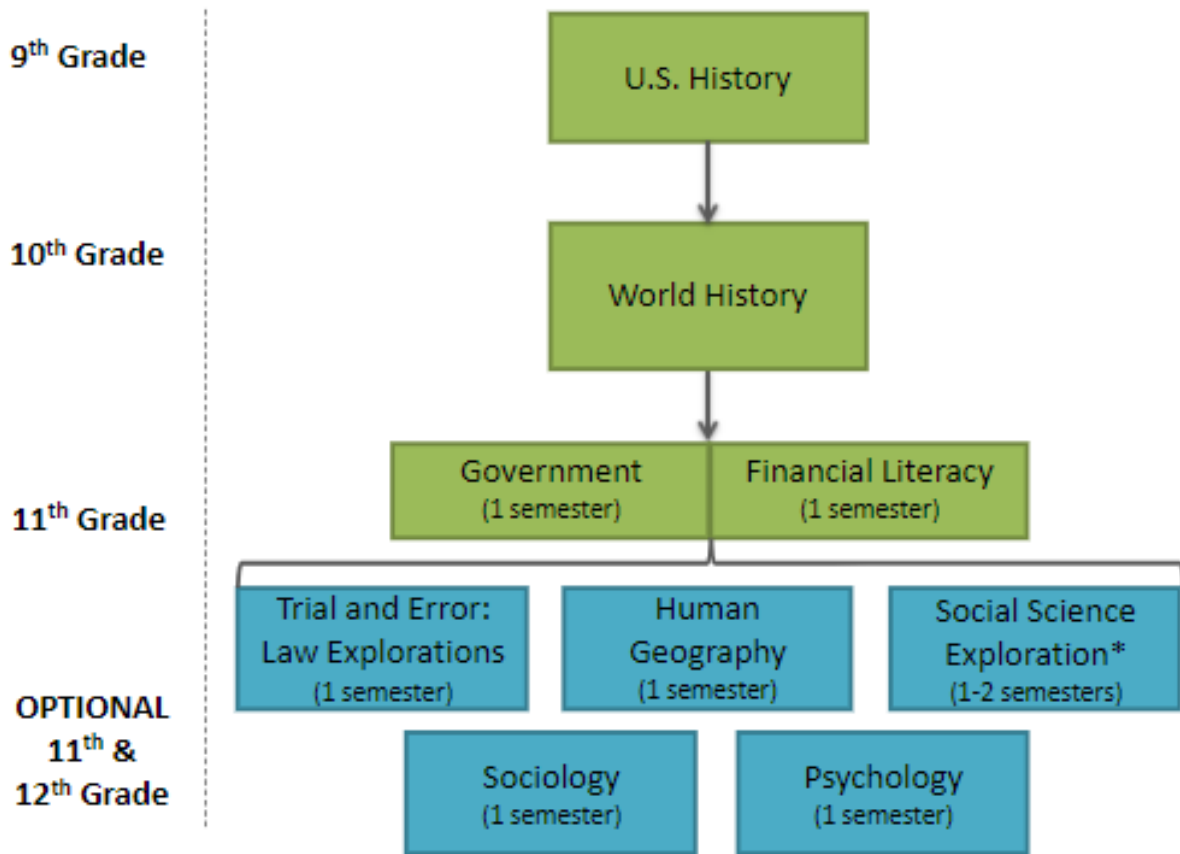
Prerequisite: Algebra 2 Grade: 11, 12 Length: Year Credit: 1

Students should have a strong foundation in algebra to prepare for this algebra-based Physics course. Through the course, students will address physics topics and develop professional competency skills through inquiry, teamwork, and problem solving. The fall portion of the course covers motion, forces, energy, and features an engineering design projectile motion (catapult) project. The spring portion of the course covers electricity, magnetism, waves, sound, light and optics; it features a photonics (lasers) experience with CAMP Dossier. The course will culminate with special topics in modern physics, exposing students to what's currently going on in the world of physics.

This course is considered a science credit and is part of the Engineering Pathway.

Social Studies

DRSS High School Social Studies Sequence



Three social studies credits are required for graduation.

**- This course is completely online and will be self-paced. See course description for more info.*

Course #	Course Title	Grade	Length	Credit	Prerequisite	Fee
700	U.S. History	9	Year	1	None	\$0
710	World History	10	Year	1	None	\$0
720	American Government	11	Sem	0.5	None	\$0
750	Financial Literacy	11	Sem	0.5	None	\$0
755	Trial and Error: Law Explorations	11,12	Sem	0.5	None	\$0
760	Social Sciences Exploration	11, 12	Sem	0.5	None	\$0
765	Human Geography	11, 12	Sem	0.5	None	\$0
745	Sociology	11, 12	Sem	0.5	None	\$0
740	Psychology	11, 12	Sem	0.5	None	\$0

700 – U.S. History

Prerequisite: None

Grade: 9

Length: Year

Credit: 1

United States History is taught through a chronological approach while using the Social Studies standards of Ohio as a guide. Within each time period studied (Industrial Revolution, Progressive Era, Imperialism, World War I, 1920's, Great Depression, New Deal, World War II, 1950's, Cold War, Civil Rights, and Modern Terrorism), students examine the past, but also make concrete connections to present-day events. This approach allows students to learn the significance of history by journeying from past to present several times throughout the course. Resources from universities and other institutions, as well as supplemental materials such as books, periodicals, the Internet, videos and other media are used. Teaching 21st century skills by incorporating technology and primary source analysis is a focus of the course.

710 – World History

Prerequisite: None

Grade: 10

Length: Year

Credit: 1

This course examines world events from 1600 to the present. It explores the impact of the revolutions that take place throughout Europe and Latin America, the forces that led to world domination by European powers through imperialism, as well as the wars that changed empires, and the people and ideas that brought about new ways of thinking and living. Students utilize projects and note-taking skills to enhance their knowledge of world events and analyze how past events affect our present day lives.

720 – American Government

Prerequisite: None

Grade: 11

Length: Semester

Credit: 0.5

Nearly two and a half centuries later, the United States continues to thrive and struggle with its principles, identity, and a wide array of actions. In this class students will examine and question the foundations this country, and how the American people govern themselves at national, state and local levels of government. The Revolution, The Declaration of Independence, the Constitution, landmark Supreme Court cases, key pieces of legislation, executive powers, and every amendment will be judged for their intentions, impacts, and relevance today. Students will research, analyze, and debate all of these factors and more as we unpack and explore American Government.

750 – Financial Literacy

Prerequisite: None

Grade: 11

Length: Semester

Credit: 0.5

This course explores the fundamentals that guide individuals as they make choices about how to use limited resources to satisfy their wants. More specifically, it examines the ability of individuals to use knowledge and skills to manage limited financial resources effectively for a lifetime of financial security. By the end, students will have a financial plan for their life beyond college, skills needed to successfully budget, and knowledge of current economic hardships our country continues to and will soon struggle with.

760 – Social Sciences Exploration

Prerequisite: None

Grade: 11, 12

Length: Semester

Credit: See below

The Social Sciences Exploration course is a self-paced and online course that will utilize an online learning system such as EdX to provide course content. Course progress will be monitored by DRSS Staff, but students will be responsible for completing the course content independently. Students will have the opportunity to deep-dive into the Social Science topic of their choice. Such options could include: Psychology, Sociology, Anthropology, History, Criminal Justice, etc. This is a great course for students who wish to explore different Social Science topics of interest to them or related to their future career pursuits.

Course credit will be earned based on the number of hours required to complete each class. Students may be able to complete multiple classes over the course of the semester.

765 – Human Geography

Prerequisite: None

Grade: 11, 12

Length: Semester

Credit: 0.5

This course focuses on the processes, effects, and distribution of human populations on the planet. Students will analyze the relationship between society, place, and space to understand how humans have organized themselves across the globe and their relationship with the environment. Students will be given opportunities to improve their geographical skills and understanding by using maps and conducting case studies of different societies. The course will allow students to build a geographical perspective of the past, present, and future developments of the world.

755 – Trial and Error: Law Explorations

Prerequisite: None

Grade: 11, 12

Length: Semester

Credit: 0.5

This semester course is designed to allow students to participate in and gain an understanding of how the concepts within American law works. Students will explore the foundations of law, constitutional and criminal law, and other relevant areas. Students will examine real and hypothetical situations that highlight the aspects of the American justice system, and will have an opportunity to test their skills in a mock trial simulation.

745 – Sociology

Prerequisite: None

Grade: 11, 12

Length: Semester

Credit: 0.5

This semester long course will use a wide variety of pedagogical approaches to understand the function and process of social groups within a society. Students gain an understanding of the role society plays in shaping our everyday lives. Students learn about the methods used in sociological research and will gain a better understanding of how group dynamics affect society. Students also gain an enhanced ability to empathize with people from groups other than their own, a recognition of the factors that shape both their own beliefs, values, and norms, as well as those of others, and rational explanations for why people behave the way they do in a social environment.

740 – Psychology

Prerequisite: None

Grade: 11, 12

Length: Semester

Credit: 0.5

This semester long course focuses on the behavior and mental processes of human beings. Students are introduced to a variety of psychological and neurobiological terminology, concepts, theories, and recent research with biological developmental, cognitive, abnormal, and social psychology and neurobiology. Students will compare the stages of development amongst various age groups and assess the power of the mind over day to day tasks, including enhancing one's memory, understanding emotional and cognitive changes, and the power of group influence and authority over an individual's psyche.