



Course Offerings Catalog

2023-2024

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Emma Willard School Mission

Honoring our founder's vision, Emma Willard School proudly fosters in each young woman a love of learning, the habits of an intellectual life, and the character, moral strength, and qualities of leadership to serve and shape her world.

PROGRAM VISION

Intellectual Flexibility

Emma Willard School strives to educate a generation of learners ready and able to address the most pressing issues of their time. During their time at Emma, students develop the intellectual flexibility to consider big questions and to work to solve big problems.

Purpose & Community

Fundamental to personal wellbeing is the life-long exploration of one's self and one's contribution to the world. The Emma curriculum fosters a sense of purpose in each student by emphasizing relevance, impact and community connection.

Equity & Justice

Living and learning in a global and inclusive community requires persistent and purposeful practice, exposure to and understanding of the global community, and the skills necessary to build and sustain equity and justice in the world.

GRADUATION REQUIREMENTS

Listed below are the requirements by department. Virtually all students elect more courses in some disciplines than the requirements demand.

ARTS

For entering 9th graders, successful completion of 2 credits of arts electives; 1 of these credits must be completed by the end of 10th grade; at least one course must be a performance course, and at least one course must be a visual arts course.

For entering 10th graders, successful completion of 1 credit of arts electives at Emma Willard; at least one course must be a performance course, and at least one course must be a visual arts course.

For entering 11th graders, successful completion of 1 credit of arts courses at Emma Willard with no distribution required among the arts.

ATHLETICS AND PHYSICAL EDUCATION

All students must take physical education classes or their equivalent in team sports or dance all year during 9th, 10th, and 11th grade. 12th graders are required to take 8 to 10 weeks of physical education classes or the equivalent. All students must complete a swimming and water safety proficiency test.

ENGLISH

Successful completion of four credits of English. During 9th, 10th, and 11th grades, students must take the grade-level English courses I, II, and III. In 12th grade, each student must choose one English elective in the fall and one in the spring.

HISTORY & SOCIAL SCIENCE

Successful completion of three courses in history and social science or their equivalents, including one credit of United States history taken at the 11th- or 12th-grade level.

LANGUAGE

Successful completion of the third (300) level of a single language following an initial placement test at Emma Willard. This does not apply to students for whom English is a second language.

MATHEMATICS

Successful completion of the mathematics sequence through the third level following the sequence: Algebra I (M-125), Algebraic Geometry (M-225), and either Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine Problems (M-326).

SCIENCE

Successful completion of three credits of laboratory science: one year of Physical Science: Physics (S-100 or S-101), one course of Chemistry (S-200 or S-201), and one course of Biology (S-310). AP courses fulfill the chemistry and biology requirements. For students entering in 10th or 11th grade, successful completion of two credits of laboratory science during their high school career: one course of physical science (chemistry or physics) and one course of life science (biology), determined on an individual basis. Students admitted for the spring semester will be excused from the corresponding requirement (e.g. admitted in January of ninth grade, excused from S-101) and will work with the department chair to determine current and future coursework.

YOUR SCHEDULE

Emma Willard is committed to students gaining experience in making academic choices. The following are typical schedules for each grade:

9th-GRADE PROGRAM

Arts semester course(s)

English I

Classical Mediterranean History and a regional history elective (African History, East Asian History, or Indian History)

Language

Mathematics

Physics Essentials or Physics

Physical education class, unless exempted through dance class or interscholastic teams

Grade 9 READY Seminar

Tech Essentials

10th-GRADE PROGRAM

Arts semester courses

English II

Regional history elective (European History, Latin American History, or Middle Eastern History) and Contemporary World History

Language

Mathematics

Chemistry Essentials or Chemistry

Physical education class, unless exempted through dance class or interscholastic teams

Grade 10 READY Seminar

Up to 1 Advanced Studies course

11th-GRADE PROGRAM

Arts semester courses

English III

United States history

Language

Mathematics

Biology

Physical education class, unless exempted through dance class or interscholastic teams

Grade 11 READY Seminar

Up to 2 Advanced Studies courses

12th-GRADE PROGRAM

For graduation, a 12th grader must complete any distribution requirement that remains unfilled and choose one elective from the English department in each semester. A 12th grader must also fulfill an 8 to 10 week physical education requirement either through gym class or an acceptable substitution. Further, a 12th grader must minimally carry 2.5 credits per semester, 5 credits for the year. Grade 12 students enroll in Grade 12 READY Seminar. Grade 12 students may enroll in up to 3 Advanced Studies courses.

PLACEMENT OF STUDENTS IN COURSES

In courses that are taught in more than one section, the school reserves the right to place students. Neither students nor their families are allowed to choose class sections by teacher, classmates, etc.

GUIDELINES FOR READING COURSE OFFERINGS

"OPEN TO"

Each course description includes a notation of the class levels at which the course is offered.

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GRADING SYSTEM

There are two grading systems in use at Emma Willard. For most courses the grading system ranges from A to No Credit (A, A-, B+, B, B-, C+, C, C-, D+, D, D- and No Credit). Unless otherwise indicated in the course description, this grading system is used. For some courses a grading system of Credit/No Credit is used; in these courses only those two grades are used.

In visual arts courses, a student may elect to take a course for a letter grade or as Credit/No Credit. To use the letter grade option the student must register the grading choice with the art teacher. The student cannot then change this arrangement. For fall semester courses, the choice of a letter grade must be made by the end of the third week of fall semester. For spring semester courses, the choice of a letter grade must be made by the end of the third week of spring semester.

Freshmen receive grades of Credit/No Credit for their semester at Emma Willard. In the second semester, freshmen receive letter grades that are recorded with the registrar and reported on transcripts. Comprehensive final exams or culminating experiences may be included in this second semester grade.

COURSE LOAD AND HOMEWORK

Courses are assigned credits as follows:

1.5 credit = Advanced Studies course

1 credit = non-AS course

.5 credit = art course

A student customarily carries 5–6 credits per year: 2.5–3 credits per semester. A student must carry a minimum of 2.5 credits per semester. A year course designated as 1 credit or a semester course designated as .5 credits typically requires 5-6 hours of work per week, counting time both inside and outside of the classroom. A year course designated as only .5 credits typically requires 3 hours per week, counting time both inside and outside of the classroom. A 1.5 credit year course typically requires 6–7 hours per week, counting time both inside and outside of the classroom. The actual time required varies from student to student and week to week.

ADVANCED STUDIES

Emma Willard School offers a unique Advanced Studies Program. Many Advanced Studies courses will largely continue to align with the Advanced Placement™ curriculum; however, Advanced Studies courses will not prepare students as fully for the AP exam as the Advanced Placement™ courses. Advanced Studies teachers will provide students with recommendations for additional resources for self-study to allow students to prepare fully for the AP exam.

Advanced Studies courses will be comparable to Advanced Placement™ courses in rigor and workload and will carry an equal weight of 1.5 credits. Advanced Studies courses will count equally toward a student's total advanced courses for the school year. For example, a rising 11th grader may enroll in at most two Advanced Studies courses. Students enrolled in an Advanced Studies course are given the option to take the Advanced Placement examination in that

subject. The AP exam fee for each course will be charged to the student's SmartCard account at the beginning of the academic year after confirming the student's plan to register for the exam. Emma Willard School seeks to instill in each student a wide breadth of knowledge and the ability to demonstrate mastery of learning in a variety of ways. To ensure students engage with a range of rigorous offerings across the program, the school caps the number of AS courses a student may take in each grade year. A grade 9 student may not enroll in AS courses. A grade 10 student may enroll in up to one AS course, a grade 11 student may enroll in up to two courses, and a grade 12 student may enroll in up to three AS courses.

Each year, Emma Willard students participate in advanced study in the following subjects:

Art History
Biology
Calculus AB
Calculus C
Chemistry
Chinese Language
Computer Science A
Computer Science Explorations
Economics
French Language
Latin
Literature
Physics 1
Physics 2
Psychology
Spanish Language
Statistics
Studio Art
United States Government and Politics
United States History

SEMINAR

Grade 9: Emma READY

Emma READY supports students' transition to Emma Willard School and helps students answer the questions, who am I and what do I bring with me to Emma? Through reflection, conversation, and skill building, students in Emma READY explore the many skills that are critical and relevant in a students' life, merging the academic student and the well/healthy individual.

Grade 10: READY Seminar

Grade 10 READY Seminar supports students in their progression from exploring who they are and what they value to navigating what it means to make an impact in our communities, big and small. Students consider how they understand their own perspectives and those of others, and how those perspectives contribute to collaborative work.

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Grade 11: READY Seminar

Grade 11 READY Seminar provides students opportunities to begin to consider how they will engage in the world outside of Emma. We will envision a world that reflects their values, and develop skills to act on those values. Grade 11 students will also begin the college exploration process, considering the values and priorities they will employ in finding the right college match, and considering expectation and stress management throughout the process.

Grade 12: READY After Emma

READY After Emma supports students in their graduating year to finalize their college applications and choices, and to turn their focus on what life will be like both at college and after. Students have the opportunity to reflect on their Emma Willard experience and consider what they are taking away from Emma, and what they are leaving behind.

Healthy Living and Life Skills

Emma Willard School's Healthy living and life skills curriculum is embedded throughout the READY Seminar program and provides students with knowledge about a variety of topics related to health and wellbeing. Through the use of open-ended questions, interactive activities, discussions and guest speakers, students explore the importance of personal responsibility and are given tools to gauge their levels of wellbeing, to identify areas for growth, and to examine how their beliefs impact their personal decision-making. In each year of the READY Seminar, the curriculum covers topics including healthy relationships, nutrition, exercise, stress management, emotional and mental wellbeing, sexual and reproductive health, drugs and alcohol, and addiction.

Tech. Essentials

The goal of the Tech. Essentials class is to help all 9th grade students consistently learn foundational technology skills that are essential to working with technology as a student here at Emma Willard, as well as in the world. The course is meant to support each student in gaining the same baseline skills and knowledge to be successful throughout their 9th grade year and beyond. Fostering an environment where students support and learn from each other, Tech. Essentials accommodates the wide range of technology skills students arrive with. Students will answer essential questions such as "How do I best create content for my classes?", "How do I analyze and create a potential solution to a technical difficulty?", and "How do I express my creativity and share my thoughts using tech?"

SPECIAL FEES 2023-2024

Additional fees are charged for certain types of instruction. In some courses, for example those in visual arts, a materials fee is charged to the student's SmartCard account. Music lessons require a special fees form (available from the arts department chair). Students can sign up for music lessons while planning their programs, but these courses are not added to student schedules without parental signatures on the special fees form.

SmartCard accounts are used for books and supplies authorized by classroom teachers. Athletic uniforms and supplies for dance classes and physical education may also be charged to SmartCard accounts.

Course Offerings

ARTS COURSE DESCRIPTIONS

The arts department offers a variety of courses in music, theatre, dance and visual arts. Students have the opportunity to learn vocabulary and problem-solving and performing techniques that are unique to each discipline. Our course offerings are designed for students of all levels of interest and proficiency so that students are able to explore new areas as well as study a particular art form in depth.

Grading Option: Arts courses are graded on a Credit/No Credit basis, but for the visual arts courses, a student may elect to take a course for a letter grade. **To use this option the student must register the grading choice with the teacher.** This arrangement cannot then change during the semester. For fall semester courses, this choice must be made by the end of the third week of fall semester. For spring semester courses, it must be made by the end of the third week of spring semester.

Course Numbering: The first digit indicates level, not the grade of the student for whom the course is intended: thus, a 100 course is for the inexperienced student of any age, and a 300 course might well suit a younger, experienced student. The second digit indicates broad subdivisions of study within the division: 1 and 2-visual arts; 3-dance; 4-theatre; 5-music; 7-photography; 8 and 9-interdisciplinary.

For most visual arts courses there is a \$90 fee per semester to defray the cost of materials.

EMMA ARTISTS PROGRAM

The Emma Artists Program is for advanced students in dance, music, theatre or visual arts who wish to pursue further advanced study. Each year, students perform and/or show their work to the community. As students move through the program, projects grow in scope and depth.

A-299 Special Project in the Arts in Performing Arts

Year 0.5 credit

This course is for students who have exceeded the levels of our arts offerings and wish to continue study in a particular arts discipline. This course could serve as preparation for the Emma Artists Program should the student choose to pursue their studies in the arts.

Prerequisites: Students in dance and music require permission of both the instructor and the arts department chair.

Students in theatre require permission from the instructor and department chair and should have completed courses through Acting II.

This course may be repeated for credit.

A-399A Emma Artists I: Performing Arts

Year 0.5 credit

This course is for advanced performing arts students with significant arts training who wish to undertake a terminal arts project. Students work with a team of faculty across the arts disciplines. Examples of culminating projects are a performing arts recital, an advanced dance project or an advanced theater performance.

This course requires permission of both the instructor and the arts department chair.

Prerequisite: Special Projects in the Arts or by permission of the instructor

A-399B Emma Artists I: Visual Arts

Year 0.5 credit

This course is for advanced visual arts students with significant arts training who wish to undertake a terminal arts project. Students work with faculty to exhibit their work at the conclusion of the year. The course requires commitment and a willingness to experiment in new directions and media. Students have individual meetings with the instructor for personalized assignments and suggestions. Drawing, painting, mixed media, new media, installation, and sculpture are all open for exploration. Through slides and videos students examine contemporary approaches to making art and connections to their own studio work. Although intended for seniors, this course is also open to juniors.

This course requires permission of both the instructor and the arts department chair.

Prerequisite: Advanced Studio Art, Advanced Media Arts, or by permission of the instructor

Open to: 11/12

A-499A Emma Artists II: Performing Arts

Year 0.5 credit

This course is for advanced performing arts students with significant arts training who wish to undertake a terminal arts project. Students work with faculty from their specific discipline of study. Examples of culminating projects are a performing arts recital, an advanced dance project or an advanced theater performance.

This course requires permission of both the instructor and the arts department chair.

Prerequisite: Emma Artists I or by permission of the instructor

Open to: 11/12

A-499B Emma Artists II: Visual Arts

Year 0.5 credit

This course is for advanced visual arts students with significant arts training who wish to undertake a terminal arts project. Students work to exhibit their work at the conclusion of the year. This requires commitment and a willingness to experiment in new directions and media. Students have individual meetings with the instructor for personalized assignments and suggestions. Drawing, painting, mixed media, new media, installation, and sculpture are all open for exploration. Through slides and videos students examine contemporary approaches to making art and connections to their own studio work. Although intended for seniors, this course is also open to juniors. This course requires permission of both the instructor and the arts department chair.

Prerequisite: Emma Artists I: Visual Arts or by permission of the instructor

Open to: 11/12

A-599A Emma Artists III: Performing Arts

Year 0.5 credit

This course is for advanced performing arts students with significant arts training who wish to undertake a terminal arts project. Students work with faculty from their specific discipline of study. Examples of culminating projects are a performing arts recital, an advanced dance project or an advanced theater performance.

This course requires permission of both the instructor and the arts department chair.

Prerequisite: Emma Artists II or by permission of the instructor

Open to: 12

DANCE

A-130 Beginning Ballet/Contemporary Dance

Year 0.5 credit

This introductory course is for students with little or no previous dance experience. The course emphasizes traditional steps, musicality, and terminology. Students gain strength, coordination, grace, and confidence in performing ballet and contemporary dance. Students learn to use their dance vocabulary to create original movement phrases, introducing them to an understanding of choreographic skills. The class prepares the student for continuing study in many dance forms, including contemporary dance, ballet-and jazz dance. All students have the opportunity to observe or participate in master classes taught by guest instructors when possible. No previous experience is required. This course may be repeated for credit.

Open to: 9/10/11/12

A-139 Hip Hop/Jazz Dance

Year 0.5 credit

Hip Hop/Jazz Dance introduces students to hip hop and jazz dance. Class activities include learning fun steps and choreography as well as exercises and stretches to increase strength, flexibility and alignment. All students participate in the development of choreography for a performance in the Dance Assembly. No experience is required—just a willingness to have fun.

This course may be repeated for credit. Fulfills prerequisite for Intermediate Contemporary Dance.

Open to: 9/10/11/12

A-231 Intermediate Contemporary Dance

Year 0.5 credit

Intermediate Contemporary Dance expands the student's mastery of dance skills beyond the introductory level. Dance sequences and exercises are designed to increase the students' familiarity with modern dance styles, while developing their understanding of space, musicality, and dynamics as tools for creative expression. Class activities include warm-up exercises, movement studies, discussions, written observations and critiques. All students participate in the development of contemporary choreography for a performance in the Dance Assembly.

Prerequisite: Permission of the instructor

Open to: 9/10/11/12

A-235 Intermediate Ballet

Year 0.5 credit

Students practice the techniques of ballet performance at the intermediate level. Emphasis is placed on increasing strength, flexibility and articulation consistent with ballet performance requirements. Students work with the musicality of the ballet vocabulary to help transform their technical study into an expressive form.

This course may be repeated for credit.

Prerequisite: Permission of the instructor

Open to: 9/10/11/12

A-331 Advanced Contemporary Dance

Year 0.5 credit

Advanced Contemporary Dance expands the student's mastery of dance skills beyond the intermediate level. Dance sequences and exercises are designed to increase the students' familiarity with modern dance styles, while developing their understanding of space, musicality, and dynamics as tools for creative expression. Class activities include warm-up exercises, movement studies, discussions, written observations and critiques. All students participate in the development of contemporary choreography for a performance in the Dance Assembly.

This course may be repeated for credit.

Prerequisite: Permission of the instructor

Open to: 9/10/11/12

A-335 Advanced Ballet

Year 0.5 credit

Students practice the techniques of ballet performance at the advanced level. Emphasis is placed on increasing strength, flexibility and articulation consistent with ballet performance requirements. Students work with the musicality of the ballet vocabulary to help transform their technical study into an expressive form. This course may be repeated for credit.

Prerequisite: Permission of the instructor

Open to: 9/10/11/12

A-340 Dance Choreography/Performance Workshop

Year 0.5 credit

In this year-long course, students will investigate the elements of choreography through discussions, video screenings, solo and group movement studies. Students will collaborate in the choreography of their peers, participating in rehearsals and feedback sessions of the evolving choreography. In the spring semester, students will practice their choreographic skills by choreographing original dances for presentation in a performance concert.

Prerequisite: Currently enrolled in an advanced dance class and consent of the instructor.

Open to: 10/11/12

MUSIC

Music Lessons

Individual instruction in vocal and instrumental study is provided for a special fee. The school attempts to provide instruction in any instrument requested, either on campus or off campus through the Practicum program. If a student wants to study an instrument other than piano or organ, the student must provide their own instrument; it must be of good quality and in good working order. It is assumed that the student has a genuine interest in the instrument (or voice), that the student wants to progress steadily, and that the student is willing to devote enough time to regular practice to ensure progress. Instruction in the following instruments is available on campus: cello, flute, organ, piano, viola, violin, and voice. Students must complete the "Instruction in Music" form available on MyEmma. Students in their first year at Emma Willard may not take more than one course of individual instruction in music.

A-150 Choir

Year 0.5 credit

Do you love to sing? Choir is open to students of all levels of experience and abilities, who are interested in singing in an ensemble. We study a variety of pieces from early music to the present day, representing many cultures, genres and languages. Students will develop proper vocal technique in a group atmosphere, with many opportunities to challenge themselves to exceed their expectations. The ensemble performs in concerts throughout the year, including Eventide in December and the spring concert in May.

This course is open to all interested students and may be repeated for credit.

Open to: 9/10/11/12

A-160 Voice Seminar

Spring .25 unit

This course is open to students who would like to explore their singing voice. Elements of singing to be covered include breathing, diction, vocal technique, movement, ensemble singing, and audition/performance techniques. Voice seminar provides an opportunity for students who wish to gain vocal knowledge and experience in a group setting. This course is open to all interested students and may be repeated for credit.

Open to: 9/10/11/12

A-257 Orchestra

Year 0.5 credit

The orchestra repertoire focuses on instrumental music of many genres. Auditions are held at the beginning of the year, and acceptance into the orchestra is based on these auditions. A student who is new to Emma Willard should prepare a short selection that demonstrates their playing level and ability. Players must provide their own instruments. Individual practice is expected. This course may be repeated for credit.

Students are encouraged to take private lessons in conjunction with this course.

Open to: 9/10/11/12

A-350 Inner Choir

Year 0.5 credit

The Inner Choir is a select vocal ensemble whose members are drawn from the choir. This group performs works of many cultures and genres appropriate for an advanced choral ensemble.

This course may be repeated for credit.

Co-requisite: Choir (A-150) and acceptance by permission of instructor.

Open to: 9/10/11/12

A-352 Music Appreciation: The World of Music

Fall 0.25 credit

In this course, students explore musical works of many cultures and genres including folk music, opera, musical theatre, orchestral music, rock and pop. In addition, we will study form and structure as well as composers, performers and cultural influences. No experience or previous study is required.

This course may be repeated for credit.

Open to: 9/10/11/12

A-354 Semiquavers

Year 0.5 credit

This vocal ensemble is for highly motivated singers who are able to work both independently and collaboratively to study a variety of music from different musical periods and cultures. The Semiquavers perform throughout the year.

This course may be repeated for credit.

Prerequisite: Invitation of the instructor

Open to: 10/11/12

A-358 Chamber Orchestra

Year 0.5 credit

Participation in this ensemble is by audition. A student must be in the orchestra to be considered for this group. Its members are highly motivated students who wish to expand their level of playing and knowledge of classical chamber ensemble repertoire. This course may be repeated for credit.

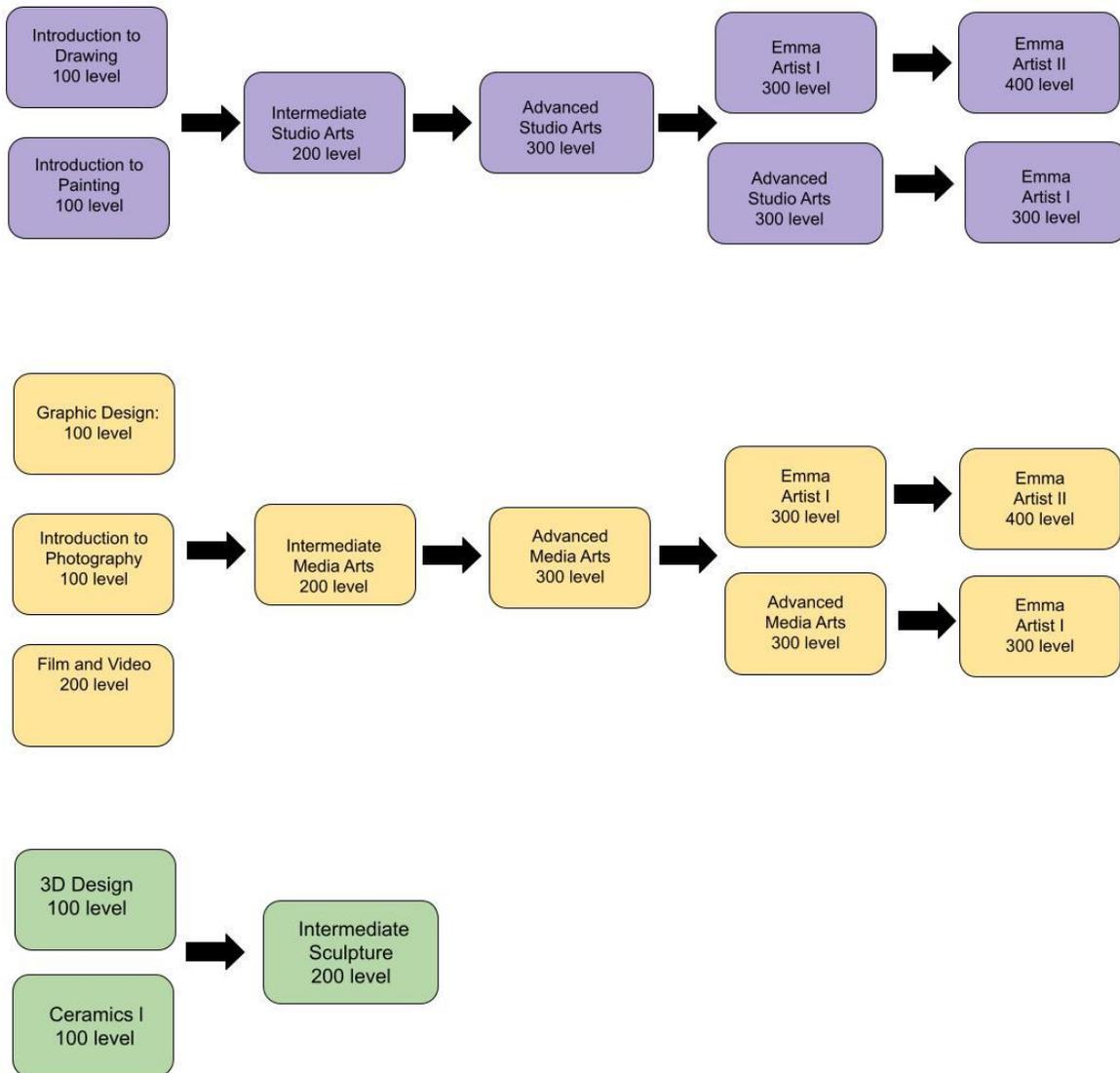
Co-requisite: Orchestra (A-257) and acceptance by audition

Open to: 9/10/11/12

VISUAL ARTS

Unless specifically stated in the course description, students have the grading option of letter grades (A through No Credit) or Credit/No Credit. Below is a pathway to show the progression of the visual arts courses.

Visual Arts FlowChart



A-116 Introduction to Drawing

Fall 0.5 credit

If you have ever thought, “I can’t draw,” this is the course to take! Introduction to Drawing is an excellent starting point for students who wish to learn the fundamental skills of drawing. No experience is necessary, as students will learn to increase both perceptual and observational skills through in-class exercises. Students study both representation and abstraction through

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both traditional and experimental approaches. The focus of the course is on black and white dry media including charcoal, pencil, and markers. Students learn to critique their work and the work of others in addition to articulating their thoughts through writing. Sketchbook assignments and slides supplement students' understanding of the course.

Open to: 9/10/11/12

A-117 Introduction to Painting

Fall and Spring 0.5 credit

In this course, students study the language of painting through color, form and materials. Technical concepts and personal exploration are emphasized and applied through observational and abstract exercises. Painting with acrylics is the focus as theories of color interaction and composition are explored. Students learn to critique their work and the work of others in addition to articulating their thoughts through writing. Sketchbook assignments and slides supplement students' understanding of the course. While some previous drawing experience is helpful, no experience in painting is necessary.

Open to: 9/10/11/12

A-123 3-D Design

Fall and Spring 0.5 credit

How does an idea transform into an object? In this course students will explore the creative process of bringing life to the 2-dimensional world. From looking at the relationship a 3-dimensional structure has to planes, form, and volume, students will gain an understanding of spatial relationships. This course is for students who want to begin a foundational study in art and design or continue from any other introductory course. Students will work with a variety of materials, which may include but are not limited to clay, cardboard, fiber, 3-D printing, metal and found objects.

Open to: 9/10/11/12

A-125 Ceramics

Fall and Spring 0.5 credit

This class familiarizes students with the fundamental skills necessary for working with clay and the vocabulary used by ceramic and sculpture artists. Students develop their visual vocabulary and work with various construction techniques leading to the planning, design and execution of original artwork. Additionally, students are given the opportunity to develop their critical eye and decision-making skills as they begin to form a basis for aesthetic development.

Open to: 9/10/11/12

A-170 Introduction to Photography

Fall and Spring 0.5 credit

Do you love taking photographs? Then this introductory class is right for you, no matter your skill level. Starting with the Smartphone, this class will take you from the present to the origins of the photograph. You will learn the science and art behind the fundamentals of the camera. This introductory class takes a holistic approach to photography and we will spend time both in the digital lab and the darkroom. We will learn how color, design and composition influence a

photographer's ability to communicate visually. Critiques and discussions assist students to evaluate their work and that of their peers in an objective and meaningful way. Camera equipment is available to borrow for the semester if necessary.

Open to: 9/10/11/12

A-175 Graphic Design

Fall and Spring 0.5 credit

If you have an interest in digital drawing, poster design, animation, or improving your computer skills, this course is for you. We will create a personal logo, a self published Zine and a short animation.-We will learn how each medium can activate an idea and reach an audience in different ways. With this introductory class, you may decide to continue with other courses in photography or video. Using desktop Macs, tablets and Ipads, digital editing programs such as Adobe Photoshop, Illustrator, InDesign, and Procreate-are programs we will use to manipulate and polish digital creations. No previous experience or classes are required.

Open to: 9/10/11/12

A-217 Intermediate Studio Art

Year 1 credit

This course is for students who are interested in developing their own creative voice in the visual arts. Skills in drawing, color theory, and composition are further developed with the introduction of new techniques. There is a strong emphasis on self-expression, conceptual problem solving, art evaluation, and individual theme development. Regular slide and video lectures supplement studio study. The sketchbook plays an important role in developing preliminary sketches and documenting ideas. Within the structure of regular assignments, students are given more independence and creative license. Although this course is intended for tenth grade students, it is open to qualified ninth, eleventh and twelfth grade students as well. Students interested in completing a college portfolio should take Intermediate Studio Art and begin working with art faculty before their senior year.

Prerequisite: Studio Art I: Introduction to Drawing (A-116), Introduction to Painting (A-117) or Color and Design (A-114), or permission of the instructor

Open to: 10/11/12

A-271 Intermediate Media Arts

Year 1 credit

This course takes beginning Photography, Film and Video, and Graphic Design to the next level. Its objectives are to refine the student's visual awareness and to further develop their technical abilities. Students concentrate more on personal projects, with greater independence and responsibility for the planning and execution of their work. We will expand digital processes, explore the darkroom, and a combination of the two. Both historical and contemporary trends in Media Arts are examined. Digital or film cameras are available to borrow if necessary. Although this course is intended for tenth grade students, it is open to qualified ninth, eleventh and twelfth grade students as well.

Prerequisite: Introduction to Photography (A-170), Digital Design (A-175), Graphic Design (A-175), Film and Video (A-279), New Media (A-275) or permission of the instructor

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Open to: 9/10/11/12

A-272 Intermediate Sculpture

Spring 0.5 credit

This course is for students who are interested in developing their own creative voice in the visual arts. Skills in 3D Design, Sculpture and Ceramics are further developed with the introduction of new techniques. There is a strong emphasis on self-expression, conceptual problem solving, art evaluation, and individual theme development. Regular slide and video lectures supplement studio study. The sketchbook plays an important role in developing preliminary sketches and documenting ideas. Within the structure of regular assignments, students are given more independence and creative license.

Prerequisite: 3D Design (A-123), Ceramics (A-125) or permission of the instructor

Open to: 9/10/11/12

A-279 Film and Video

Fall and Spring 0.5 credit

In this course students explore visual expression through the media of film and video. This course includes an historical introduction to film, a close look at the creative control and techniques of the director or filmmaker, and an introduction to video production. Students explore experimental, documentary, and narrative forms, as well as camera use, sound capture, Members of the class produce short video projects, both collaboratively and individually, with an eye toward effective storytelling and communication. Our lab offers up-to-date workstations running Adobe Premiere Pro and After Effects. Each project concludes with a screening which allows the students to sit as both a supportive peer, critic and artist.

Open to: 9/10/11/12

A-311 Advanced Studio Art

Year 1 credit

This course requires substantial commitment and a willingness to explore new directions and express a personal vision. Students explore advanced techniques, learn to document their work, and give written and oral critiques. In addition, each student creates a body of work during the second half of the year. Students have individual meetings with the instructor for personalized assignments and suggestions. Advanced drawing techniques, unconventional painting processes, mixed media, installation, and sculpture are all open for exploration. Through slides and videos students examine 20th century and contemporary approaches to painting and make connections to their own studio work. The sketchbook plays an important role in developing preliminary sketches and documenting ideas. Although intended for eleventh grade students, this course is also open to those who have completed Intermediate Studio Art (A-317). This course may be repeated for credit.

Prerequisite: Intermediate Studio Art (A-217)

Open to: 11/12

A-372 Advanced Media Arts

Year 1 credit

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This course offers advanced Media Arts students the opportunity to expand and explore their creative vision while continuing to refine their skills. Knowing many processes and techniques students will further explore how to use them to represent a personal voice and vision. This class is largely tailored to meet individual student needs. Critiques, field trips and supplemental readings are all aspects of the coursework. This is a portfolio-based class. By the end of the class students will have created an independent body of work that will be displayed on their website. An artist's statement, as a means of helping the student clarify their artistic intent, is developed and presented along with their finished work. Although intended for eleventh grade students, this course is also open to those who have completed Intermediate Media Arts (A-271). This course may be repeated for credit.

Prerequisite: Intermediate Media Arts (A-271)

Open to: 10/11/12

THEATRE

A-141 Acting I

Fall 0.5 credit

This course allows students to discover both their ability to use "self" (body, mind, and experience) in a believable, authentic way, as well as their capacity to transform that "self" beyond its pre-established boundaries. As a dynamic, engaging introduction to theatre performance training, the class explores a variety of dramatic texts, but focus remains on student performance. Students delve into monologue and scene work, using both classical and contemporary theatre to form the basis of their practice. Over the course of the term, students receive a basic introduction to the ideas of some of the most influential practitioners in the development of modern acting stage performance art. Through the exploration of these techniques, each student discovers a more intentional approach to voice, speech and movement in their performance. This is a semester arts elective for those who have not previously taken Acting I.

Open to: 9/10/11/12

A-143 Technical Theatre Support

Year 0.5 credit

Students who are interested in pursuing their interest and skills in technical theatre can do so in this course. Students will use their knowledge of theatrical lighting, sound, stage management, and backstage gained during class time to support short-term performance events such as dance concerts, music concerts, assemblies, and guest speakers. Students may add this class midway through the year with permission from the instructor. Students will need somewhat flexible schedules after school hours to accommodate the occasional tech rehearsal associated with school-wide events.

Open to: 9/10/11/12

A-146 Acting II

Fall 0.5 credit

This course offers the advanced acting student the opportunity to further explore performance techniques and to enhance their individual skills and challenges as an actor. Students will be introduced to the basics of the acting technique known as the Stanislavski Method that will form the basis of their practice. This course of study includes the expression of the body, voice, imagination, personalizing, improvisation, external stimuli, and script analysis. This is a semester arts elective for those who have previously taken Acting I.

Prerequisite: Acting I (A-141)

Open to: 10/11/12

A-147 Public Speaking: Oral Interpretation and Speech

Spring 0.5 credit

“Public speaking is one of the most common fears of the human race ” Have you heard this dictum before? This course is about conquering that fear by harnessing it. Public Speaking aims to give students the lifelong, invaluable skill of speaking clearly and comfortably in public. By the end of the semester, students become aware of personal speech characteristics; improve posture, diction and other mechanics of speech; cultivate poise and self-confidence; and develop audience awareness and self-awareness. While theoretical foundations for the methods taught will be included, this is a practice-oriented course. Issues and current events relative to the course are addressed as a means to explore and refine a variety of types of speech, including informative, persuasive, demonstrative, and storytelling. This is a semester arts elective with no prerequisite.

Open to: 9/10/11/12

A-241 Theatre Company

Fall and Spring .25 credit

Arts credit is granted to participants in mainstage school productions; typically, there are two productions per school year. Cast members are chosen by audition. Production and artistic team members (such as stage managers, designers, and crew) are chosen by way of an interview with the director. Students must have evening and some weekend rehearsal time available, though accommodations are made for other evening commitments. As participation is determined by audition/interview, students should **not** sign up for the class in advance.

Open to: 9/10/11/12

ATHLETICS AND PHYSICAL EDUCATION COURSE DESCRIPTIONS

Athletics, Physical Education, and Dance provide our students with learning opportunities through the medium of movement and contribute to their overall development by helping them to lead full, active and healthy lives.

Grades

Courses are graded on a Credit/No Credit basis.

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Movement Graduation Requirement

All students in grades 9-11 must participate in a movement experience for the entire school year. Seniors must participate for eight to ten weeks (this may vary depending on the calendar). In addition, all students must successfully pass a swimming proficiency test. Students may satisfy their movement requirement through participation in interscholastic sports teams, physical education classes including PE/sport practicums, aquatics classes, or dance.

Swimming Proficiency Requirement

All Emma students are required to complete this requirement. Testing takes place at the beginning of each semester. We believe that swimming is an essential life skill that every Emma graduate should be able to demonstrate. All students attempt a swimming and water safety test. If a student is not able to complete the test, they will be placed in a swim instruction and water safety course. Students remain in swimming education until they complete the swimming and water safety test. Students must be comfortable in deep water to attempt this test.

Interscholastic Athletics

Athletics are an integral part of the experience at Emma. Students interested in a competitive athletic experience are encouraged to try out for any of the school's teams. The school fields competitive teams throughout the academic year as follows:

Fall	Winter	Spring
Crew V/Novice	Basketball V/JV	Crew V/Novice
Cross-Country V	Indoor Track & Field V	Lacrosse V/JV
Field Hockey V/JV	Ski Racing	Softball V
Swimming V		Outdoor Track & Field V
Soccer V/JV		
Tennis V		
Volleyball V/JV		

Practices are held every day, Monday through Friday, from 4:00-5:30 pm, and teams compete with private and public schools. Students wishing to know more about this program should speak with the Athletic Director.

Open to: 9/10/11/12

PHYSICAL EDUCATION

Emma offers a broad curriculum of physical education classes via 3 seasons throughout the school year: fall, winter, and spring. Sample options include: badminton, hiking, fitness walking, kickboxing, pickleball, sports conditioning, swimming, table tennis, tennis, ultimate frisbee and yoga. Classes generally meet Mondays, Tuesdays and Thursdays from 4:00-5:00 p.m.

AQUATICS OFFERINGS

P-116 Swimming (American Red Cross Swim Instruction and Water Safety)

Fall and Spring

ARC Instruction is designed for both the beginner swimmer and students who are interested in developing and strengthening their swimming skills and improving conditioning. The objective is to teach students to swim and to be safe in, on, and around the water. If a student is not able to complete the swim test, they will begin swim instruction. The approach is fun, interactive, and can lead students to incorporate swimming and water safety into their lives, whether they make swimming a part of a lifetime fitness plan, swim or dive competitively, or even train to become water safety instructors or lifeguards.

Open to: 9/10/11/12

P-117 American Red Cross Lifeguard Training

November – March

The objective of this training is to teach students the skills and knowledge needed to prevent and respond to aquatic emergencies in a pool environment. The curriculum and activities prepare students to recognize emergencies, respond quickly and effectively, and prevent drowning and injuries. Students must be strong swimmers.

Prerequisites: Students must be 15 years old by the end of the training and must pass the pre-course swim test.

Open to: 9/10/11/12

Movement Practicum for PE credit

Students who participate in any physical activity at an advanced level or an activity that is not available at Emma Willard may be eligible to receive movement credit. The Director of Student Wellbeing, Athletic Director and Director of Practicum will determine if the activity meets the necessary requirements.

Please note the following:

- A written proposal from the student is required, it can be part of the Practicum Application Form available on MyEmma..
- Only students demonstrating a significant commitment or advanced ability will be considered.
- Proposals must be submitted no later than the beginning of each sport season (Fall, Winter and Spring). Specific deadlines will be announced.

Open to: 9/10/11/12

Team Manager

Students who wish to be a manager for a varsity or junior varsity team may be eligible for movement credit. This will be determined on a case-by-case basis.

Open to: 9/10/11/12

Dance

The Athletics Department grants movement credit to students enrolled in the school's dance program or Dance Company. Any dance course taken for movement credit must meet at least twice a week.

Open to: 9/10/11/12

ENGLISH COURSE DESCRIPTIONS

The mastery of English forms the heart of a strong college-preparatory program and of a liberal arts curriculum. The English department challenges Emma Willard students to read and analyze works of literature ranging from Sophocles' *Antigone* to F. Scott Fitzgerald's *The Great Gatsby*. Books from the traditional canon of Western civilization are juxtaposed with works representing the experience of other cultures. In addition to extensive work in vocabulary, grammar, and expository writing, students learn to craft personal and creative pieces. The English department provides the groundwork for university study in writing and literature and develops students' skills as language artists.

E-100 English I

Year 1 unit

Students in English I study a variety of texts, some hundreds of years old and some published just a few short years ago, that raise timeless questions facing people living in communities—questions about power, destiny, and relationships. While grappling with these questions, we begin to understand the way stories create empathy. English I is an introduction to the art of literary analysis; we practice both the slow, close reading of short passages and rich figurative language and the larger-scale study of textual structures and patterns. We read novels, short fiction, drama, and poetry as we study how words create and convey meaning. Students write short essays, working to articulate strong thesis statements and to support them with detailed analysis of textual evidence. Our study of grammar and vocabulary helps students craft their own clear and expressive writing in these essays, as well as in their own poetry and personal narrative. This course includes summer reading that is outlined on the school's website.

Open to: 9 (10)

E-200 English II

Year 1 unit

The English II curriculum invites students to explore a series of interrelated questions: How do we use storytelling to make sense of our lives, especially when we feel outcast or as if we don't belong? How do the stories we've been told inform the stories we tell ourselves? What narratives might be lost, muted, or distorted in that process? What can we (as readers, thinkers, and writers) do to honor and explore marginalized identities—or those narratives that might be lost or suppressed? By engaging with a variety of literary texts, students reflect upon these questions and hone their critical reading skills. Through a combination of projects, class discussion, and multi-genre writing tasks, students in this course will have many opportunities to think, speak, and write with increasing precision, boldness, and originality. Grammar in English II moves beyond parts of speech to focus on mechanics, usage, and style, which will support frequent practice in editing and revision. This course includes summer reading that is outlined on the school's website.

Open to: 10 (11)

E-204 Women in Journalism

Fall .25 credits

This class will explore the historical role of women in the field of news writing and reporting. It will focus on the importance of differing perspectives in giving a voice to those who don't have the ability to speak for themselves. The class will discuss the importance of diversity in journalism and how it can affect societal change. In-class discussions will cover the legacy of female journalists and the history of women in news. Class assignments will involve developing interview, research and reporting skills. This course does not meet the English requirement for seniors.

This class meets once a week and will start in October; the exact date is TBD.

Graded as credit/no credit

Open to: 9/10/11/12

E-298 Fiction Writing for Sophomores and Juniors

Fall and Spring .25 credit

This course is for the self-directed sophomore or junior who enjoys writing fiction and wants to strengthen those story-writing skills. In a once-a-week meeting, students share their work and receive feedback from their instructor and classmates. Students write two pages a week and have the opportunity to revise their work based on feedback provided by the class. This course must be taken in addition to a student's regular English class and may be repeated for credit.

Graded as Credit/No Credit

Open to: 10/11, 9 and 12 if room allows.

E-300 English III

Year 1 credit

"What is the job of the artist/writer? What are the relationships between the identities we inherit as well as the identities we create? What role does language play in racial identity and American cultural ideals? What makes a text 'American?'"

Students in English III discover how literature and other forms of intentional expression explore the essential questions above and more. This course blends classic and less well-known texts to help students broaden and deepen their knowledge of literature classified as 'American.'

Through a combination of projects, class discussion, and formal as well as informal writing, students in this course develop their critical thinking skills by striving to articulate complex, substantive arguments in clear, eloquent prose. Analytical and creative work become increasingly independent as the course goes on. Grammar instruction includes Khan Academy SAT preparation.

This course includes summer reading that is outlined on the school's website.

Open to: 11 (12)

E-310 Writing Support

Year 0.5 credit

This course is designed to help students improve their reading and writing abilities through concentration on close reading and the writing processes: prewriting, writing, and revision. The

course's main objective is to create a personalized strategy to meet each student's specific needs around reading and writing. Members of the course will work individually or in small groups with a support specialist. The writing support specialist will provide customized feedback that identifies problem areas; the teacher will also provide instructions/support on how to rectify these areas. Students will be encouraged to reach out whenever they need additional reading or writing support outside the classroom. This course is required for students who have completed the English Support course. Other students take this course by recommendation of the English and history departments and the Learning Support Coordinator.

Open to: 9/10/11

E-401 Literature of Identity

Fall 0.5 credit

Oscar Wilde once wrote, "Most people are other people. Their thoughts are someone else's opinions, their lives a mimicry, their passions a quotation." Although Wilde was jailed due to his own identity, we are left to wonder the relevance of his declaration, especially in our current climate of cyclical fashions, filtered Facebooks, and retweeted text. Are we capable of crafting individual identities or does society dictate who we are? Ralph Ellison's *Invisible Man* countered Wilde claiming, "When I discover who I am, I'll be free." This course is designed to engage students in such discovery by exploring categories of identity including race, ethnicity, class, gender, and sexuality. Through classic and contemporary literature, students will investigate how various social identities manifest. They will also examine controversial topics where they will be challenged to articulate their thoughts through class discussions, writing assignments, and group projects. This course includes summer reading, outlined on the school's website.

Disclaimer: This course contains mature content not suitable for all students.

Open to: 11/12

E-402 Nonfiction Workshop

Fall 0.5 credit

Anyone who has shared or listened to an occasional paper knows that first-person narratives forge a unique connection between writer and audience. By sharing the story of our own experiences, we invite others to join us, and the resulting community is richer as a result of that learning. Students in this writing workshop learn how to craft, revise, share, and appreciate their own true stories by examining the work of a variety of essayists and by learning from each other as they develop their own narrative voices. This course includes summer reading, outlined on the school's website.

Open to: 11/12

E-403 Gothic Literature

Fall 0.5 credit

Known primarily for its crumbling mansions, spooky caves, and long-hidden family secrets, Gothic literature morphed over time to include the vampires, zombies, and other monsters familiar today, but it continues to explore the fears, anxieties, and worries of the cultures that produce it. Students in this course study Gothic literature from its inception in the eighteenth

century through some of its more contemporary incarnations by relying on a humanities approach, studying art, philosophy, history, film, and more; this method helps reveal Gothicism as a larger cultural movement, of which literature is just one (albeit very important) medium. Learning will be assessed through a combination of essays and projects, one of the student's own design. Literary works may include *A Sicilian Romance* (Ann Radcliffe), *Frankenstein* (Mary Shelley), and *Dracula* (Bram Stoker). This course includes summer reading, which is outlined on the school's website.

Open to: 11/12

E-404 Death and Afterlife in Literature

Fall 0.5 credit

The phrase "Memento Mori" or "remember you must die" has its roots deep in the history of human thought. Stoics like Socrates have urged the conscious person to keep their own end in sight since 400 BCE. In this course, we will explore Heidegger's "Seins-Frage" (The Question of Being) and investigate what religion, philosophy, visual art, and literature tell us about what might come next. Sample texts studied may include works by Seneca, works by Heidegger, mythology from around the world, the film *What Dreams May Come*, selections from *Sum: Forty Tales from the Afterlives* by David Eagleman, and poems by Emily Dickinson and John Donne. Through reading, research, discussions, debates, and reflection, students will engage with one of humanity's most essential questions. This course includes summer reading, outlined on the school's website.

Open to: 11/12

E-405 Villains and Antiheroes

Spring 0.5 credit

Heroes are only as great as the villains they face. Yahweh has Satan. God has Lucifer. Hercules has Hera. David has Goliath. Sherlock has Moriarty. Batman has The Joker. The list is infinite. However, what happens when lines of dynamic interplay between good and evil get blurred, muddied, or even erased? If what George RR Martin says is true, "Nobody is a villain in their own story. We're all the heroes of our own stories," then who are readers left to listen to? Enter The Antihero! This course is designed to peel back the layers of historical villainy and map out both the cultural birth and evolution of antiheroes. Our descent into villainy begins in classical antiquity and ends with a full roster of antiheroes who headline modern texts. To sharpen students' abilities as critical readers and writers, a range of villains and antiheroes will be examined through art, literature, electronic media, photography, and film. Readings will be drawn from classic and contemporary texts such as *Dante's Inferno*, *The Sociopath Next Door* by Dr. Martha Stout, Shakespeare's *Othello*, and Moore's *V for Vendetta*.

Open to: 11/12

E-406 Reading Film: Language & Art of Cinema

Spring 0.5 unit

Film critic Christian Metz writes, "A film is difficult to explain because it is easy to understand." In this class, students well versed in the analysis of short stories, novels, plays, poetry, and essays, learn to "read" film, analyzing the visual language by which it creates and conveys

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meaning. We will study the narrative structure of film and build a critical vocabulary to describe its technique (covering mise-en-scène, cinematography, editing, and sound). Films viewed and discussed represent a variety of genres (thriller, comedy, fantasy, Western, and coming of age among them) and time periods and will include some R rated films. In addition to writing short essays about the films “read,” students will choose a film to study and present to the class.

Open to: 11/12

E-407 Short Fiction Workshop

Spring 0.5 credit

In this course, students gain an appreciation of the craft of story writing by studying a variety of stories and by writing their own. After studying such elements as conflict, character, and setting in published stories, students attempt to mirror in their own work the techniques that established writers have used. Through the revision and peer review process, students can begin to see how the story form, like other art forms, can be crafted, shaped, and refined. By studying several stories by the same author and by imitating the techniques of other writers, students understand the meaning of style as it applies to the work of the writers discussed and to their own creations.

Open to: 11/12

E-408 Poetry

Spring 0.5 credit

“It's unfortunate that often poetry is taught in schools as if it's only the arena of an old, dead, white, and male intellectual elite, when in fact poetry is the language of the people.” “Poetry is the language of reconciliation.” - Amanda Gorman

The twenty-first century is bursting with poetry as writers all over the world are able to publish anytime, anyplace and draw together a new audience. Beyond the sometimes intimidating patterns of rhythm and rhyme, poetry could be defined simply as a cluster of words conveying a thought. In this course, we will explore a range of poems from around the world and across time, right up until today. Students will practice close reading, discussion, and analytical writing skills. Students will also compose original poetry of their own while experimenting with a variety of techniques, themes, and prompts. By the end of the course, students will have curated a small anthology of their favorite pieces (some of their own, some created by others).

Open to: 11/12

E-411 Literature and Fairy Tales

Spring .5 unit

More than innocuous bedtime stories, fairy tales have long promoted a set of prescribed gender roles, often directed explicitly at a female audience. Classical fairy tales hold up marriage as the pinnacle of a woman’s life, instruct young women in appropriate sexual behavior, punish female curiosity, and endorse the nuclear family. Because these tales still loom large, they continue to participate in the construction of modern gender roles. In this course, students will explore a number of classical fairy tales from their surprisingly dark and violent early versions to their saccharine Disney renderings to contemporary queer and feminist re-visions, considering at

each turn how fairy tales reflect and inform our ideas about gender. Authors studied may include Charles Perrault, the Brothers Grimm, Angela Carter, Anne Sexton, and Emma Donoghue.

Disclaimer: This course contains mature content not suitable for all students.

Open to: 11/12

E-412 Why (Still) Shakespeare?: Shakespeare and Social Change

Fall .5 unit

Polarized political parties. Violent protests. A wide division between classes. Escalating racism. Misinformation. Government-approved propaganda masquerading as news. Hate groups. Executions. America or Shakespeare's England? According to James Shapiro, "For well over two centuries, Americans of all stripes—presidents and activists, soldiers and writers, conservatives and liberals alike—have turned to Shakespeare's works to explore the nation's fault lines," but why spend time adventuring through a variety of Shakespeare's greatest works? Are there really answers to solve these problems? In this course, students will scrutinize both past and present cultural issues such as gang warfare, institutional racism, classism, gender inequality, xenophobia, homophobia as well as religious intolerance. As students work through each play, they will fuel their conversations with the support of literary critics such as Harold Bloom and Janette Dillon, and modern film with actors such as Branagh, Tennant, and Stewart. This course includes analytical writing, oral explications, and physical performance, allowing students to explore the language of Shakespeare through both written and oral modes. At the conclusion of this course, each student will make a stand and answer the question: Why—or perhaps, why not—still Shakespeare?

Open to: 11/12

E-501 Advanced Studies Literature of the Good Life

Year 1.5 credits

"Literature of the Good Life" is an advanced studies interdisciplinary course that asks students to wrestle with some of life's most enduring philosophical and ethical questions. Core texts will run the gamut from Michael Schur's hit show *The Good Place* to Toni Morrison's novel *Song of Solomon* to Aristotle's *Nicomachean Ethics*.

The core principle of this class is to ask students to become aware of their own habits, assumptions, and values. Together, we will explore what happens when we suddenly question ourselves, the societal frameworks to which we contribute, and our most deeply ingrained ways of living. Essential questions include, "What does it mean to be free?" "What makes an individual human life meaningful?" "What is the role of work in my life?" "How do I decide whether or not an action is moral?" and perhaps most importantly, "What do we owe to each other?" This course includes summer reading, outlined on the school's website.

Open to: 11/12

E-502 Advanced Studies Modernism

Year 1.5 credits

“Modernism” in art refers to the trend in the late nineteenth and early twentieth centuries to experiment—to, as Ezra Pound famously put it, “make it new.” Following the unprecedented horrors of World War I, authors felt the limits of language as never before, and they sought new modes and forms capable of capturing life in all its messiness. In this course, we will ask if literature can truly convey the complexity of lived experience. We will study texts by authors such as Virginia Woolf and T. S. Eliot, trying to articulate what exactly makes a text “modernist” even as we challenge what scholars have traditionally deemed “worthy” of the modernist label. We will, for example, ask whether the work of Harlem Renaissance artists should be considered “modernist” and if/why that label matters. Students will build on the close-reading skills developed in earlier coursework in creative and analytical work, and they will learn to locate, incorporate, and even challenge the work of established scholars in service of their own literary arguments. Finally, students will work collaboratively to explore modernism beyond literature, considering its legacy and contemporary relevance. This course includes summer reading that is outlined on the school’s website.

Open to: 11/12

EXPERIENTIAL LEARNING COURSE DESCRIPTIONS

Experiential learning (EL) is a philosophy about lifelong education. The core tenant of EL is that people learn best when they experience, reflect, think, and act in a spiral process. EL educators employ flexible roles during this learning process that align with the four categories listed above, including coach, facilitator, expert, and evaluator.

In addition to Emma Willard courses that include elements of EL, the EL department is composed of four programs: career exploration, service learning and community engagement, Practicum, and Signature. Below are some of these course offerings.

Practicum

(Credit by application)

Practicum, Emma Willard's independent study program, offers students opportunities to enrich and extend their studies through academic and nonacademic experiences available on and off campus. Students individualize part of their weekly schedule through learning that is experiential and self-directed. Experiences fall under the following categories: arts, career exploration, college courses, community engagement and service learning, independent study, language study, sports and music. If applicable, the student or family pays instructor fees directly to the instructor.

Practicum opportunities are pursued in several ways: most common are part-time classes, volunteer work experiences, or other activities pursued on campus, in the Capital Region or in a student's home region. Some students pursue practicum projects full-time for a short period of time.

Each practicum experience is an integral part of a student's schedule, planned with guidance from the Director of Practicum, the student's Academic Advisor and College Counselor (if applicable). The Director of Practicum may also consult with the appropriate department chair. Qualified projects may earn academic credit but will not be used to satisfy departmental graduation requirements; please see the Director of Practicum with questions or to apply..

PRACTICUM SAMPLING:

- Finance & Entrepreneurship
- Law
- Horseback riding
- Assisting a first-grade teacher
- Afterschool children's program volunteer
- Tae Kwon Do, Hapkido
- History research
- Helping children with special needs
- Fencing
- Empire State Youth Orchestra
- Culinary arts
- Language Study
- Figure skating
- College courses
- Architecture
- Career exploration
- Hospital volunteer
- NYS Legislature

A part-time practicum (one to eight hours weekly) is arranged around free periods during the day, the evening, or on the weekend. A full-time practicum involves a concentrated period of

time from one to three weeks in length and may require using vacation time and some released time from classes. A student is responsible for all assignments and classroom work missed while away. All practicum experiences are listed on student transcripts as Practicum: Independent Study, students work with their College Counselor to tell a compelling story about their experience as part of their time at Emma.

Students seeking academic credit must submit a proposal to the Director of Practicum by May 1 for Fall proposals and by December 1 for Spring. Late requests are seldom accepted. Requests must be resubmitted for each semester or year. Parental permission is required. All financial obligations to the school continue while the student is off-campus, and all expenses while away are the responsibility of the family. See the Director of Practicum for application guidance. In general, the following guidelines are used to determine whether practicum credit will be given:

- The student has exhausted all on-campus opportunities to pursue a specific, demonstrated interest. An exception is made for day students who have been pursuing voice, musical instrument instruction, or dance before enrolling at Emma Willard School. These students may continue with that teacher and receive practicum credit.
- The school does not offer a course that would allow a student to pursue advanced level work in a specific area of demonstrated excellence.
- The student is not using this practicum to fulfill Emma Willard School graduation requirements in any department except for movement credit, which is granted by the athletic director and the practicum director for students pursuing competition-level or advanced sports training to fulfill a physical education requirement. Exceptions do not guarantee that the school will provide transportation.
- Students who pursue internships, other programs, or college courses that do not fit the criteria stated above, and who have not been granted an exception, will not receive academic credit nor will school transportation be provided. While under school jurisdiction, students must have parental permission and school permission to leave campus to participate in any internship, college course, or other program not granted academic credit by the school.

APPEALS PROCESS

Any student requesting exceptions to these guidelines must do so in writing to their Academic Advisor, the Director of Practicum, and the Chair of the Experiential Learning Department, who may consult with other Department Chairs as appropriate.. This group will arrive at a joint decision.

TRANSPORTATION

The practicum program provides subsidized transportation to students mainly through the Northeast Shuttle service to local practicum sites. For one-off or short term opportunities, Student SmartCard accounts are billed a fee at regular intervals based on the distance from EWS. Transportation to regularly occurring opportunities may be billed quarterly to a student's tuition statement. While every effort is made to accommodate students wishing to pursue local

practicums, numbers may be limited because of scheduling considerations and cost. Students may be responsible for organizing their own transportation in some cases.

APPEALS PROCESS

Any student requesting exceptions to these guidelines must do so in writing to their Academic Advisor, the Director of Practicum, and the Chair of the appropriate department. This group will arrive at a joint decision. Requests must be resubmitted for each academic year.

TRANSPORTATION

The practicum program provides subsidized transportation to students mainly through the Northeast Shuttle service to local practicum sites. For one-off or short term opportunities, Student SmartCard accounts are billed a fee at regular intervals based on the distance from EWS. Transportation to regularly occurring opportunities may be billed quarterly to a student's tuition statement instead. While every effort is made to accommodate students wishing to pursue local practicums, numbers may be limited because of scheduling considerations and cost. Students may be responsible for organizing their own transportation in some cases

EL-255 STEAM Research 9th Grade

Spring 0.5 credit

STEAM 9 Research is for ninth graders who are interested in a STEAM field (science, technology, engineering, arts, math). Students begin by exploring several hands-on projects with select faculty. During the second phase, students explore one of these projects independently, and give a final presentation on their work to the school community. Students maintain a digital portfolio to document their work. Enrollment is by application.

Prerequisite: Application and recommendation by department

Grading system: Credit/No Credit

Open to: 9

EL-256 STEAM Research 10th Grade

Year 0.5 credit

STEAM 10 Research is for tenth graders who have demonstrated interest in a STEAM field (science, technology, engineering, arts, math). Students begin by identifying their STEAM interests, and then develop their ideas into an individualized project. Students work on their projects for the entire academic year, and give a final presentation before the school community. Students maintain a digital portfolio to document their work. Enrollment is by application and meeting time is by appointment.

Prerequisite: Application and recommendation by department

Grading system: Credit/No Credit

Open to: 10

EL-400 Signature

Year 1 credit

Signature allows students to complete year-long capstone projects during their junior and/or senior year(s). This opportunity is for students who have an inherent connection to a topic and have sufficient time in their schedules to enroll in this course. Some students may additionally work with experts off campus to create their Signature. This course is designed to support students through each phase of their project through assignments and dedicated individual time.

In class, students either learn about general topics, work with their manager on specific goals, participate in special classes (ex. invited guests), or use time to work on their projects individually. Students create and develop a digital portfolio for Signature, in which they add regular posts, and also complete course assignments. Final presentations, featuring the experience as well as the outcomes, are shared with the school community in May.

Students working off campus may utilize the school's transportation service for a subsidized fee. Students requiring financial support for any reason should contact a program manager.

Managers are available to discuss ideas and offer advice for possible Signature projects and suggest people as resources for projects. This interaction is strongly encouraged. Students must be accepted into the program for final enrollment. The Signature enrollment process is slightly different from normal course registration. Students may add Signature to their schedule to indicate interest, as they do for all courses, and they can expect future application steps to finalize acceptance into the program. Applications are available online from the Signature Director.

Grading: Credit/No Credit

Open to: 11/12

HISTORY & SOCIAL SCIENCE COURSE DESCRIPTIONS

The History and Social Science Department offers courses in history, art studies, and social sciences. These courses teach close reading, analytical writing, analysis, and synthesis. They stress observation and interpretation of primary sources; critical engagement with scholarship; research and writing; and seminar discussion of ideas.

HISTORY REQUIREMENTS

In 2023-2024, ninth graders will be required to take Classical Mediterranean History (H-110) in the fall semester and a ninth-grade world history elective (African History, East Asian History, or Indian History) in the spring semester. Tenth graders will be required to take a tenth-grade world history elective (European History, Latin American History, or Middle Eastern History) in the fall semester and Contemporary World History (H-210) in the spring semester. Each of the regional electives studies a culture's history and contact with the surrounding world, examining change over time and contemporary world history from social, political, economic, and cultural perspectives. Eleventh graders will be required to take United States History, Advanced Studies United States History, or United States History: Experiential Learning Through Site Visits. All the ninth-, tenth-, and eleventh-grade courses are designed to offer students a progression of reading, writing, research, and critical analysis skills.

COURSES IN THE REQUIRED 9TH-, 10TH-, AND 11TH-GRADE SEQUENCE

9th-Grade Required History Course:

H-110 Classical Mediterranean History

Fall 0.5 credit

This course examines the historical development of the classical Mediterranean world, from its origins in the early civilizations of the Aegean Sea to the decline of the Roman Empire. Significant attention is paid to the social, political, economic and cultural characteristics of classical Greece and Rome. Students also examine the geography of the region and its role in shaping history. In addition to the content mentioned above, students learn to read and analyze primary and secondary sources, develop analytical writing skills, participate actively and effectively in class discussions, practice research and citation skills, and learn how historians think.

Open to: 9 (10)

9th-Grade World History Electives (spring, one per student is required):

H-111 African History

Spring 0.5 credit

This course explores major cultural, social, economic, and political developments in Africa from the early Iron Age kingdoms through the early twenty-first century. After a study of the major East and West African kingdoms, students explore topics including African adaptations of Islam and Christianity, the African response to the Atlantic slave trade and European imperialism, Africa during the world wars, the struggle against apartheid, and the legacy of colonialism.

Throughout the course, special attention is given to primary sources, African voices, and the interactions of environment, climate, geography, and historical developments. Assignments include readings in both secondary and primary sources as well as several longer research, writing, and cooperative learning projects.

Prerequisite: Classical Mediterranean History (H-110)

Open to: 9 (10)

H-112 East Asian History

Spring 0.5 credit

This course is designed to introduce students to the intertwined histories of China, Japan, and Korea from their early civilizations through the turn of the 20th century. Topics such as the early Yellow River civilizations, Chinese philosophy, the Silk Road, the Meiji Restoration, the Silla period in Korea, and the Korean War in 1950 are covered. Students explore the social, cultural, geographic, political, and economic history of East Asia through primary and secondary texts and research. This course also examines the interactions of East Asia with the rest of the world and the relationships of each of the East Asian countries with each other. The primary focus of the course is on China and Japan, with a secondary focus on Korea. Course requirements include regular readings and homework; independent research and historical analysis with an emphasis on writing; tests and quizzes; and cooperative learning projects.

Prerequisite: Classical Mediterranean History (H-110)

Open to: 9 (10)

H-113 Indian History: Origins of Civilization to the Early 20th Century

Spring 0.5 credit

This world history elective examines the history of India and its neighbors from the development of civilization in the Indus River valley through the origins of Hinduism and Buddhism, the spread of Islam into the region, and increasing contact with and colonization by Europeans. The course ends with the emergence of Indian nationalism and colonial resistance in the 20th century. Students explore these developments through their political, social, cultural, economic and environmental elements. Students also examine the connections between critical developments in Europe and the history of SouthEast Asia. Examples of these connections include the role of mercantilism and absolute monarchies in the establishment of trading empires in Asia and the relationship between the Industrial Revolution and the developing British colonial policy in India. Course requirements include regular readings and homework, research and analytical writing, tests and quizzes, as well as cooperative learning projects.

Prerequisite: Classical Mediterranean History (H-110)

Open to: 9 (10)

10th-Grade World History Electives (fall, one per student is required):

H-211 History of the Middle East

Fall 0.5 credit

This world history elective examines the history of Mediterranean Asia beginning with the geography and culture of pre-Islamic Arabia and ending with the establishment of modern

Mediterranean Asia after WWII. Students explore the region through its political, social, cultural, economic and environmental aspects. Special attention is given to the origins, beliefs and practices of Islam, the development and spread of the Islamic empire, and moments of exchange and interaction with Europe, including the Crusades, WWI, and the development of the Modern Middle East. Course requirements include regular readings and homework, research and analytical writing, tests and quizzes as well as cooperative learning projects.

Prerequisite: Classical Mediterranean History (H-110)

Open to: 10 (11)

H-212 Latin American History: From Early Civilizations to the Challenges of the 20th century

Fall 0.5 credit

This world history elective examines the course of Latin American history from the development of sedentary communities such as the Olmecs and Toltecs to the major civilizations of the Mexica, Inca, and Maya, and through conquest and colonization to the end of the 20th century. Students explore the connections between critical developments in Europe and the history of the Latin American region. Examples of these connections include the relationship among the Renaissance, the voyages of exploration and the conquest of the Americas, as well as later forms of imperialism. Twentieth-century topics will also be addressed, including the implications of the Cold War for Latin America. Course requirements include regular readings and homework, research and historical analysis, and tests and quizzes, as well as cooperative learning projects.

Prerequisite: Classical Mediterranean History (H-110)

Open to: 10 (11)

H-213 European History

Fall 0.5 credit

This course surveys developments in European history from the Middle Ages through the unification of Italy and Germany and early imperialism. Students examine major social, political, and economic changes in Western Europe, beginning with the Renaissance and moving through the Reformation; Scientific Revolution and Enlightenment; French and Industrial Revolutions; and rise of conservatism, liberalism, nationalism, and imperialism. Course requirements include regular readings and homework, research and historical analysis, and tests and quizzes, as well as a cooperative learning project.

Prerequisite: Classical Mediterranean History (H-110)

Open to: 10 (11)

Required 10th-Grade History Course:

H-210 Contemporary World History (final, or fourth, course in world history sequence)

Spring 0.5 credit

Beginning with the dawn of the 20th century and continuing through the present, this course looks at major developments in world history as seen in political, social, economic, and cultural affairs. Special attention is given to the causes and effects of the two world wars, the re-shaping of the world following World War II, emerging alignments and tensions following the end of the Cold War, and the range of interactions between regions in times of both peace and conflict.

This course is the capstone of the world history sequence, and students prepare a major project demonstrating their mastery of the skills necessary to analyze a particular historical problem and communicate their conclusions effectively.

Open to: 10 (11)

11th-Grade U.S. History Courses (one year of U.S. History is required):

H-331 United States History

Year 1 credit

This course provides an introduction to United States history. Although the course will not provide a comprehensive survey of American history from the period of early contact through the present day, it will explore the most significant and recurrent themes of American history, paying particular attention to the evolving and highly contested notions of liberty, democracy, citizenship, and equality. After a brief survey of early foundational documents, the class will begin its in-depth exploration of the American past by examining the Civil War and Reconstruction era. The year's study will then extend through the late nineteenth and twentieth centuries, providing a rich context through which to think critically about our own early twenty-first century historical moment. While analyzing the nature of the American experience, we ask such questions as: What roles have race, gender, and class played in the lives and perceptions of the American people? How have factors such as economics, ideology, law, and religious faith interacted in shaping the country's history? Students spend significant time reading secondary and primary documents closely and critically, cultivating the ability to express ideas clearly and with sufficient factual evidence to be persuasive. At least one major research project allows students to explore the process of scholarship by studying a topic in depth.

Prerequisite: H-210 Contemporary World History

Open to: 11 (12)

H-331X United States History: Experiential Learning Through Site Visits

Year 1 credit

This course, while paralleling the essential content, themes, and writing requirements addressed in H-331 (see description above), in addition includes regular field trips to off-campus locations. Troy, the Capital Region, and the Hudson Valley constitute an unparalleled "history lab," and we draw on it by analyzing such sites as Historic Cherry Hill, the Albany Institute of History and Art, the Empire State Plaza, the Burden Iron Works, the Hart-Cluett House, and Harmony Mills. Students learn to analyze architecture and cityscape, along with historical artifacts in museums and historic homes as we seek to understand the beliefs, values, and assumptions of historical characters.

Prerequisite: H-210 Contemporary World History

Open to: 11 (12)

H-333 Advanced Studies United States History

Year 1.5 credits

This course offers an intensive introduction to the history of the United States. Although the course will not provide a comprehensive survey of American history from the period of early contact through the present day, it will explore the most significant and recurrent themes of American history, paying particular attention to the evolving and highly contested notions of liberty, democracy, citizenship, and equality. By the end of this course, students should not have gained not only a greater appreciation for the complexity and richness of our shared past, but also a keener understanding of the ways in which our shared American history continues to shape and influence the society and culture that we live in today. Students who complete this course will also be able to demonstrate the different modes of critical thinking, analysis, and presentation that are at the heart of the historical discipline. Specifically, the course will offer an initiation into the standards of historical study, including factual recall, document/artifact analysis, reasoned argumentation, clear communication (written and oral), and historiographic contextualization.

The course requires students to handle significant amounts of nightly reading, to analyze and synthesize primary source documents, and to write organized, well-developed, and well-supported historical essays of various lengths. At least one research paper/project is required in this class. Admission to this class is contingent upon departmental and advisor approval, with continued enrollment dependent on consistent effort and performance. As with other Advanced Studies courses, additional assignments should be expected over school vacations. There is a summer reading requirement that includes a written essay (due on the first day of class). While this course aligns with parts of the Advanced Placement curriculum, it does not prepare students fully for the AP exam.

Prerequisite: H-210 Contemporary World History and completion of the summer assignment (reading and an analytical essay)

Open to: 11 (12)

HISTORY AND SOCIAL SCIENCE ELECTIVES

H-318 World Religions I

Fall 0.5 credit

A study of the world's religions is vital to developing a full and rich understanding of our world. From identity formation, to politics, to human relationships, to economic decision-making, religion plays a central role in the lives of communities and individuals around the world. This course serves as an introduction to the discipline of religious studies and to the major religions of the east: Hinduism, Buddhism, Sikhism, Confucianism, and Taoism. Students will examine the scriptures, related literatures, beliefs and practices, rituals, mystical dimensions, and historical and social contexts of these religions. Informed by this study, students will have opportunities to continually reflect on the kinds of ultimate questions that lay at the heart of these traditions: Why are we here? What is the purpose of life? What is Ultimate Reality? What happens when we die? How should we live? Why is there pain and suffering, and what can we do about it? Please note that H-319 World Religions II is not a requirement for those studying H-318 World Religions I. These two world religions electives may be taken independently from one another.

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Open to: 11/12 and 10 by recommendation

H-319 World Religions II

Spring 0.5 credit

A study of the world's religions is vital to developing a full and rich understanding of our world. From identity formation, to politics, to human relationships, to economic decision-making, religion plays a central role in the lives of communities and individuals around the world. This course serves as an introduction to the discipline of religious studies and to the the scriptures, related literatures, belief and practices, and historical and social contexts of the major Abrahamic religions: Judaism, Christianity, and Islam. Through this introduction to the discipline of religious studies, doctrine, ritual, mysticism, and pilgrimage will be studied in conjunction with central and related religious poetry, philosophical works, and theology. What unites these works and traditions is a desire to understand life's ultimate questions—questions that will frame the course: Why are we here? What is the purpose of life? What is God? What happens when we die? Why is there pain and suffering, and what can we do about it? Please note that H-318 World Religions I is not a prerequisite for H-319 World Religions II. These two world religions electives may be taken independently from one another.

Open to: 11/12 and 10 by recommendation

H-325 Advanced Studies Art History

Year 1.5 credits

This course provides an introductory survey of the history of art from the dawn of civilization to the present. Though an understanding of the European artistic tradition is fundamental to any study of the history of art, it is equally important for students to explore the richness of visual traditions from around the globe, including Asia, Africa, the Americas, and the Islamic world. Students examine the formal/stylistic aspects of art as well as the cultural context in which that art was produced. Students become familiar with the principles of design, the processes of artistic production, and the fundamental elements of style in painting, sculpture, architecture, and other contemporary media. Understanding the formal elements of art allows students to explore intelligently the cultural issues surrounding artistic production, such as function, patronage, gender, ethnicity, politics, and religion. In addition to providing a chronological framework for understanding the development of art, the course examines several themes that can be applied across cultures. These themes include sacred spaces, art as propaganda, representations of nature, art as protest, and the self-portrait, among others. Ultimately, this course provides students with the visual literacy they need to understand their world fully. As with other advanced studies courses, additional assignments should be expected over school vacations. While this course aligns with parts of the Advanced Placement™ curriculum, it does not prepare students fully for the AP exam.

For students enrolled in Advanced Studies Art History, the course satisfies .5 credits of the arts graduation requirement, though it does NOT meet the distribution requirements for visual or performing arts. For example, an incoming 9th grader would still have to take one course in visual arts and one course in performing arts, but Advanced Studies Art History would count as .5 credits toward the 2.0 total credits in art they need to graduate.

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Prerequisites: H-210 Contemporary World History. For students in the Class of 2024 whose world history sequence was completed with a regional studies course in their sophomore year, successful completion of African History, European History, History of the Middle East, or Latin American History meets the prerequisite for this course.

Open to: 12 (11)

H-320 American Indian Studies

Spring 0.5 credit

This course provides a general overview of American Indian history, culture, philosophy, religious practices, music, art, literature, tribal law, government, and sovereignty. The course will focus on both traditional and contemporary cultures with an emphasis on issues in American Indian life, as well as the impact that American Indians have had and still have on the history and cultural development of the United States. Students are expected to come to class prepared for discussion and collaboration, and they will be evaluated primarily on writing assignments and student-led projects.

Open to: 11/12 and 10 by recommendation

H-345 Advanced Studies Economics

Year 1.5 credits

Why do we exchange goods? How do businesses make decisions about pricing products? When should the government intervene in the market—and when should it stay out of the way? Is Wall Street a hero or villain? These questions lie at the heart of this class. Using a text by a Nobel Prize-winning author as well as examples from the front page of the newspaper, students develop a thorough understanding of how consumers and producers interact in the market, how we measure economic performance, the role of the financial sector, and how the U.S. economy interacts with economies around the globe. As the course provides a strong introduction to both Microeconomics and Macroeconomics, students who wish to do so will be well prepared to take the AP Microeconomics and/or AP Macroeconomics exams in the spring. Enrollment preference will be given to students entering the 12th grade. Rising eleventh-grade students interested in enrolling should speak with the department chair BEFORE requesting this course.

Prerequisite: U.S. History (H-331 or H-331X) or AS U.S. History (H-333), or concurrently enrolled in H-331, H-331X, or H-333; successful completion of Precalculus (M-450 or M-460)

Open to: 12 (11). This course should not be taken concurrently with Financial Math (M-445)

H-363 Advanced Studies United States Government and Politics

Year 1.5 credits

While democratic systems of government around the world find themselves under increasing pressure, most Americans continue to agree on the importance of democratic ideals and values. And yet at the same time, across the political spectrum, Americans describe their democracy as falling short of these ideals. While most Americans clearly believe that democracy matters, there is no shortage of disagreement over how best to achieve its fullest promise. In this course, students will receive an in-depth introduction to the workings of American government and

politics. Students will study the foundations of American democracy, while also exploring the ways in which government and politics continue to evolve in the United States. In addition to studying the structures of American government, students will study the public policy making process and will explore the ways in which that process is shaped by a variety of political factors, including parties, elections, the media, and interest groups. Class discussions often focus on illustrating information and concepts through the examination of current political issues and events. Special attention is paid to the Supreme Court and its evolving role in American politics. Students are provided opportunities to pursue personalized research topics, most specifically in relation to the study of civil liberties and civil rights. Evaluations are based on class participation, daily assignments, research projects, and periodic summative assessments. This is a reading- and writing-intensive course.

Prerequisite: U.S. History (H-331 or H-331X) or AS U.S. History (H-333), or concurrently enrolled in H-331, H-331X, or H-333

Open to: 11/12

H-370 Advanced Studies Social and Cognitive Psychology

Fall 0.75 credits

AS Social and Cognitive Psychology is a challenging one-semester elective that examines the forces which shape and influence individual and group attitudes and behaviors. Topics covered will include, but are not limited to, the causes of prejudice, conformity, aggression and altruism, complex problem-solving, and cognitive biases and heuristics. Students will apply the concepts studied to critical historical cases as well as to problems of decision-making and cooperation in relation to current issues of social justice and climate crisis. Students are expected to come to class prepared to participate, and they will be evaluated on the basis of homework, journal entries, tests, and a major research project and presentation. Please note that H-371 Advanced Studies Psychology: Theories of Personality, Development, and Clinical Studies is not a prerequisite for H-370 Advanced Studies Social and Cognitive Psychology. These two psychology electives may be taken independently from one another.

Prerequisites: H-210 Contemporary World History. For students in the Class of 2024 whose world history sequence was completed with a regional studies course in their sophomore year, successful completion of African History, European History, History of the Middle East, or Latin American History meets the prerequisite for this course.

Open to: 11/12

H-371 Advanced Studies Psychology: Theories of Personality, Development, and Clinical Studies

Spring 0.75 credits

AS Introductory Psychology is an advanced studies elective in which students will explore the history of the field as well as modern practices in an international context. Particular emphasis will be placed on various approaches to personality theory, related theories of development, and on psychopathology and therapies. Students will keep a journal throughout the course. Activities and assessments will include tests, cooperative learning tasks, and a major project with a research paper component. The main text will be Eric Shiraev, *Personality Theories: A Global View* (Sage: Los Angeles, 2017). A variety of other readings will also be assigned,

including scholarly sources. Please note that H-370 Advanced Studies Social and Cognitive Psychology is not a prerequisite for Advanced Studies Introductory Psychology: Theories of Personality, Development, and Clinical Studies. These two psychology electives may be taken independently from one another.

Prerequisites: H-210 Contemporary World History. For students in the Class of 2024 whose world history sequence was completed with a regional studies course in their sophomore year, successful completion of African History, European History, History of the Middle East, or Latin American History meets the prerequisite for this course.

Open to: 11/12

H-388 African American History Since the Great Migration

Fall 0.5 credit

This semester-long course will take as its organizational principle the basic assumption that African Americans have played a definitive role in the life of the United States. The course will begin with a brief overview of the African American experience before the 1910s and then move on to the primary focus of the course, which is the twentieth and twenty-first centuries. Prominent themes may include the Great Migration; northern urbanization; the development and legacy of the modern Civil Rights Movement; Black feminism and intersectionality in the 1970s and 1980s; environmental justice; and current issues, including the “New Jim Crow,” Black Lives Matter, and questions of reparations. Over the course of the semester we will engage with primary and secondary sources by such figures as Isabel Wilkerson, W.E.B. Du Bois, Marcus Garvey, Langston Hughes, Martin Luther King Jr., Malcolm X, James Baldwin, Audre Lorde, the Combahee River Collective, Michelle Alexander, Ta-Nehisi Coates, and Claudia Rankine.

Open to: 11/12 and 10th graders by recommendation

H-390 Civil War America in History and Memory

Fall 0.5 Credit

With the loss of three-quarters of a million lives and the emancipation of four million formerly-enslaved African Americans, the American Civil War is arguably the central defining event in American history. Popular interest in the Civil War has generated films, books, video and board games, television programs and documentaries, as well as a global reenacting community. Yet much of what Americans think they understand about the Civil War comes from efforts that were made decades after the war was over. Veterans’ and heritage groups publishing memoirs and retroactive histories, monument-building campaigns, school-renaming drives, and the strict policing of classroom textbooks in the twentieth century have created a national memory based as much in fiction as documented fact. Recent controversies have sparked a nation-wide conversation about how we choose to remember the nation’s worst domestic conflict. This course examines the role various groups have played in shaping and distorting the public perception of the Civil War, its causes, and its consequences, enabling students to better separate historical fact from popularized fiction. The course examines a variety of primary and secondary source materials, including film, photography, and print materials, to reveal how Americans constructed meanings and memories of the Civil War and how the divisive issues of the nineteenth century affected our national conversation during the

twentieth century and today about reparations, white supremacy, racism, The Lost Cause, and civil rights.

Open to: 11/12 and 10th graders by recommendation

H-395 Gaming the Past

Spring 0.5 Credit

This course will explore several arenas of global interaction and conflict through different history-based games, including video games, board games, and roleplay simulations such as *Reacting to the Past*. Course readings and discussions will examine issues of representation, public memory, and the pedagogical value of interactive play. Each immersive game will be paired with readings from scholars of history, education, and memory to provoke class-wide discussions and develop historical sympathy for a range of global historical actors. Students will write reflections on the ways games present, and sometimes misrepresent, the past, ultimately culminating in creating a game of their own using open-source software such as Muzzy Lane's Author Tool, RPG Maker MZ, or Twine.

Open to: 11/12 and 10 by recommendation

ROTATING HISTORY AND SOCIAL SCIENCE ELECTIVES NOT OFFERED IN 2023-2024

Every year the History and Social Sciences Department develops new electives to offer alongside more familiar ones from previous years. The two electives below were offered in 2022-2023 and will not be offered in 2023-2024. Depending on student demand and staffing capabilities, we may bring them back into rotation in 2024-2025.

H-340 Environmental Justice

Fall 0.5 credit

In this course, we will read and analyze texts and social science data that contemplate a wide range of environmental issues, from the relationship between the human and nonhuman world to the management of natural resources to the effects of climate crisis. We will also examine several case studies that raise questions about environmental justice. Among the topics we may discuss are: environmental racism, unequal access to natural resources, environmental justice in the Capital District, the fallout of "natural" disasters, climate migration, the unequal effect of climate change around the world, and the promises of adaptation and mitigation efforts. Students will emerge from our far-reaching discussions and field work with a clearer understanding of how environmental imagination shapes laws and power relations and everyday experience, as well as practice advocating for their beliefs.

Open to: 11/12 and 10 by recommendation

H-322 Global Queer Studies

Spring 0.5 credit

This course explores the social construction of gender and sexuality as well as experiences of various LGBTQIA communities around the world in specific historical time periods. In this course we will approach "queerness" broadly as questioning, ignoring, resisting, or in other ways not conforming with the dominant norms of gender, sex, sexuality, and/or erotics in a society. As we create a class community, we will establish a shared framework, discuss terminology, and read

several works of queer theory together. We will then move into an analysis of several case studies that allow us to learn more about how the construction of gender and sexuality has varied over time in different cultural situations. While we will acknowledge and confront moments of repression, we will also make space to celebrate queer culture and the contributions of queer individuals. Students will be expected to participate actively in discussions, complete several writing assignments, conduct research individually and collaboratively, and present their findings in essays, presentations, podcasts, or other media. *Open to: 11/12 and 10 by recommendation.*

LANGUAGE COURSE DESCRIPTIONS

To become increasingly proficient language users and learners who can identify and navigate cultural nuance: these are the goals that the language department sets for Emma Willard students. Whether studying Chinese, French, Spanish, or Latin, every student experiences rigorous classroom training and stimulating opportunities for actively learning an additional language. In language study, traditional classroom practice is enhanced by films, excursions, language tables, guest speakers, and the use of online tools such as Edpuzzle and YouTube. Annual school-sponsored language immersion programs abroad provide students with the unparalleled experience of living the language as they are learning it.

Which Language Should You Choose?

CHINESE. China is one of the world's oldest and richest continuous cultures. In recent years, China has become one of the world's major economic powers. Mandarin Chinese is the official language of China and is spoken by over one-fifth of the world's population. It has also become the 3rd most spoken language in the United States. Although Chinese differs from western languages in many ways, including pronunciation and writing system, the language is nowhere near as difficult as many people assume. Since most students at Emma Willard begin studying Chinese as freshmen, the usual five-year language sequence has been condensed to four years, each year being equivalent to a semester of college level Chinese. Given China's increasing importance on the world stage and technological development, the language will also be invaluable for those seeking careers in computer science, engineering, economics, business, banking, trade, and international affairs.

FRENCH. The study of French has always been popular in the United States because French is part of the North American cultural heritage. French words and expressions are commonly used in everyday English; French heroes like Lafayette and Rochambeau played a critical role in American history. Although scholars study French for its famous *logique* and its rich literary tradition, French is an important political and economic tool as well. Not only is French still spoken in some parts of the United States and in many parts of Canada, it is also the *lingua franca* in many other parts of the world where the United States has been establishing economic and political ties, among them West, Central, and North Africa and parts of Southeast Asia.

LATIN. “It took Latin to thrust me into a *bona fide* alliance with words in their true meaning. Learning Latin (once I was free of Caesar) fed my love for words upon words, words in continuation and modification, and the beautiful, sober accretion of a sentence,” wrote Eudora Welty. Latin is intellectually rewarding. It can also help students learn other languages and improve their grammar and vocabulary in English. As they explore the fascinating language, strange-yet-familiar culture, and dazzling literature of the Romans, Latin students learn close reading, detailed grammatical analysis, etymology, rhetoric, and the foundations of many modern cultures.

SPANISH. To speak Spanish is to be able to communicate with the citizens of over two dozen nations and the increasingly numerous Hispanic communities within the United States. For young people seeking careers in an ever-changing, diversifying world, it is likely that their future professional and social communities will be Spanish-speaking. Authentic materials such as video, music, art and text by Hispanic authors like Matute and Neruda will provide exposure to the culture and history of Spain and Latin America. In these courses, the student will develop the ability to communicate through written text and conversation in three modes: interpretive, interpersonal, and presentational. A student of Spanish can expect an active learning environment centered on participation.

Student Placement

New students who have begun the study of an additional language and plan to continue with that language must take a placement examination. The language department evaluates the examination and places students accordingly. Any student, new or returning, who has not studied a particular foreign language for a period of one year or longer and wishes to continue study in that language must take a placement examination. A student who wishes to bypass a level of language study must reference the Language Department Recommendation Philosophy and Petition Process document to see if they fulfill the requirements to do so.

CHINESE

L-170 Chinese I

Year 1 credit

This introductory course is the first step in students’ Chinese learning journey at Emma Willard and is designed for students with little to no background in the language. This course introduces Chinese pronunciation and tones and provides students with a strong foundation in the mechanics of the language with an equal emphasis on listening, speaking, reading, and writing. Students will also be introduced to topics in Chinese culture, and will be able to practice their Chinese skills in real world activities such as calling friends and exchanging postcards with students in China. By the end of the year, students will be able to comprehend paragraph level discourse and express themselves in complete, thematically connected sentences on familiar topics such as family, friends, school, food, dorms, shopping, and travel.

Open to: 9/10/11/12

L-270 Chinese II

Year 1 credit

In this intermediate language course, students continue to strengthen their listening, speaking, reading, and composition skills in modern Mandarin Chinese. Through an exposure to a wide variety of topics pertaining to daily life and society, students will further develop the skills to express themselves with increasing nuance and complexity. Students will have many opportunities to practice their Chinese language skills, such as calling for food/drink delivery, asking directions, doing surveys, and sharing their life via vlog. Students will research topics in Chinese culture and present their findings to the class. By the end of the year, students will not only be able to comprehend paragraph level discourse, but also confidently carry on extended conversations and narrate stories about an increasingly diverse range of topics such as the weather, Chinese cuisine, visiting the doctor, dorm life, sports, and international travel.

Prerequisite: Chinese I (L-170) or recommendation of the department

Open to: 9/10/11/12

L-370 Chinese III

Year 1 credit

At this high-intermediate to pre-advanced Chinese language course, students hone their interpersonal, interpretive, and presentational communication skills through a variety of projects and exposure to a wide variety of authentic language materials such as songs, TV shows, commercials, and films. Students also develop their narrative, argumentative, and persuasive writing skills through the completion of regularly assigned compositions. Students will practice their new Chinese skills in real world activities such as community service, interviews to native speakers, story writing and role performing, celebrating Chinese festivals by making traditional handcrafts and cooking traditional food, and more!

Prerequisite: Chinese II (L-270) or recommendation of the department

Open to: 10/11/12

L-471 Advanced Studies Chinese IV

Year 1.5 credits

This Advanced Studies Chinese language and culture course in Mandarin Chinese is equivalent to fourth semester Chinese in an intensive university language program. This course emphasizes communication by applying interpersonal, interpretive, and presentational skills to real-life situations. Students will be in close contact with the local Chinese community through projects such as interviews. The Advanced Studies Chinese language and culture course engages students in an exploration of culture in both contemporary and historical contexts including history, philosophy, poetry and more. The course develops students' awareness and appreciation of cultural products, practices, and perspectives. It also helps students develop their critical thinking and analytical skills.

Prerequisite: Chinese III (L-370) or recommendation of the department

Open to: 11/12

FRENCH

L-130 French I

Year 1 credit

This is an active class that gives the beginning student the vocabulary and grammar structures necessary to communicate on a basic level with French speakers on a variety of familiar subjects such as school, home, activities, etc. The student will learn how to formulate sentences, paragraphs, and dialogues through listening, speaking, reading and writing. Of equal importance are activities offered to acquaint students with myriad cultural aspects and the diversity of the francophone world. Pair and group work, use of audio, video, and other authentic materials ensure that students take ownership of creating a strong foundation in the language while answering essential questions such as, “where can language take me?” and “how does learning another language challenge my assumptions?” Students apply their new-found knowledge as they delve into a dedicated reader; all skill areas must be used thoughtfully in order to truly make French their own as they read and write about, discuss, and learn from their mistakes. Students leave this course having learned to develop their observational and analytical skills.

Open to: 9/10/11/12

L-230 French II

Year 1 credit

In this course students review the fundamentals of French I while gradually building new vocabulary banks and learning to use additional tenses and grammar structures. By means of written and oral practice, selected readings, audio passages, and lesson-related videos, students improve their skill in speaking, listening, reading, and writing. Cultural topics are introduced through occasional readings and visual aids. Students finish the course with a stronger foundation in the language and a growing confidence which will allow them to take risks and learn from their errors. They will be well immersed in the notion that thoughtful practice leads to improvement.

Prerequisite: French I (L-130) or recommendation of the department

Open to: 9/10/11/12

L-330 French III

Year 1 credit

Taught in an immersive French environment, students in French III communicate not only about their own lives, but also about the world around them. Students make cross-cultural connections and comparisons that enable them to expand their understanding of the target language. Through discussion of the material presented, whether reading articles or classic short stories, viewing videos or completing listening exercises, they enrich their vocabulary, gain insight into varied francophone cultures, and achieve greater ease in oral and written communication. Students recount events and experiences orally, read short authentic material for main ideas, and write about familiar topics using more complex grammatical structures. They engage in targeted and scaffolded conversations with their peers and can be understood by native speakers accustomed to dealing with foreigners. Emphasis is on consistent use of the

language for classroom activities as students discuss issues of interest in the United States as well as the French-speaking world. Students continue to fine-tune their listening, speaking, reading and writing skills in order to become confident and capable communicators in French. Level III students finish the year ready to further develop their language skills and cultural knowledge in our level IV college level course.

Prerequisites: French II (L-230) or recommendation of the department

Open to: 10/11/12

L-431 French IV: Exploration of the *Francophonie* (French-speaking World) beyond French Borders

Year 1 credit

Through the study of history, geography, music, literature, the arts and other authentic materials, students will explore various facets of the *Francophonie*. Students will come to understand the connections that exist between French-speaking provinces, territories and countries such as Quebec, *Les Antilles* (Guadeloupe/ Martinique), Senegal and Morocco, to name a few, and how those connections have implications on culture, daily life, and the world at large. This course will entail conversation, reading, essay writing, and listening to media, all in French! It is thus required that students be comfortable with the language.

Prerequisite: French III (L-330) or recommendation of the Language Department

Open to: 11/12

L-532 Advanced Studies French V: *French Identity(ies)*

Year 1.5 credits

“The moment you become French, your ancestors are Gallic; it is Vercingetorix. My father is Hungarian; I wasn’t taught the history of Hungary. My maternal grandfather is Greek; I wasn’t taught the history of Greece. When I am French, I love France, I learn the history of France, I speak French, my ancestors are the ancestors of France. That’s what assimilation is.” -Nicolas Sarkozy on national identity. The former French President, if not a pioneer in addressing the issue, managed to turn it into the biggest controversy of this last decade. What was initially, in the late 70s, the stance of the far right has taken a central place in the national discourse. If controversial, can we consider this question legitimate? And what does it mean to be French in the 21st century? First, by trying to understand what is/makes a nation, we will consider diverse approaches (historical, cultural, civic and elective) to find trends. The process will include, but won’t be limited to, going back to major periods of French history (from “*Les lumières*” to the revolution, through slavery, colonization, WWII or the War of Algeria) and considering social aspects such symbols, religions, secularism, women’s rights, discrimination, and immigration. The objective of this AS course is to give students the tools to reflect on French identity and the rise of a narrow vision of nationalism, not only within Europe but all over the world, and to see if there are parallels in the country you call home.

Prerequisite: French IV (L-431) or recommendation of the department

Open to: 11/12

LATIN

L-120 Latin I

Year 1 credit

Latin I introduces students to the manifold delights of Latin with the first half of *Lingua Latina per se illustrata, Pars I*, by Hans Oerberg. In the process of learning grammar and vocabulary inductively, Latin I students practice critical thinking and observational skills. Games, songs, and projects complement the textbook's reading- and writing-based approach. Students also learn about ancient Roman culture and history and their modern receptions as they master the language. Latin I focuses on the tenses of the indicative mood and the uses of all of the cases of nouns. By the end of the course, students are able to read simplified Latin texts. As they work, students gain a deeper, more precise understanding of English grammar and the grammar of other Indo-European languages they may study. In addition, they accumulate many root words which will serve them well in understanding college-level written English.

Open to: 9/10/11/12

L-220 Latin II

Year 1 credit

Latin II continues students' adventures in the language, culture, and history of the Romans. In the second half of Hans Oerberg's *Lingua Latina per se illustrata, Pars I*, students encounter sophisticated grammar including participles and the subjunctive mood. As in Latin I, students practice critical thinking and observational skills while learning grammar and vocabulary inductively. Games, songs, and projects continue to complement the textbook's reading- and writing-based approach. This work deepens and refines students' understanding of English grammar and the grammar of other Indo-European languages. By the end of the course, students have covered the entire noun and verb inflectional system, preparing them to examine authentic, Roman texts. This course also guides students to a deeper understanding of Roman culture and history and their modern receptions through increasingly complex readings and projects. In addition, they accumulate many root words which will serve them well in understanding college-level written English.

Prerequisite: Latin I (L-120) or recommendation of the department

Open to: 9/10/11/12

L-320 Latin III

Year 1 credit

Latin III brings students from studying grammar and reading textbook Latin to reading Latin literature "in the wild" with less grammatical support. To begin, we review grammatical forms and concepts with games and exercises coordinated with short readings by various Roman authors. After this review, we explore themes including character and persona, gender, love, citizenship, religion, and social class in works by canonical authors, as well as graffiti and inscriptions from around the Roman world. Students learn about rhetoric and poetic meter and practice analyzing sentence structures, reading closely, and investigating how texts interact with their historical contexts. Wherever possible, experiential and project-based learning enrich our approaches to literature: Students reenact a political crisis of the late Roman Republic in preparation for studying Cicero's oratory, for example, and produce commentaries to illuminate challenging passages for their classmates.

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Prerequisite: Latin II (L-220) or recommendation of the department

Open to: 10/11/12

L-422 Latin IV: *Literature and Empire*

Year 1 credit

In Latin IV, students explore relationships between art and power in Rome's transition from republic to empire and in modern receptions of Roman literature. We begin by reviewing key grammatical structures. Then, as we read passages from Caesar, Vergil, and Ovid, students practice analyzing texts in relation to their historical contexts, and they develop creative projects to explore specific questions in greater depth. As in Latin III, experiential and project-based learning enrich our approaches to literature: Students reenact the aftermath of Julius Caesar's assassination to understand the politics of Rome's slide into autocracy, and they learn about manuscripts and the transmission of texts and then try their hands at textual criticism. Latin IV and AS Latin meet for class and work together.

Prerequisite: Latin III (L-320) or recommendation of the department

Open to: 11/12

L-423 Advanced Studies Latin IV: *Literature and Empire*

Year 1.5 credits

In AS Latin, students join ongoing, scholarly conversations about relationships between art and power in Rome's transition from republic to empire and in modern receptions of Roman literature. We begin by refining our understanding of key grammatical structures. Then, as we read passages from Caesar, Vergil, and Ovid, students practice technical skills such as parsing grammar and scanning meter; write short essays driven by close readings; and develop research projects to explore specific questions in greater depth. Experiential and project-based learning again enrich our approaches to literature: Students reenact the aftermath of Julius Caesar's assassination to understand the politics of Rome's slide into autocracy, and they learn about manuscripts and the transmission of texts and then try their hands at textual criticism. An extended reading list, college-level research projects, and advanced methods of scholarship challenge students to think both deeply and expansively. Latin IV and AS Latin meet for class and work together.

Prerequisite: Latin III (L-320) or recommendation of the department

Open to: 11/12

SPANISH

L-160 Spanish I

Year 1 credit

After successfully completing Spanish I, students are able to carry on short conversations with acceptable pronunciation, intonation, and syntax and write answers to questions in the present and past tenses. They also are able to express themselves about future events. Students develop confidence in oral work and broaden their knowledge of cultures that embrace Spanish as their official language. Work in the textbook is accompanied by short readings and extensive

work on the Supersite, which includes tutorials, videos, and more.

Open to: 9/10/11/12

L-260 Spanish II

Year 1 credit

In this course students continue to develop skills learned in Spanish I, including reading, writing, and speaking. Students will learn how to narrate stories in the past tense and how to make requests and recommendations to others alongside topics such as medicine, household chores and care, and natural resources. Class activities include reading and acting out dialogues, conversing in Spanish, reviewing grammar exercises, and writing compositions. Through coursework students read short stories and view videos according to their level. Supersite work continues to be important.

Prerequisite: Spanish I (L-160) or recommendation of the department

Open to: 9/10/11/12

L-360 Spanish III

Year 1 credit

This course provides an in-depth review of Spanish grammar covered in previous years as well as a deep dive into the many ways to talk about hypothetical situations in the language. Special emphasis is placed on building vocabulary, mastering the language in reading and writing, and perfecting communication skills in Spanish. Through videos and short readings, students examine various aspects of Hispanic culture and are expected to do a considerable amount of speaking about the material. They also are introduced to Hispanic literature by reading selected works of prominent authors such as Neruda, Isabel Allende and Rosario Castellanos. Supersite work continues to be important.

Prerequisite: Spanish II (L-260) or recommendation of the department

Open to: 10/11/12

L-461 Spanish IV: *Conversation*

Fall or Spring 0.5 credit

In this course, students will explore cultural and social issues that affect Spanish-speaking countries and the U.S. and continue developing their cultural awareness. Students will be exposed to various written and oral authentic texts, which will form the base of the class discussions, debates, presentations, and dialogues. Students will continue to build their fluency in the four skills; however, emphasis will be placed on speaking. Students will be expected to abide by the Spanish-only rule for level IV courses. Therefore, daily class participation and engagement will carry a significant weight in this course. By the end of the course, students will be able to research and present on an issue/ topic of personal interest. This is a semester-long course. Students planning to take Advanced Studies Spanish V (L-561) should enroll in this course as well as a second semester-long Spanish IV class.

Prerequisite: Spanish III (L-360) or recommendation of the department

Open to: 11/12

L-460 Spanish IV: *Spine-chilling and Spooky Literature*

Fall or Spring 0.5 credit

In this literature course, students are introduced to genres that scare or perturb the reader, such as mystery and magical realism through the reading of short stories and novels by Hispanic authors such as Claudia Piñeiro, Ana María Matute, Carlos Fuentes and Julio Cortázar.

Discussion of short literary texts is an important element of this course, as students are able to emphasize their analytical reading methods, expand their understanding on text analysis, and enhance their critical voice as an individual. Students also acquire a deeper comprehension of the process of creating a story on their own. This course is taught exclusively in Spanish. This is a semester-long course. Students planning to take Advanced Studies Spanish V (L-561) should enroll in this course as well as a second semester-long Spanish IV class.

Prerequisite: Spanish III (L-360) or recommendation of the department

Open to: 11/12

L-561 Advanced Studies Spanish V: *Migration and Identity*

Year 1.5 credits

This course explores the relationship among identity, citizenship, migration and human rights.

Through studying personal narratives, short stories, news articles, scholarly journals, film, podcasts, and other sources, the course provides students with a deep dive to better understand the migrant experience in the United States, and focuses on issues such as cultural assimilation, socioeconomic status, bilingualism, equity and inclusion among others.

Through reading, debates, essay writing, projects, interviews, and exposure to other authentic materials, students develop proficiency in the interpretive, presentational, and interpersonal modes of communication, and gain awareness of their own identity through questions such as: “What does it mean to be American?”, “How does our life experience form who we are as individuals and communities ?” and “How does understanding others’ experiences help us understand ourselves?”. This course is taught exclusively in Spanish. As with other AS courses, additional assignments are required during school vacations.

Prerequisite: Two semesters of Spanish IV (L-460 and L-461) or recommendation of the department

Open to: 11/12

MATHEMATICS COURSE DESCRIPTIONS

Today's students will spend their adult lives in a world influenced by technology and quantitative methods. For this reason, every Emma Willard student is asked to focus on mathematics as a tool for problem solving.

To prepare our students for mathematics at any college or university, we teach with a variety of pedagogical methods. In their mathematics career at Emma, students are exposed to traditional algebraic methods, problem-solving methods, and methods that take advantage of current technologies, such as the graphing calculator, spreadsheets, and the computer programs Desmos and GeoGebra. As Emma Willard students progress through the mathematics curriculum, they learn to do more sophisticated work with technology. The mathematics department also aims to develop students' independent problem-solving skills and number sense. Teachers frequently make connections between mathematics and its applications in other areas. It is a goal of the mathematics department to increase students' proficiency and confidence in all areas of mathematics.

It is increasingly important to prepare students for the study of both calculus and statistics, as many students need both for studies at the college level. For this reason, Statistics with Discrete Math (M-440), Precalculus (M-450), and Precalculus with Non-routine Problems (M-460) are offered as some of the fourth-year electives. Precalculus covers topics in both pre-calculus and pre-statistics mathematics and serves as the prerequisite for all fifth-level courses. After completion of Precalculus, students may be recommended by the department for some of the fifth-level courses, including Calculus (M-500), AS Statistics (M-540), and AS Calculus AB (M-550). Successful completion of AS Calculus AB qualifies students to take AP Calculus C with an Introduction to Multivariable Calculus (M-566). Advanced students may also have the opportunity to pursue independent work through a Practicum or a Signature project. In addition, students have the opportunity to participate in such competitions as the New York Mathematics League and the American Mathematics Competition and the American Computer Science League (ACSL). Finally, an understanding of computation and what we can and cannot do with computing devices is relevant to today's technological world. Both AS Computer Science Principles and AS Computer Science A can be taken as electives starting in the 10th grade.

Independent Problem-Solving Skills at the Fifth-year Level: By the time students study at the fifth-year level in mathematics, they should be independent, self-sufficient learners. They need to be able to employ many abstract theoretical concepts for success in these courses. A capacity for individual work and a high level of self-motivation are expected in and out of the classroom.

Placement: Upon enrollment, new students complete a mathematics test to help determine placement.

WHICH MATH COURSE SHOULD I TAKE NEXT YEAR?

Course this year	Possible course(s) next year
Algebra I (M-125)	Geometry (M-225)
Geometry (M-225)	Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine problems (M-326)
Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine problems (M-326)	College Algebra (M-435) or Statistics with Discrete Math (M-440) or Financial Math (M-445) or Precalculus (M-450) or Precalculus with Non-Routine problems (M-460) or Introduction to Engineering Design (M-490)
Statistics with Discrete Math (M-440)	College Algebra (M-435) Financial Math (M-445) Introduction to Engineering Design (M-490)
Precalculus (M-450) or Precalculus with Non-Routine problems (M-460)	Calculus (M-500) or AS Calculus AB (M-550) and/or AS Statistics (M-540)
Calculus (M-500)	AS Statistics (M-540) and/or AS Calculus AB (M-550)
AS Calculus AB (M-550)	AS Calculus C with an Introduction to Multivariable Calculus (M-566) and/or AS Statistics (M-540)
AP Calculus C with an Introduction to Multivariable Calculus (M-566)	AS Statistics (M-540)

Computer Science courses: A computer science course may be taken in the same year as a math course or computer science may be taken alone if the student has completed the math graduation requirement (successful completion of an Algebra II and Trigonometry class.) Students who have successfully completed Algebra I (M-125) may enroll in Computer Science Explorations (M-330) or AS Computer Science Explorations (M-530). Students who have

successfully completed either version of Computer Science Explorations and an Algebra II and Trigonometry class (M-325 or M-326) may enroll in AS Computer Science A (M-556). If you have more than one course option for next year, read the course descriptions and talk to your most recent math teacher about your options.

M-115 Math Support

Year 0.5 credit

This course is designed to help students improve their mathematical thinking skills through concentration on numeracy, algebraic problem solving, and proportions. The course's main objective is to create a personalized strategy to meet each student's specific needs in math and science. Members of the course will work individually and in small groups and be taught by a math support specialist. The math support specialist will provide customized feedback that identifies problem areas; the teacher will also provide instructions/support on how to strengthen these areas. Within this group, students will be encouraged to reach out whenever they need additional math support outside the classroom. Students take this course by recommendation of the mathematics department and the Learning Support Coordinator to provide support for their work in mathematics and science classes.

Open to: 9/10

M-125 Algebra I

Year 1 credit

In this course, students expand their notion of a variable and connect it to algebraic and problem-solving techniques. This is a comprehensive course that lays the foundation for both Algebraic Geometry and Algebra II and Trigonometry. Topics include signed numbers, radicals and radical operations, linear equations, systems of linear equations, exponents, the quadratic formula, polynomials, and factoring. Students in this course learn to translate verbal statements into mathematical statements, clarify procedural questions, solidify arithmetic skills, and work with the coordinate plane. Students explore linear, exponential and quadratic functions and their graphs in the context of real-world scenarios using technology. Class time is used for discussion, developing initiative in problem-solving and exploration of concepts with technology.

Open to: 9/10

M-225 Geometry

Year 1 credit

This course uses a problem-based curriculum that enables students to investigate and prove geometric concepts. Topics include distance in a coordinate plane, the Pythagorean Theorem, angles, parallel and perpendicular lines, properties of triangles, properties of quadrilaterals, regular polygons, transformations, congruence, similarity, right triangle trigonometry, circles, area, perimeter, and volume. Proficiency in basic algebra is expected and necessary. Geometry students are active learners, engaging the problem-solving skills learned in Algebra I. The course stresses the connections between algebra and the geometric topics covered. Students develop the practice of self-assessment so that they are better able to critique their understanding. Class discussion

centers around problem sets, and students employ graphing calculators, dynamic computer software, and spreadsheets as tools in the learning process.

Prerequisite: Algebra I (M-125)

Open to: 9/10/11

M-325 Algebra II and Trigonometry

Year 1 credit

This course continues to develop independent problem-solving while expanding skills to solve, graph and interpret linear, absolute value, and quadratic equations, as well as higher-degree polynomial functions, inverse functions, logarithmic functions, rational functions, and trigonometric functions. Functions introduce an abstract thought process and require reading carefully in order to build problem-solving skills. At this level, students are expected to reason independently and formulate questions based on insights into applications of the algebra previously studied. Students may have a summer assignment for this course.

Prerequisite: Geometry (M-225)

Open to: 9/10/11/12

M-326 Algebra II and Trigonometry with Non-Routine Problems

Year 1 credit

This course continues to develop independent problem-solving while expanding skills to solve, graph and interpret linear, absolute value, and quadratic equations, as well as higher-degree polynomial functions, inverse functions, logarithmic functions, rational functions, and trigonometric functions. Functions introduce an abstract thought process and require reading carefully in order to build problem-solving skills. At this level, students are expected to reason independently and formulate questions based on insights into applications of the algebra previously studied. Students will spend a substantial amount of time studying applications of functions to real-life, non-routine problems. Students may have a summer assignment for this course.

Prerequisite: Geometry (M-225)

Open to: 9/10/11/12

M-435 College Algebra and Its Applications

Fall 0.5 credit

This course explores a variety of functions including quadratic, exponential and logarithmic, polynomial, rational, and trigonometric, with an emphasis on graphs and transformations. As students explore these functions, they will focus on real-world applications. Course projects allow students to apply these concepts and develop their problem-solving skills.

Prerequisite: Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine problems (M-326) and recommendation of the department

Open to: 10/11/12

M-440 Statistics with Discrete Math

Fall 0.5 credit

In today's data-driven world it is becoming increasingly necessary to have a knowledge of statistics and a foundation of mathematical thinking to be an informed citizen. Topics covered include set theory, logic, and probability and statistics, including sampling techniques, measures of center and spread, the standard normal curve and z-scores, combinatorics, and regressions. Students will also study valuable real-world topics such as voting and apportionment and personal finance including the cost of borrowing money. Assessments include tests and quizzes as well as major projects that will incorporate the use of spreadsheets and writing about statistics.

Prerequisites: Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine problems (M-326) and recommendation of the department

Open to: 10/11/12

M-445 Financial Math

Spring 0.5 credit

This course is designed for students interested in learning how to use money to achieve stability and freedom, reach goals, and give back to others. In Financial Math, students are introduced to numerous concepts related to how money works in the modern world, as well as to how these concepts have evolved over time. Topics include careers and compensation, budgeting, evaluating savings and investment methods, and taxes. Special focus will be given to understanding compound interest of assets and debts, as well as balancing investment risk and reward. Students will study various types of taxes and how different savings methods affect tax liability. They will study entrepreneurship, taxes related to self-employment, and business incorporation. Students will read literature related to personal finance and listen to guest speakers, with a special focus on female authors and guests. This course involves independent and project-based work, as well as course-related reading and some writing and research.

Prerequisites: Algebra II & Trigonometry (M-325 or M-326).

This course should not be taken concurrently with Advanced Studies Economics.

Open to: 10/11/12

M-450 Precalculus

Year 1 credit

This course is designed for students who have completed the study of basic trigonometry and algebra. In Precalculus, students are introduced to different areas of study in higher-level mathematics. Topics may include advanced trigonometry, combinatorics and probability, functions, modeling, statistics, analytic geometry, series, and limits. The course assumes that students employ effective questioning skills: not just procedural, but analytical. In addition, students apply a range of methods when problem-solving. This course involves significant independent work, and students are responsible for assessing their progress, seeking help in the Math Learning Center as necessary. Students will complete a summer assignment for this course.

Prerequisites: Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine problems (M-326) and recommendation of the department

Open to: 10/11/12

M-460 Precalculus with Non-Routine Problems

Year 1 credit

This course is designed for students who have successfully completed the study of trigonometry and algebra. Students study various topics of precalculus which include advanced trigonometry, functions, elementary combinatorics, analytic geometry, limits, complex numbers, polar coordinates, polynomial theorems, probability, statistics, matrices and sequences and series. In addition, students examine non-routine problems which will require creative problem-solving skills and quantitative writing. The successful student in this course will be proactive both in and out of the classroom and will seek help when necessary. Students should be able to do independent work, and be comfortable initiating discussions as well as asking questions. Students should expect to draw from a variety of problem-solving skills to pursue not only the mechanics of problem-solving but also the concepts behind the problem. Students will complete a summer assignment for this course.

Prerequisites: Algebra II and Trigonometry (M-325) or Algebra II and Trigonometry with Non-Routine problems (M-326) and recommendation of the math department

Open to: 10/11/12

M-490 Introduction to Engineering Design

Spring 0.5 credit

Do you want to invent something? Create a solution to a need? Design an interactive art piece? This project-based course will let you take a concept from an idea to a working product. Learn the engineering design process by designing, prototyping, revision, and building products that implement your vision. Learn to use CAD (computer aided design) software, 3D printers, electronics, microcontroller programming and manual construction methods to create your models. You will communicate your design intent by creating engineering drawings and presenting your ideas to others. In this course you will learn by doing.

Prerequisite: Algebra I (M-125)

Open to: 10/11/12

M-500 Calculus

Year 1 credit

This course is designed for students looking for a moderately paced course in calculus. The course covers the traditional topics of differential and integral calculus with special emphasis on applications, and it prepares students well for college and/or continued study in mathematics.

Prerequisites: Precalculus (M-450) or Precalculus with Non-Routine Problems (M-460) and recommendation of the department

Open to: 11/12

M-540 Advanced Studies Statistics

Year 1.5 credits

This course offers a thorough examination of data analysis, data production, and statistical inference. Topics include the normal distribution, correlation and regression, experimental design, sampling distributions, probability theory, confidence intervals, tests of significance, and the Chi-Square Test. Diverse areas such as economics, medicine, and politics are incorporated

into discussions of statistical topics. Students should expect significant reading, written analysis, and interpretation as parts of statistical inference. As with other AS courses, additional assignments may be given over school vacations, and summer work is required.

Prerequisites: Precalculus (M-450) or Precalculus with Non-Routine Problems (M-460) and recommendation of the department

Open to: 11/12

M-550 Advanced Studies Calculus AB

Year 1.5 credits

This course develops the theory and presents some applications of differential and integral calculus. It covers limits, continuity, derivative functions, and the definite integral. Derivative rules and applications complete the study of differential calculus. Development of the fundamental relationship between differential and integral calculus is followed by additional work with integrals and their applications. As with other AS courses, additional assignments should be expected over school vacations, and an optional, preparatory summer assignment is available.

Prerequisites: Precalculus (M-450) or Precalculus with Non-Routine Problems (M-460) and recommendation of the department

Open to: 11/12

M-566 Advanced Studies Calculus C with an Introduction to Multivariable Calculus

Year 1.5 credits

This course is a continuation of AS Calculus AB (M-550). Topics include integration by parts and by partial fractions, improper integrals, curve length, infinite series, and parametric and polar functions. The Multivariable Calculus portion of the course will cover the following topics: the 3-space coordinate system and relationships within it, including vectors, lines, and planes; quadric surfaces, functions of two variables, partial derivatives, and gradients. As time permits, additional topics may be covered. This course will provide students with a solid foundation for success in college Calculus III and is helpful for students who plan to study engineering, math, physics or chemistry in college. Students should expect a summer assignment.

Prerequisites: AS Calculus AB (M-550) and recommendation of the department

Open to: 11/12

Students who successfully complete M-566 Advanced Studies Calculus C with an Introduction to Multivariable Calculus before their senior year may take an online course in Linear Algebra through One Schoolhouse the following year.

M-330 Computer Science Explorations

Year 1 credit

or

M-530 Advanced Studies Computer Science Explorations

Year 1.5 credits

Computer Science Explorations is offered during the same period at two levels: AS and non-AS. Lessons are the same for both levels but assignment complexity and lengths are modified. Computer Science Explorations is a computer science course designed to give students a

foundational understanding of the real-world impact of computing applications and programming literacy. The course will introduce students to creative aspects of programming, using abstractions and algorithms, working with large data sets, understanding the Internet and issues of cybersecurity, and the impacts of computing that affect different populations. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.

Prerequisites: Algebra I (M-125) and English I (E-100). Students do not need to have prior knowledge of any programming language. Students do not need permission to request this course.

Open to: 10/11/12

M-556 Advanced Studies Computer Science with Java

Year 1.5 credits

This course introduces students to the fundamentals of programming and problem solving using the JAVA language. The course involves the design and implementation of computer programs to solve problems. Students will gain an understanding of the core aspects of computer science, which can be used to create solutions that are understandable, adaptable and when appropriate, reusable. The course introduces students to computer programming with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), and analysis of potential solutions. Students should have some introductory background in programming to be successful in this course. As with other AS courses, additional assignments should be expected over school vacations, and summer work is required.

Prerequisites: Algebra II & Trigonometry (M-325 or M-326) and the equivalent of Computer Science Explorations (M-330) or AS Computer Science Explorations (M-530)

Open to: 10/11/12

SCIENCE COURSE DESCRIPTIONS

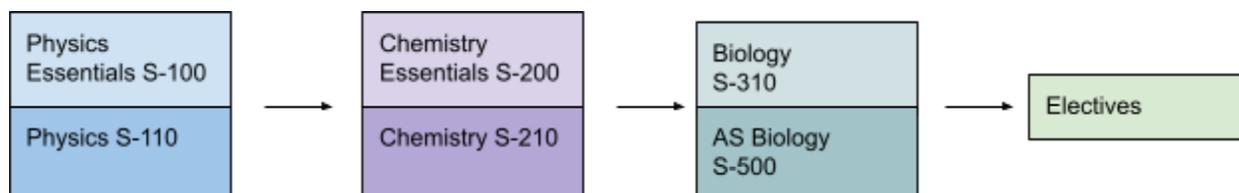
“What’s happening? Why? How can you explain it?” Emma Willard students work to answer these questions. As educated people they should understand natural and physical processes and know how to approach problems rationally and methodically. To this end, the science program engages students in discussion, group work, laboratories, digital simulations, experimental design, and research projects.

Students in science classes learn to read, understand, and interpret verbal, mathematical, and graphical information. They learn to analyze and describe scientific phenomena and problems through a series of steps including modeling, recognition and application of fundamental principles, and interpretation of results. Students develop mathematical reasoning skills within a scientific context using arithmetic, algebraic, geometric or trigonometric methods. Finally, they perform experiments, interpret the results, and assess experimental errors.

In fulfilling the science requirements, students master the groundwork for college study in the life and physical sciences.

WHICH SCIENCE COURSE SHOULD I TAKE NEXT?

This is a general pathway to show the progression of science courses. Many students come to Emma with unique science backgrounds and may take a path different from this one. Additional information about each course can be found in the course descriptions below.



If your current course is Physics or Physics Essentials, consider taking:

- Chemistry Essentials S-200
- Chemistry S-210

If your current course is Chemistry or Chemistry Essentials, consider taking:

- Biology S-300
- AS Biology S-500
- AS Chemistry S-510 (note: you must take a biology course to graduate)

If your current course is Biology, consider taking:

- AS Biology
- AS Chemistry
- AS Physics
- Electives

GRADUATION REQUIREMENTS:

For entering 9th graders: three credits of laboratory science, including one year of physics, chemistry, and biology

For entering 10th, 11th, or 12th graders: two credits of laboratory science during their high school career, including one year of physical science and one year of natural science

Physical science courses for 10s, 11s, 12s are: Chemistry, Chemistry Essentials, AS Chemistry, AS Physics, Physics II

Natural science courses for 10s, 11s, 12s are: Biology, AS Biology

S-100 Physics Essentials

Year 1 credit

What is the nature of matter? How does one object, whether an atom or planet, affect another? And what causes and controls motion? These three questions lay at the heart of all of science and so naturally form the basis of this foundational course. After first establishing the nature of matter and foundational lab techniques, we examine how force and energy govern the interaction of objects. An extensive lab program allows each student to see and interpret patterns of behavior in the natural world. As we take measurements and draw conclusions, students explore various avenues for problem solving in order to refine their ability to think critically. Assignments and assessments include problem sets, laboratory reports, quizzes and tests. Physics Essentials and Physics explore the same concepts, so students who complete either course are prepared to take advanced physics courses in later years.

Open to: 9 (10, by department chair recommendation)

S-110 Physics

Year 1 credit

Students in Physics follow the same sequence of topics as studied in Physics Essentials, devoting further time to lab investigation and exploring the concepts in greater mathematical depth. The best candidates for this class are students who arrive at Emma with a strong math background and a particular interest in science. Physics Essentials and Physics explore the same concepts, so students who complete either course are prepared to take advanced physics courses in later years.

Prerequisites: Geometry (M-225), which may be taken concurrently given recommendation of the department

Open to: 9 (10, by department chair recommendation)

S-220 Physics II

Year 1 credit

Have you ever wondered how eyeglasses work or why the moon orbits the earth or what all the electrical wires in your house do? Then you want to study physics! Students in this course will have the unique opportunity to learn the foundational concepts of physics. The course is rooted in frequent hands-on investigation, so homework and tests will grow out of the lab experience. Two different groups of students will be served well by Physics 2. The first group is students who

have completed Emma's Physics or Essential Physics courses and who seek more comprehensive engagement in physics. The second group is students who have never taken a physics course and want to learn more about the subject; there is no physics prerequisite for the course, and we will scale up the study to bring along all students. The course will feature enough applied physics to serve those with an interest in engineering. Proficiency in both algebra and basic trigonometry is necessary to support our active lab program.

Prerequisites: Geometry (M-225), which may be taken concurrently given recommendation of the department

Open to: 10, 11, 12

S-200 Chemistry Essentials

Year 1 credit

This is an introductory course in general chemistry designed to move through topics at the students' pace. Students study basic and advanced concepts including atomic and molecular structure, periodic relationships, chemical formulas, reactions, molar quantities, properties and states of matter, bonding, and solutions. The ability to solve and discuss problems, both individually and in groups, is emphasized. Evaluations include tests, quizzes, lab write-ups, and projects. This class provides an active learning environment and hands-on experimentation to supplement learning. This class will involve both quantitative and qualitative reasoning, with an emphasis on visualizing the behavior of atoms and molecules and how this behavior gives rise to our macroscopic environment.

Prerequisite: Algebra I (M-125) and Physics (S-100 or S-110)

Open to: 10/11/12

S-210 Chemistry

Year 1 credit

This is an introductory course in general chemistry designed for students who have a particular interest in science and are comfortable applying algebra skills. Students study basic and advanced concepts including atomic and molecular structure, periodic relationships, chemical formulas, reactions, molar quantities, properties and states of matter, bonding, thermochemistry, and solutions. The ability to solve and discuss problems, both individually and in groups, is emphasized. Evaluations include projects, laboratories, tests, and quizzes. This class provides an active learning environment and hands-on experimentation to supplement learning. Compared to Chemistry Essentials (S-200), this class will involve a greater depth and more emphasis on analytical reasoning and extensive quantitative problem-solving.

Prerequisite: Algebra I (M-125) and Physics (S-100 or S-110)

Open to: 10/11/12

S-310 Biology

Year 1 credit

This course explores the interdependence and diversity of the biological world. Common themes such as levels of organization and structure and function are examined as students develop a conceptual understanding of anatomy and physiology, genetics, evolution, and ecology. Students assimilate theory and application through class discussions, hands-on

projects, and laboratory activities. Assessments include chapter tests and quizzes, lab reports, projects, and presentations. Students should be prepared to spend time outside of class preparing for discussions by reading various texts, completing virtual simulations, and watching videos. This course draws upon the interdisciplinary ideas developed in the study of physics and chemistry to explain biological themes.

Prerequisite: Physics (S-100 or S-110) and Chemistry (S-200 or S-210)

Open to: 11/12

S-403 Advanced Topics in Chemistry

Spring 0.5 credit

Advanced Topics in Chemistry is a course designed to be taken after the successful completion of a full year Chemistry course. This course includes topics beyond the scope of a general introductory chemistry course with concepts drawn from organic and inorganic chemistry, along with biochemistry. Students are expected to come into this course with basic understandings of the periodic table, chemical reactions (i.e. writing and balancing chemical equations), molar conversions, and stoichiometry. Students should have a solid foundation in laboratory techniques, including but not limited to, performing chemical reactions, isolating pure substances, and representing data using tables and/or graphs. As mathematical problem-solving skills are used regularly in this course, students should have a strong mastery of algebra with respect to manipulating variables, using dimensional analysis, and working with exponents.

Prerequisites: Chemistry (S-200 or S-210, S-210 preferred) and Algebra II and Trigonometry (M-325 or M-326)

Open to: 11/12

S-405 Genetics

Fall 0.5 credit

This course builds on the student's existing knowledge of the transmission and function of heredity material. Principles of genetics learned in Biology and/or AS Biology will be explored in greater depth, such as the expansion of population genetics to include mutation, selection, and inbreeding. The course explores human polymorphisms, gene linkage, the inheritance of complex traits, chromosomal abnormalities, transgenes, and the genetics of cancer. Students will develop an understanding of genetic engineering and individualized medicine, such as gene therapy and personalized chemotherapy. Students will leave the course with the ability to intelligently discuss the benefits and risks of manipulating the genome in a variety of species. This course is more traditional note-taking and does not involve the laboratory in any aspect. Students will be assessed in more traditional forms such as in-classroom tests, quizzes, and essays. The semester will end with a culminating paper-project of considerable length that is experiential in nature. Students may, but are not required to, continue on to S-406 Genetics Lab.

Prerequisite: Biology (S-310) or AS Biology (S-500)

Open to: 10/11/12

S-406 Genetics Lab

Spring 0.5 credit

This course is designed to prepare a student for performing primary research in the biological sciences while learning principles of experimental genetics in a concrete, tangible way. Laboratory investigations will supplement class discussion and the student will learn microbiological techniques, which are currently used in primary genetics research laboratories, including polymerase chain reaction and the use and analysis of DNA gels. Students will be assessed by the quality of their laboratory submissions and content-related quizzes. Note: It is not necessary to complete Genetics S-405 in order to enroll in S-406 Genetics Lab.

Prerequisite: Biology (S-310) or AS Biology (S-500)

Open to: 10/11/12

S-407 Marine Biology

Fall 0.5 credit

Although the ocean covers about 71% of Earth's surface, much of it has yet to be explored. Marine Biology is a broad topic that studies oceanography, ocean life, and interactions of organisms with the environment as scientists continually learn more about this under-explored realm. This course first examines the key geological features that define the ocean, ocean chemistry, and physical oceanography. Then we will explore the different types of life found in ocean environments ranging from single celled organisms to marine mammals, and finally investigate their relationships with one another as well as abiotic factors in marine ecology. Though less frequent, we will use labs including plankton identification and ocean acidification investigations to supplement our course curriculum. This course does not fulfill the biology graduation requirement.

Open to: 10/11/12

S-410 Neuroscience

Year 1 credit

What does it mean to be "split-brained?" Is Sign Language truly a "language?" What happens in your brain when a memory is made? Through an in-depth examination of the brain from both a biological and a psychological perspective, students continue to develop their conceptual and analytical thinking skills. Areas of study include brain anatomy and development, language, memory, and nervous system disorders such as autism, schizophrenia, Parkinson's Disease and Alzheimer's Disease. Coursework includes an assortment of scientific readings including news articles and non-fiction books, complemented by videos and in-class discussions. The course also includes a daily mindfulness practice. Evaluation is based on engagement in class, quizzes, presentations, papers, and projects.

Prerequisite: Biology (S-310) or concurrently enrolled in Biology

Open to: 11/12

S-430 Astrobiology

Fall 0.5 credit

Have you ever wondered if we are alone in the universe? Astrobiology is the study of life in the universe and the search for life beyond Earth. In this course, we will study planetary and stellar processes, as well as how life evolved on Earth. We will attempt to answer the questions, "How does life originate, how does life evolve, and what might life be like on another planet?" We will

focus on the current research being done and learn how astrobiologists are able to judge which far away planets are likely to support life. Finally, we look at how to search for intelligent life beyond Earth and examine possible methods of communicating with distant life forms. This course does not fulfill the biology graduation requirement.

Open to: 10/11/12

S-459 Anatomy & Kinesiology

Spring 0.5 credit

How does exercise change the body? How do muscles get bigger? Why does training make you faster? In this course, we will learn about the human body's structure and function, often through an exercise lens. We will study the cardiovascular system and VO₂max, the endocrine system and performance enhancing substances, the skeletal system, muscular system, and nutrition. Classes will consist of experiments, readings, discussion, quizzes, projects, and student presentations.

Open to: 10/11/12

S-500 Advanced Studies Biology

Year 1.5 credits

This is a college-level course that examines the principles of ecology, cellular life, inheritance, evolution, diversity, and organismal structure and function. Laboratory explorations in each of these topics provide the student with the opportunity to ask questions, collect and analyze data, draw conclusions, and assess sources of error. Students will apply what they're learning to real world situations, requiring students to think outside the box. Critical thinking, problem solving, and experimental analysis are all central to the course. While this course aligns with parts of the Advanced Placement™ curriculum, it does not prepare students fully for the AP exam.

Prerequisites: Chemistry (S-200 or S-210); permission of the department

Open to: 11/12

S-510 Advanced Studies Chemistry

Year 1.5 credits

Advanced Studies Chemistry is a second course in a sequence of high school chemistry courses that provides students with a college-level foundation to support future studies in the subject. Major credits in the course include gasses, chemical reactions, stoichiometry, atomic structure and bonding, kinetics, equilibrium, and thermochemistry. Students are expected to come into this course with a strong understanding of the periodic table, chemical reaction basics (i.e. writing and balancing chemical equations), stoichiometry, behavior of gasses, solutions, and molecular geometry (i.e. Lewis structures). Concepts in this course are supplemented with a rigorous lab curriculum. Students should have a solid foundation in laboratory techniques, including but not limited to, performing chemical reactions, isolating pure substances, and representing data using tables and/or graphs. As mathematical problem-solving skills are a central component of this course, students must have a strong mastery of algebra with respect to manipulating variables, using dimensional analysis, and working with exponents and

logarithms. While this course aligns with parts of the Advanced Placement™ curriculum, it does not prepare students fully for the AP exam.

Prerequisites: Chemistry (S-200 or S-210, S-210 preferred); Algebra II & Trigonometry (M-325 or M-326); and permission of the department

Open to: 11/12

S-523 Advanced Studies Physics 1

Year 1.5 credits

Advanced Studies Physics 1 provides students with the skills and insights needed to explain the natural world. Students are introduced to the major topics they would meet in a rigorous introductory college course: 1D and 2D kinematics, 1D and 2D dynamics, uniform circular motion, work and energy, momentum, rotational motion, simple harmonic motion and waves. The course also includes a hands-on laboratory component comparable to introductory college-level physics laboratories.

Prerequisites: Algebra II and Trigonometry (M-325 or M-326), which may be taken concurrently, and permission of the department

Open to: 10/11/12

ROTATING SCIENCE COURSES NOT OFFERED IN 2023-2024

Based on student demand the course below is on a two year rotation. It was offered in 2022-2023 and will not be offered in 2023-2024. Depending on student demand and staffing capabilities, we may bring it back into rotation in 2024-2025.

S-525 Advanced Studies Physics II

Year 1.5 credits

AP/AS Physics 2 engages students in rigorous study of natural phenomena. After a review of the concepts of force, energy, and momentum, students explore major topics they would meet in a more advanced college course, including electricity and magnetism, thermodynamics, optics, and modern physics. As with all physics courses, experiments drive the work of the course. Students also complete regular problem sets commensurate in difficulty with introductory college courses; as the problems involve basic ideas of calculus, AS AB Calculus (M-550) is a co-requisite. While a previous physics course is not required, students should be comfortable working both collaboratively and independently to solve challenging problems. This course is particularly well suited for students who wish to pursue advanced sciences or engineering at a university. Students enrolled in this course will be well-prepared to take the AP Physics 2 exam in May; students are not required to take the exam.

Prerequisites: AS AB Calculus (M-550), which may be taken concurrently, as well as permission of the department.

Open to: 11/12