



**GERMANTOWN FRIENDS SCHOOL**

**2022-23**

**UPPER SCHOOL**

**COURSE**

**CATALOG**

2022-23 UPPER SCHOOL

# Academic Leadership

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### HEALTH EDUCATION

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### MATHEMATICS

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### MODERN LANGUAGES

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### MUSIC

TBD

### PHYSICAL EDUCATION

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### SCIENCE

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### THEATRE

Jake Miller



## LEARNING EXPERIENCES

*January Term*

Kasey Henderson

*Junior Projects*

Andrew Westerhaus

*Global Online Academy*

Andrew Lee, On-site Director



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Matthew Young

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## Course Selection Process

### **NOTE TO STUDENTS AND PARENTS**

The course selection process for the 2022-23 school year begins here. Within these pages, you will find your course and program options as well as detailed information about requirements and prerequisites. As you plan, we urge you to seek the counsel of advisors and teachers.

Please do be sure to read this catalog carefully – we always have a range of exciting offerings, some returning and some brand new. We hope you enjoy planning your journey at GFS!

### **CONSIDERING COLLEGE ADMISSIONS AS YOU PLAN**

GFS course requirements allow students the flexibility to not only pursue their intellectual passions but also to experiment. As they plan, students should keep in mind that most competitive colleges expect to see four years of study in English, History/Social Sciences, Math, Science, and Modern Language. Keep in mind that “minor” courses are also an important as well as rewarding part of your high school experience.

### **FOUR-YEAR COURSE PLANNING GRID**

The planning grid on page 8 will assist you with drafting various models for your course of study from grades ninth through twelfth. As you sketch out a multiyear plan, noting your required and elective courses, you will see the ways in which the curriculum might unfold for you. It is crucial to repeat this process annually to make sure you are meeting all requirements for graduation.

### **REQUIREMENTS AND A COURSE LOAD NOTE**

Ninth, tenth, and eleventh graders are required to take five major courses; twelfth graders may elect four or five majors. A student who wishes to take six major courses in any grade (an academic overload) must have the approval of the Upper School Division Director.

### **PREREQUISITES AND DEPARTMENTAL APPROVAL**

Please note that certain courses have prerequisites or, for a variety of reasons, require departmental approval. That information is listed on the departmental pages in this course catalog and on the grid (beginning on page 10).

### **COURSE SELECTION TIMELINE**

- Beginning in late January, students seek course selection advice from parents, teachers, and advisors. On occasion Department Heads and Deans are also consulted. Juniors can be well served by consulting with College Counseling as well.
- Online course registration will open on Monday, February 7th, and close on Friday, February 18th. Students register for courses through their Veracross Student Portal. Parents also approve course requests through the Veracross Parent Portal. Parents and students will receive a confirmation in June indicating scheduled courses.
- Add/Drop Period: At the beginning of the school year, students will have two 8-day rotations to add or drop a course to their schedule. All adds and drops must be approved by the Grade Dean.



# Graduation Requirements

To graduate from GFS, students must complete satisfactory work in 19 major courses and meet all departmental major and minor course requirements. All students must participate in January Term, fulfill the Athletics requirements, and complete a Junior Project. See departmental course descriptions for more details. All exceptions to these requirements must be approved by the Academic Standards Committee.

## REQUIRED MAJOR COURSEWORK

**English (4 years)**

**History (3 years)**

- Comparative Cultures (9th Grade)
- African-American History (10th Grade)
- U.S. History (11th or 12th Grade)

**Language (through Level 3)** Completion to level three of one classical or modern language. Typically the first level of coursework is completed by the end of Middle School (Note: 7th and 8th grade 1a and 1b study count as Level 1).

**Mathematics (3 years)** Information about course sequence options appears in the Mathematics Department section.

**Science (3 years)** Recommended sequence: Physics (9th Grade), Chemistry (10th Grade), Biology (11th Grade).

## OTHER GRADUATION REQUIREMENTS

**January Term:** Students complete January Terms in grades 9, 10, and 12. Please note that in 2021 May Term was held and satisfied the January Term requirement for that year.

**Junior Project:** An independent, out-of-school project that takes place during the month of January of junior year.

## REQUIRED MINOR COURSEWORK

### ARTS MINORS REQUIREMENTS

Please note: Our expanded Arts Requirements became effective in the 2020-21 school year.

### Class of 2024 and all subsequent classes

- Art (1 year Foundation)
- Music (1 year or the equivalent of 2 semesters)
- Theatre (1 semester Ninth Grade Theatre)

### Classes of 2022 and 2023

- Music (1 year or the equivalent of 2 semesters)
- Art or Theatre (1 year or the equivalent of 2 semesters)

### HEALTH

- 10th grade: Health Education 10
- 12th grade: Life Issues (coordinated with Advisory)

### ATHLETICS AND PHYSICAL EDUCATION

Athletics and PE are distinct but complementary departments. Across all four years of Upper School, students participate in movement-based activity in PE and/or Athletics. In ninth and tenth grades students may elect Winter Musical Workshop for PE or Athletics Credit.

- Ninth grade: One semester PE 9 Fitness and Wellness; two seasons Athletics.
- Tenth grade: Three seasons: one season of Athletics; choice of Athletics or PE for other two seasons.
- Eleventh grade: Three seasons, choice of Athletics or PE each season.
- Twelfth grade: Two seasons, choice of Athletics or PE.



## Quick Reference Terms

### **Required Course**

A department-specific course required for graduation.

### **Elective Course**

A department-specific course not required for graduation.

### **Prerequisite**

A course one must take before taking another course.

### **Co-requisite**

A course one must take along with another course.

### **Major Course**

A “major” typically meets five times in an 8-day cycle and counts as one of the 19 major courses mandated for graduation. There are two kinds of major courses

- **Required Major:** A major course taken to fulfill a department-specific major course requirement.
- **Elective Major:** A major course that is not required but that can count as one of the 19 majors required.

### **Minor Course**

A “minor” meets between two and four times in an 8-day cycle.

### **Art, Music, Computer Science or Theatre Major**

A configuration of minor courses that can, with the permission of the relevant Department Head, form a music, theater, or art major course that counts as one of the major courses for graduation. See department pages for a detailed description.

### **Overload**

When a student takes six major courses rather than the standard five (done only with the permission of the Upper School Division Director).

### **Advisor**

Advisors serve as primary academic counselors, advocates, and facilitators for students within their advisory group as they seek to learn and grow within the Upper School curriculum.

### **Grade Dean**

Grade Deans lead the grade-level team of advisors and teachers, providing additional support, clerking grade-level meetings, overseeing grade-level programming, and supporting student/family concerns as needed in consultation with the Upper School Division Director.



## Program Highlights and Notes

### PROGRAM HIGHLIGHTS

#### Directed Independent Study

A “DIS” is an independent major or minor course requested by a student that involves a teacher-student study partnership.

#### Global Online Academy

A small consortium of independent schools that offers online course opportunities to GFS juniors and seniors. Sophomores may register with the approval of the Upper School Division Director.

#### January Term

A month-long opportunity to explore new courses of study. Classes are innovative, hands-on offerings composed of mixed-grade groups of 9th, 10th and 12th graders. Courses are taken on a Credit/No Credit basis.

#### Junior Project

The required independent project all juniors undertake off-campus in the month of January of their junior year.

#### Junior-Senior Seminars

Major elective courses offered each school year in innovative subjects that are often interdisciplinary in nature. These courses change year to year.

### REGISTRATION NOTES

#### Minor Classes

Please rank your minor course selections as instructed at the time of course signup.

#### Athletics and Physical Education

For all three seasons, please select a sport or rank your PE elective choices during course sign up.

#### Overload/Sixth Major

Taking five major classes in a given school year fulfills our challenging standard requirement for major coursework. Taking more than five major courses is considered an “overload”; students considering a sixth course should keep in mind the additional work involved. Please note that the “overload” course cannot be a required course, and it is possible that an overload course cannot be scheduled. Any student who wishes to take six majors must receive approval from the Upper School Director.

#### Double Language in Ninth Grade

There are three options for students wishing to take two languages to advanced levels:

Dropping Science in 9th grade and fulfilling the Science requirement in subsequent years.

Adding a second language by carrying six majors as an academic overload (with permission from the Upper School Director—please see above).

Requesting exemption from Comparative Cultures with permission from the Upper School Division Director or Department Head and fulfilling the History requirement in subsequent years.

#### Junior-Senior Seminars

Please indicate alternate choices when selecting a Junior-Senior Seminar.

#### History Electives

Juniors and seniors electing semester-long courses must make selections for both semesters and rank their preferences.



## Departmental Approval Required

The following options are subject to departmental approval from the appropriate Department Head. After signing up for the course, if the student does not receive approval, they will be notified by the Department Head or Grade Dean and will be given the opportunity to amend his or her course selections.

### **ART**

Students creating an Art Major  
Students electing Senior Studio (portfolio also required)

### **CLASSICS**

Students dropping a classical language

### **COMPUTER SCIENCE**

Students creating a Computer Science major

### **MATHEMATICS**

Please see the Mathematics course descriptions for departmental approval requirements  
Students moving into or out of an accelerated or advanced course  
Students dropping math in their senior year  
Students new to GFS may take a math assessment; course placement must have departmental approval

### **MODERN LANGUAGES**

Students dropping a modern language

### **MUSIC**

Students creating a Music Major  
Admission to Choir is audition-based

### **ATHLETICS + PHYSICAL EDUCATION**

Students proposing an alternative to Athletics/ PE requirements should apply, using the online form, in the Athletics section of the Student and Family Handbook on Veracross.

### **SCIENCE**

Students electing Biology: Advanced, Physics: Advanced, Chemistry: Advanced, or Principles of Engineering: Advanced

### **THEATRE**

Students creating a Theatre Major

### **DIRECTED INDEPENDENT STUDY (DIS)**

Students registering for a DIS Major must submit a formal proposal by early May that has the approval of the Director of Independent Studies and the Academic Standards Committee

### **GLOBAL ONLINE ACADEMY (GOA)**

Students electing to take a GOA course require approval from the GFS site director. Sophomores will need to register with the approval of the Upper School Division Director

### **EXCEPTIONS/ALTERNATIVES TO REQUIREMENTS**

Any request for alternatives to our standard program can be directed to the Upper School Division Director





## Thematic Strands Across the Curriculum

The Upper School curriculum features a number of curricular themes spanning multiple departments. These lists highlight connections between courses that may not sit within the same department.

### **SOCIAL JUSTICE AND INCLUSION**

African American History  
Climate Change and Global Inequality (GOA)  
Environmental Science  
History and Impact of Hip Hop  
Girls Who Code  
Prison and Criminal Justice System (GOA)  
Public Health and Modern Society  
Queer Culture  
Race and Society (GOA)  
Social Justice Dialogue

### **SCIENCE, ENGINEERING, PROGRAMMING AND MATH**

Abnormal Psychology (GOA)  
Accelerated Statistics  
Application in Statistics  
Architecture (GOA)  
Bioethics (GOA)  
Computer Science Programming Capstone  
Cybersecurity (GOA)  
Developmental Psychology (GOA)  
Differential Calculus  
Game Theory (GOA)  
Environmental Science  
Human Anatomy and

Physiology  
Integral Calculus and Series  
Linear Algebra (GOA)  
Medical Problem Solving (GOA)  
Mobile Application Development I  
Multivariable Calculus (GOA)  
Number Theory (GOA)  
Principles of Engineering  
Psychology: Introduction to Psychology (GOA)  
Robotics  
Social Psychology (GOA)  
Topics in Advanced Mathematics

### **DIGITAL MAKING & DESIGN**

Digital Art  
Digital Design I and II  
Digital Music and Recording  
Filmmaking  
Film Editing and Post-Production  
Machine Studio  
Mixed-Media Animation  
Photography  
Web Design and Development

### **INTERDISCIPLINARY**

African American Studies  
Art History  
Bioethics (GOA)

Digital Humanities  
History of Science  
Macroeconomics (GOA)  
Microeconomics (GOA)  
Positive Psychology (GOA)  
Queer Culture  
Shakespeare Studio  
History and the Future of Language  
Media Studies  
Film Making I, II and III

### **WRITING & MEDIA**

Poetry Workshop  
Short Story Workshop  
Scriptwriting Workshop  
Peer Writing Advisors  
Introduction to Journalism  
Narrative Journalism

### **ENTREPRENEURSHIP**

Arts & Entrepreneurship (GOA)  
Applied Economics  
Investment (DIS)  
Business Problem Solving (GOA)  
Entrepreneurship in a Global Context (GOA)

# FOUR-YEAR COURSE PLANNING GRID

|   | NINTH GRADE  | TENTH GRADE   |
|---|--|---|
| MAJORS                                  | 5 REQUIRED   | 5 REQUIRED  |
| <b>English</b><br>4 years               | Representations of Identity  | Poetry of Language  |
| <b>History</b><br>3 years               | Comparative Cultures   | African American History  |
| <b>Language</b><br>Through Level 3      |  |   |
| <b>Mathematics</b><br>3 years           |  |   |
| <b>Science</b><br>3 years               |  |   |
| <b>Jr/Sr Seminar</b>                    | N/A  | N/A   |
| MINORS                                  |  |   |
| <b>Advisory</b>                         | Advisory 9   | Advisory 10   |
| <b>Art</b><br>1 year                    |  |   |
| <b>Computer Science + Digital Media</b> |  |   |
| <b>Theatre</b>                          | Ninth Grade Theatre  |   |
| <b>Health</b><br>1 semester             | N/A  | Health Education  |
| <b>Music</b><br>1 year                  |  |   |
| <b>Other</b>                            | Style Fundamentals (English)   |   |
| ATHLETICS & PHYSICAL EDUCATION          |  |   |
|   | <b>FULL YEAR</b><br>• One semester PE 9 Fitness and Wellness<br>• Two seasons of Athletics | <b>FULL YEAR</b><br>• One season Athletics<br>• Choice of Athletics or PE for other two seasons |
|   | <b>F</b>   | <b>F</b>  |
|   | <b>W</b>   | <b>W</b>  |
|   | <b>S</b>   | <b>S</b>  |



In thinking about course choices, you may want to sketch out a plan of study incorporating graduation requirements and electives. Five majors are required of all students in grades 9-11, and either four or five may be taken in 12th grade.

|   | ELEVENTH GRADE   | TWELFTH GRADE                                     |
|---|--|---|
| MAJORS                                  | 5 REQUIRED   | 4 OR 5 REQUIRED                                   |
| <b>English</b><br>4 years               | Literature and Composition Part I: Advanced                      | Literature and Composition Part II: Advanced      |
| <b>History</b><br>3 years               | US History: Advanced, must be taken in Eleventh or Twelfth grade |   |
| <b>Language</b><br>Through Level 3      |  |   |
| <b>Mathematics</b><br>3 years           |  |   |
| <b>Science</b><br>3 years               |  |   |
| <b>Jr/Sr Seminar</b>                    |  |   |
| MINORS                                  |  |   |
| <b>Advisory</b>                         | Navigation   | Life Issues (Coordinated with Health)             |
| <b>Art</b><br>1 year                    |  |   |
| <b>Computer Science + Digital Media</b> |  |   |
| <b>Theatre</b>                          |  |   |
| <b>Health</b><br>1 semester             | N/A  | Life Issues (Coordinated with Advisory)           |
| <b>Music</b><br>1 year                  |  |   |
| <b>GOA, DIS &amp; Other</b>             |  |   |
| ATHLETICS & PHYSICAL EDUCATION          |  |   |
|   | <b>FULL YEAR</b><br>• Three seasons, choice of Athletics or PE   | <b>TWO SEASONS</b><br>• Choice of Athletics or PE |
|   | <b>F</b>   | <b>F</b>  |
|   | <b>W</b>   | <b>W</b>  |
|   | <b>S</b>   | <b>S</b>  |

# DEPARTMENTAL COURSE OFFERINGS GRID

| COURSE TITLE                                       | GRADE |    |    |    | TIMES PER CYCLE | INFORMATION   |
|--|-------|----|----|----|-----------------|---|
|  | 9     | 10 | 11 | 12 |                 |   |
| <b>ART</b>   |       |    |    |    |                 |   |
| Foundation   | •     | •  | •  | •  | 3               | required minor  |
| Color & Design                                     |       | •  | •  | •  | 4               | minor elective; prerequisite: Foundation                        |
| Drawing & Painting                                 |       |    | •  | •  | 4               | minor elective; prerequisite: Foundation                        |
| Furniture Making                                   |       | •  | •  | •  | 3               | minor elective; prerequisite: Foundation                        |
| Sculpture  |       | •  | •  | •  | 4               | minor elective; prerequisite: Foundation                        |
| Digital Art  |       | •  | •  | •  | 4               | minor elective; prerequisite: Foundation                        |
| Photography I                                      |       |    | •  | •  | 3+              | minor elective; prerequisite: Foundation                        |
| Photo II: The Journey Continues                    |       |    |    | •  | 3+              | minor elective; prerequisite: Photo I                           |
| Senior Studio: Advanced*                           |       |    |    | •  | 5               | major elective; prerequisite: Foundation, departmental approval |
| Art History: Nature, Spirit & Religion             |       | •  | •  | •  | 3               | minor elective; prerequisite: Foundation                        |
| Art Major*   |       | •  | •  | •  |                 | Art History + studio course or two studio courses               |
| <b>CLASSICAL LANGUAGES</b>                         |       |    |    |    |                 |   |
| Ancient Greek I                                    | •     | •  | •  | •  | 5               | major elective  |
| Ancient Greek II                                   | •     | •  | •  | •  | 5               | major elective; prerequisite: Greek I                           |
| Ancient Greek III                                  |       | •  | •  | •  | 5               | major elective; prerequisite: Greek II                          |
| Ancient Greek IV: Advanced                         |       |    | •  | •  | 5               | major elective; prerequisite: Greek III                         |
| Ancient Greek V: Advanced                          |       |    |    | •  | 5               | major elective; prerequisite: Greek IV                          |
| Latin I  | •     | •  | •  |    | 5               | major elective  |
| Latin II   | •     | •  | •  | •  | 5               | major elective; prerequisite: Latin I or Latin IB               |
| Latin III (History)                                |       | •  | •  | •  | 5               | major elective; prerequisite: Latin II                          |
| Latin III (Poetry)                                 |       | •  | •  | •  | 5               | major elective; prerequisite: Latin II                          |
| Latin IV: Advanced                                 |       | •  | •  | •  | 5               | major elective; prerequisite: Latin III (History or Poetry)     |
| Latin V: Advanced                                  |       |    | •  | •  | 5               | major elective; prerequisite: Latin IV                          |
| History and Future of Language                     |       | •  | •  | •  | 3               | minor elective  |
| <b>COMPUTER SCIENCE + DIGITAL MEDIA</b>            |       |    |    |    |                 |   |
| Robotics   | •     | •  | •  | •  | 3               | minor elective (one semester)                                   |
| CS I: Introductory Programming (Python)            | •     | •  | •  | •  | 2               | minor elective  |
| Introductory Programming: Girls Who Code           | •     | •  | •  | •  | 2               | minor elective  |
| CS II: Data Science & Object-Oriented Programming* |       | •  | •  | •  | 3               | minor elective; prerequisite: CS I, or departmental approval    |
| CS III: Algorithms and Computer Organization*      |       |    | •  | •  | 3               | minor elective; prerequisite: CS II, or departmental approval   |
| Computer Science Programming Capstone*             |       |    | •  | •  | 3               | minor elective; prerequisite: CS III or departmental approval   |

\*Requires departmental approval / +May use hook period / See course description for full information

| COURSE TITLE  | GRADE |    |    |    | TIMES PER CYCLE | INFORMATION                                |
|---|-------|----|----|----|-----------------|--|
|   | 9     | 10 | 11 | 12 |                 |  |
| Digital Design I  | •     | •  | •  | •  | 3               | minor elective                             |
| Digital Design II   |       | •  | •  | •  | 3               | minor elective                             |
| Mobile Application Development I                              | •     | •  | •  | •  | 3               | minor elective                             |
| Web Design & Development I                                    | •     | •  | •  | •  | 3               | minor elective                             |
| Digital Humanities Advanced                                   |       |    | •  | •  | 5               | major elective                             |
| Game Design I   | •     | •  | •  | •  | 3               | minor elective                             |
| Machine Studio  |       | •  | •  | •  | 3               | minor elective                             |
| Computer Science Major*                                       |       |    | •  | •  |                 | major elective                             |
| <b>ENGLISH</b>  |       |    |    |    |                 |  |
| Representations of Identity                                   | •     |    |    |    | 5               | required major                             |
| Style Fundamentals  | •     |    |    |    | 1               | required minor (one semester)              |
| Poetry of Language  |       | •  |    |    | 5               | required major                             |
| Literature and Composition Part I: Advanced                   |       |    | •  |    | 5               | required major                             |
| Literature and Composition Part II: Advanced                  |       |    |    | •  | 5               | required major                             |
| Poetry Workshop   |       | •  | •  | •  | 3               | minor elective                             |
| Introduction to Journalism                                    | •     | •  | •  |    | 2               | minor elective                             |
| Narrative Journalism  |       | •  | •  | •  | 3               | minor elective                             |
| Short Story Workshop  |       | •  | •  | •  | 3               | minor elective                             |
| <b>HEALTH EDUCATION</b>                                       |       |    |    |    |                 |  |
| Health Education 10   |       | •  |    |    | 3               | required minor                             |
| Life Issues   |       |    |    | •  | 1               | required minor (coordinated with Advisory) |
| Queer Culture: Past, Present and Future                       | •     | •  | •  | •  | 3               | minor elective                             |
| Public Health and Modern Society                              | •     | •  | •  | •  | 3               | minor elective                             |
| <b>HISTORY</b>  |       |    |    |    |                 |  |
| Comparative Cultures  | •     |    |    |    | 5               | required major                             |
| African American History                                      |       | •  |    |    | 5               | required major                             |
| United States History: Advanced                               |       |    | •  | •  | 5               | required major                             |
| <b>HISTORY ELECTIVES</b>                                      |       |    | •  | •  | 5               | major elective                             |
| <b>One Year Elective:</b><br>Applied Economics                |       |    |    |    |                 |  |
| <b>Fall Semester Electives:</b>                               |       |    |    |    |                 |  |
| • The Making of the Modern World: Advanced                    |       |    |    |    |                 |  |
| • US Government & Civics: Advanced                            |       |    |    |    |                 |  |
| • War and Peace: The Modern Middle East: Advanced             |       |    |    |    |                 |  |
| <b>Spring Semester Electives:</b>                             |       |    |    |    |                 |  |
| • World Revolutions: Advanced                                 |       |    |    |    |                 |  |
| • Modern US Political Ideologies and Issues: Advanced         |       |    |    |    |                 |  |
| • Patriot Woman, Case Studies in US Women's History: Advanced |       |    |    |    |                 |  |

\*Requires departmental approval / +May use hook period / See course description for full information

| COURSE TITLE   | GRADE |    |    |    | TIMES PER CYCLE | INFORMATION  |
|--|-------|----|----|----|-----------------|--|
|  | 9     | 10 | 11 | 12 |                 |  |
| <b>JUNIOR-SENIOR SEMINARS</b>  |       |    |    |    |                 |  |
| Media Studies  |       |    | •  | •  | 5               | major elective   |
| Mythology and Monstrosity  |       |    | •  | •  | 5+              | major elective   |
| <b>ADDITIONAL OFFERINGS</b>  |       |    |    |    |                 |  |
| Social Justice Dialogue  | •     | •  | •  | •  | 2               | minor elective   |
| Peer Writing Advisor Training Part II: Theory into Practice  |       |    | •  | •  | 2               | minor elective; prerequisite: Peer Writing Advisor Training (Essentially English course) |
| <b>MATHEMATICS</b>   |       |    |    |    |                 |  |
| Please see Mathematics section for course sequencing options, prerequisites, and departmental approval requirements. |       |    |    |    |                 |  |
| <b>MODERN LANGUAGES</b>  |       |    |    |    |                 |  |
| French I   | •     | •  | •  |    | 5+              | major elective   |
| French II  | •     | •  | •  | •  | 5+              | major elective; prerequisite: French I   |
| French III   |       |    | •  | •  | 5               | major elective; prerequisite: French II  |
| French IV: Advanced  |       |    | •  | •  | 5               | major elective; prerequisite: French III   |
| French V: Advanced   |       |    | •  | •  | 5               | major elective; prerequisite: French IV  |
| Mandarin I   | •     | •  | •  |    | 5               | major elective   |
| Mandarin II and III*   | •     | •  | •  | •  | 5               | major elective; prerequisite: Mandarin I or II   |
| Mandarin IV and V*: Advanced   | •     | •  | •  | •  | 5               | major elective; prerequisite: Mandarin III or IV   |
| Spanish I  | •     | •  | •  |    | 5+              | major elective   |
| Spanish II   | •     | •  | •  | •  | 5+              | major elective; prerequisite: Spanish I  |
| Spanish III  |       |    | •  | •  | 5               | major elective; prerequisite: Spanish II   |
| Spanish IV: Advanced   |       |    | •  | •  | 5               | major elective; prerequisite: Spanish III  |
| Spanish V: Advanced  |       |    | •  | •  | 5               | major elective; prerequisite: Spanish IV   |
| <b>MUSIC</b>   |       |    |    |    |                 |  |
| <b>FALL</b>  |       |    |    |    |                 |  |
| Critical Listening in Music  | •     | •  | •  | •  | 2               | minor elective (one semester)  |
| History and Impact of Hip-Hop  | •     | •  | •  | •  | 2               | minor elective (one semester)  |
| Music Connections  | •     | •  | •  | •  | 2               | minor elective (one semester)  |
| Musical Instrument Building  | •     | •  | •  | •  | 3               | minor elective (one semester)  |
| Music Essentials   | •     | •  | •  | •  | 2               | minor elective (one semester)  |
| <b>SPRING</b>  |       |    |    |    |                 |  |
| Ninth Grade Musical  | •     |    |    |    | 2+              | minor elective (one semester)  |
| Critical Listening in Music  | •     | •  | •  | •  | 2               | minor elective (one semester)  |
| Songwriting  | •     | •  | •  | •  | 2               | minor elective (one semester)  |
| <b>YEARLONG</b>  |       |    |    |    |                 |  |
| Chamber Ensembles  | •     | •  | •  | •  | 2               | minor elective; co-requisite: private lessons  |

\*Requires departmental approval / +May use hook period / See course description for full information

| COURSE TITLE                         | GRADE |    |    |    | TIMES PER CYCLE | INFORMATION   |
|--------------------------------------|-------|----|----|----|-----------------|---|
|                                      | 9     | 10 | 11 | 12 |                 |   |
| Choir*                               | •     | •  | •  | •  | 3+              | major elective (Sunday rehearsals)  |
| Chorus                               | •     | •  | •  | •  | 2               | minor elective  |
| Conducting                           | •     | •  | •  | •  | 2               | minor elective  |
| Digital Music Recording & Production | •     | •  | •  | •  | 2               | minor elective  |
| Jazz Ensembles                       | •     | •  | •  | •  | 3               | minor elective; co-requisite: private lessons                                 |
| Music Composition I: Advanced*       |       |    | •  | •  | 4               | minor elective; prerequisite: Music Theory II or departmental approval        |
| Music Composition II: Advanced*      |       |    | •  | •  | 5               | major elective; prerequisite: departmental approval                           |
| Music Theory I                       | •     | •  | •  | •  | 4               | minor elective  |
| Music Theory II: Advanced*           |       | •  | •  | •  | 4               | minor elective; prerequisite: Music Theory I or departmental approval         |
| Musical Theatre                      |       | •  | •  | •  | 3               | minor elective  |
| Orchestra                            | •     | •  | •  | •  | 3+              | minor elective; co-requisite: private lessons                                 |
| Sight Singing & Ear Training         | •     | •  | •  | •  | 2               | minor elective  |
| World Percussion Ensemble            | •     | •  | •  | •  | 3               | minor elective  |
| Music Major*                         | •     | •  | •  | •  |                 | 1 or more academic + 1 or more performance electives equaling 5 class periods |



## PHYSICAL EDUCATION

Please see PE section for more information about requirements and electives.

|                           |   |  |  |  |   |                               |
|---------------------------|---|--|--|--|---|-------------------------------|
| PE 9 Fitness and Wellness | • |  |  |  | 3 | required minor (one semester) |
|---------------------------|---|--|--|--|---|-------------------------------|

### YEARLONG

|                               |  |   |   |   |      |   |
|-------------------------------|--|---|---|---|------|---|
| GFS Fitness Club—After School |  | • | • | • | 2/wk | minor elective                            |
| Personal Fitness              |  | • | • | • | 3    | minor elective                            |
| Vinyasa Yoga                  |  | • | • | • | 1-2  | minor elective; Thursdays, 3:30–4:30 p.m. |
| PE Classics                   |  | • | • | • | 2    | minor electives                           |

### FALL

|                      |  |   |   |   |    |  |
|----------------------|--|---|---|---|----|--|
| Badminton/Net Games  |  | • | • | • | 2  | minor elective   |
| Wissahickon Hiking   |  | • | • | • | 2+ | minor elective   |
| Movement for Theatre |  | • | • | • | 2  | minor elective (one semester); can be taken for Theatre or PE credit |

### WINTER

|                         |  |   |   |   |    |   |
|-------------------------|--|---|---|---|----|---|
| Archery                 |  | • | • | • | 2+ | minor elective  |
| Volleyball/Table Tennis |  | • | • | • | 2  | minor elective  |
| World Dance             |  | • | • | • | 2+ | minor elective; can be taken for Theatre or PE credit |

### SPRING

|                            |  |   |   |   |    |  |
|----------------------------|--|---|---|---|----|--|
| Archery                    |  | • | • | • | 2  | minor elective   |
| Modern Dance               |  | • | • | • | 2  | minor elective (one semester); can be taken for Theatre or PE credit |
| Ultimate Frisbee/Disc Golf |  | • | • | • | 2+ | minor elective   |

\*Requires departmental approval / +May use hook period / See course description for full information

| COURSE TITLE                                | GRADE |    |    |    | TIMES PER CYCLE | INFORMATION  |
|---|-------|----|----|----|-----------------|--|
|   | 9     | 10 | 11 | 12 |                 |  |
| <b>SCIENCE</b>                              |       |    |    |    |                 |  |
| Physics                                     | •     | •  |    |    | 5+              | major elective   |
| Chemistry                                   |       |    | •  | •  | 5+              | major elective   |
| Biology*                                    |       |    | •  | •  | 5+              | required major; prerequisite: Chemistry or departmental approval                                   |
| Principles of Engineering Advanced*         |       |    | •  | •  | 5+              | major elective; prerequisite Chemistry, Physics and departmental approval                          |
| Advanced Chemistry*                         |       |    | •  | •  | 5+              | major elective; prerequisite: Chemistry  |
| Advanced Biology*                           |       |    |    | •  | 5+              | major elective; prerequisite: satisfactory completion of Chemistry and Biology                     |
| Advanced Physics*                           |       |    |    | •  | 5+              | major elective; prerequisite: completion or concurrent enrollment in Calculus or Integral Calculus |
| Environmental Science                       |       |    | •  | •  | 5+              | major elective; prerequisite: Chemistry  |
| Human Anatomy and Physiology                |       |    | •  | •  | 3+              | minor elective   |
| <b>THEATRE</b>                              |       |    |    |    |                 |  |
| <b>THEATRE COURSES</b>                      |       |    |    |    |                 |  |
| Ninth Grade Theatre                         | •     |    |    |    | 2               | required minor (one semester)  |
| Ninth Grade Musical                         | •     |    |    |    | 2+              | minor elective (one semester)  |
| Musical Theatre                             |       | •  | •  | •  | 3               | minor elective   |
| Dramatic Text and Performance               |       | •  | •  | •  | 3               | minor elective   |
| Scriptwriting Workshop for Stage and Screen |       |    | •  | •  | 3               | minor elective   |
| Sketch Comedy & Improvisation               |       | •  | •  | •  | 3               | minor elective   |
| Shakespeare Studio                          |       |    | •  | •  | 4               | minor elective   |
| <b>DANCE &amp; MOVEMENT COURSES</b>         |       |    |    |    |                 |  |
| Movement for Theatre                        |       | •  | •  | •  | 2               | minor elective; can be taken for Theatre or PE credit  |
| Modern Dance                                |       | •  | •  | •  | 2               | minor elective; can be taken for Theatre or PE credit  |
| World Dance                                 |       | •  | •  | •  | 2+              | minor elective; can be taken for Theatre or PE credit  |
| <b>TECHNICAL THEATRE COURSES</b>            |       |    |    |    |                 |  |
| Technical Theatre I                         | •     | •  | •  | •  | 2               | minor elective   |
| Technical Theatre II                        |       | •  | •  | •  | 2               | minor elective; prerequisite: Technical Theatre I  |
| Technical Theatre III                       |       |    | •  | •  | 2               | minor elective; prerequisite: Technical Theatre I & II   |
| Scenic & Costume Design                     |       | •  | •  | •  | 2               | minor elective; prerequisite: Technical Theatre I  |
| Theatre Major*                              |       |    | •  | •  |                 | major elective   |

\*Requires departmental approval / +May use hook period / See course description for full information



| COURSE TITLE  | GRADE |    |    |    | TIMES PER CYCLE | INFORMATION  |
|---|-------|----|----|----|-----------------|--|
|   | 9     | 10 | 11 | 12 |                 |  |
| <b>FILMMAKING COURSES</b>   |       |    |    |    |                 |  |
| Filmmaking 1  |       | •  | •  | •  | 3               | minor elective   |
| Filmmaking IIA  |       |    | •  | •  | 3               | minor elective; (one semester)<br>prerequisite: Intro to Filmmaking 1            |
| Filmmaking IIB  |       |    | •  | •  | 3               | minor elective; (one semester)<br>prerequisite: Intro to Filmmaking 1            |
| Filmmaking III  |       |    |    | •  | 3               | minor elective; prerequisite: Intro to Filmmaking <i>and</i> Filmmaking 2A or 2B |
| <b>DIRECTED INDEPENDENT STUDY</b>   |       |    |    |    |                 |  |
| Please see Directed Independent Study description for details.  |       |    |    |    |                 |  |
| DIS Major*  |       |    | •  | •  | appx<br>5       | major elective   |
| DIS Minor*  | •     | •  | •  | •  | 2-3             | minor elective   |
| DIS Minor in World Language<br>(American Sign Language, Arabic,<br>German, Italian, Japanese, Russian)* | •     | •  | •  | •  | 2               | minor elective   |
| DIS Investment  | •     | •  | •  | •  | 1+              | minor elective, meets weekly   |
| <b>GLOBAL ONLINE ACADEMY (GOA)</b>  |       |    |    |    |                 |  |
| Please see GOA section for course descriptions and registration details.                                |       |    |    |    |                 |  |
| GOA Courses*  |       | •  | •  | •  |                 | major elective   |

\*Requires departmental approval / +May use hook period / See course description for full information

# ART

The Upper School Art Program provides depth and breadth—students are introduced to appropriate skills and concepts that gradually build in complexity. Through the exploration of various materials and media, students investigate formal and conceptual issues with increasing independence. We are concerned not only with the making of art, but also with the development of critical thinking, visual literacy, and art history awareness. Using a problem-solving format, criteria are first presented and examined, and then students develop individual solutions to answer assigned problems creatively. Each assignment culminates in a group critique in which students use appropriate visual arts language to inform their critical thinking. Students learn to recognize effective visual communication and to appreciate the uniqueness and diversity of effective responses.

- The course Foundation is a required minor and a prerequisite for all other art electives.
- Students must select a first and second choice for art electives with the exception of Foundation.
- Each course may be taken only once.
- Art courses may be chosen individually as minors or together in certain configurations to form an Art Major.

## ➤ ART MAJOR

An Art Major is comprised of two art minors taken simultaneously; these two courses make up an Art Major. At course sign-up, students in grades 10-12 wishing to create an Art Major should select their two minors and also select ART790 Art Major.

## ➤ ART GRADUATION REQUIREMENT

As of the class of 2024, and for all subsequent classes, students must complete one full year of Art. For the Classes of 2023 and 2022, students must take the equivalent of two semesters of theatre or art.

### **ART310** Foundation

required minor | grades: 9, 10, 11, 12

This course is designed to introduce and investigate visual concepts. These concepts of 2D and 3D composition include line, plane, negative/positive space, perspective, color, value, and figure/ground. Each unit of study is tailored to build technical skill and theoretical understanding, as well as to develop critical thinking and problem-solving skills regardless of prior experience. Through critiques, students learn to use a visual vocabulary to analyze the

effectiveness of visual images. Successful completion of this course is a prerequisite for all subsequent Art courses.

### **ART830** Color & Design

minor elective | grades: 10, 11, 12 | prerequisite: Foundation

In this course, students concentrate on how color and design can be used to describe and communicate ideas through visual means. We investigate color as it can be used emotionally and psychologically for practical and poetic ends. Students will study

layout and design, using elements of realistic and abstract form. Assignments emphasize creative problem solving and varying conceptual exercises, the solutions to which may be used for school publications. Multiple techniques and media will be used including collage, drawing, painting, and digital media. Skill development will underlay all of our studies. Enrollment is limited to 12 students per section.

## **ART840** Drawing & Painting

minor elective | grades: 10, 11, 12 | prerequisite: Foundation

The year will begin with drawing. We will define drawing in many ways, from the observed and structural to the expressive and conceptual. A variety of media will be introduced throughout the course. Painting will follow as a natural outgrowth, with a focus on color, value, and materials. There will be continual emphasis on the traditional subjects of figure, landscape, and still life, as well as on the first steps the young artist takes in finding their own subjects and style. Enrollment is limited to 12 students per section.

## **ART880** Furniture Making

minor elective | grades: 10, 11, 12 | prerequisite: Foundation

This class will focus on creative furniture making. Students will learn traditional woodworking techniques while practicing discipline, patience, and problem-solving skills. With a strong emphasis on safety, students will develop a practical understanding of hand tools and learn to operate a table saw, band saw, miter saw, routing table, and power tools. Students will first learn about joinery, focusing on the mortise, and tenon, followed by designing and creating a scale drawing. Students will undertake a major furniture project determined by their interests and skills. Enrollment is limited to 10 students.

## **ART810** Sculpture

minor elective | grades: 10, 11, 12 | prerequisite: Foundation

This studio course is an introduction to building three-dimensional forms. Emphasis is placed on creatively solving problems and communicating ideas through the use of a variety of materials, including chipboard, plaster, wood, metal, and found objects. We will learn methods of casting, sculpting, and shaping, joining materials to make sculptural forms. Students will also learn how to safely handle power tools. As we move through the projects, we will

analyze contemporary and historical examples of art or design that incorporate similar methods. Each project will allow the students to develop their own way of handling the material and the development of their own expressive voice. Because enrollment is limited, students electing this course should specify a 2nd /3rd art course choice when they sign up. Enrollment is limited to 12 students per section.

## **ART860** Digital Art

minor elective | grades: 10, 11, 12 | prerequisite: Foundation

This digital lab course introduces the computer as an artistic tool for drawing, painting, collage, and animation. We will take advantage of aspects that are unique to digital drawing, such as layering, scaling, the incorporation of photography, and working with states of revision. This course is about expanding the narrative possibilities of image-making through contemporary processes of edition and image construction using Photoshop and Illustrator. Students will learn advanced methods of editing still and moving images, video, and animation. Students will also learn to edit the animations and incorporate sound effects and music. Because space is limited, students electing this course should specify a 2nd/3rd art course choice when they sign up. Enrollment is limited to 12 students per section.

*\*Note; this is an art course with a focus on digital skill building for the purpose of creative expression, this course is different from digital design, which is a computer science course that focuses on the commercial applications Photoshop and Illustrator.*

## **ART850** Photography I

minor elective | grades: 11, 12 | prerequisite: Foundation

This is an introductory course that explores the technical and aesthetic possibilities of the photograph. Students will first master the skills of black-and-white darkroom photography; an introduction to digital images and alternative photographic processes will follow. Throughout the course, attention will be paid to the content and composition of photographs, as students solve problems in portraiture, documentary, studio photography, and social commentary. A limited number of school cameras are available for students on an as-needed basis. Because space is limited, students electing this course should specify a 2nd/3rd art course choice when they sign up. Enrollment limited to 12 students per section.

## **ART920** Photography II: The Journey Continues

minor elective | Grade 12 | prerequisite: Photography I

The Journey Continues provides students the opportunity to grow as artists. Building on their foundational knowledge in the darkroom and the digital lab, students will explore new creative approaches to the medium and learn advanced technical skills as they experiment with light and ways of seeing. As students build their photographic portfolios, they will look critically not only at their own work, but also at the work of renowned photographers. The Journey Continues classroom provides students with their own computers and workspace, offering them the time, space, and occasion to organize their portfolios for the college admissions process. At the end of the year, each student will create a final presentation in a form of their own choosing. Enrollment limited to 12 students per section.

## **ART731** Art History: Nature, Spirit, and Religion

minor elective | grades: 10, 11, 12 | prerequisite: Foundation

In Art History, we will use the structure of themed inquiry to look at Western and non-Western art across history. Artworks will be studied through the lens of “Nature, Spirit, and Religion,” allowing students to explore the role of art in making, changing, and maintaining the elements of society and how this impacts the human experience across various cultures and periods of history. The themes examined under this lens will be Beauty and the Human Form, Animals and Spirits, The Natural World: Land and Sea, Representation/Identity, Sexuality.

The major goal of this course is to give students a grounding in looking at art and making sense of what they see. As they learn the skills of observation, analysis, and interpretation, students examine the stylistic, iconographic, and technical development of architecture, painting, sculpture, and craft art.

Themes will be on a two-year rotation, allowing students to take the course twice. The Individual and Society will be offered in 2023-24.

## **ART610** Senior Studio: Advanced

major elective | grade: 12 | prerequisite: Foundation plus one of the following: Drawing & Painting; Color & Design; Digital Art; Photography or 3-Dimensional Art. Drawing & Painting and Art History are strongly recommended as preparation; departmental approval required

This advanced studio course stresses the development of technical and aesthetic skills and the development of original, personal vision. Both classical and contemporary approaches to visual arts will receive attention, with particular emphasis on personal expression through the synthesis of formal considerations. Other areas of study include color theory, abstraction, observational, conceptual, and narrative work. Guidance and support is provided for the preparation of a strong portfolio for college admissions. Regular homework and some reading and critical writing are required. Enrollment limited to 12 students per section and will be determined by a portfolio evaluation plus one directed assignment.

# ATHLETICS

The athletics program at GFS stresses participation and encourages all student-athletes to develop their capabilities to the fullest extent possible. We value excellence in each sport and aim to field successful teams that are competitive within the Friends Schools League as well as with other comparable schools. We want our student-athletes to be committed to themselves, their team, the GFS school community, and the Friends Schools League. In order to do this, it is imperative for students to learn what it means to cooperate with others, set individual and team goals, manage their time with other areas of their lives, deal positively with setbacks, and to learn the physical and technical skills demanded by their sport. It is our hope that as students progress through our athletic program, they can develop holistically, not only as athletes but build upon their role within the GFS community and beyond.

## ➤ GRADUATION REQUIREMENT NOTE

Students must participate in two seasons of Athletics in 9th grade and one season of Athletics in 10th grade.

| SEASON        | GIRLS  |                      | BOYS   |                      |
|---------------|--------|----------------------|--------|----------------------|
| <b>FALL</b>   | ATH802 | Cross Country        | ATH808 | Cross Country        |
|               | ATH803 | Field Hockey         | ATH809 | Soccer               |
|               | ATH804 | Soccer               | ATH806 | Crew*                |
|               | ATH805 | Tennis               |        |                      |
|               | ATH806 | Crew*                |        |                      |
| <b>WINTER</b> | ATH812 | Basketball           | ATH816 | Basketball           |
|               | ATH813 | Squash               | ATH817 | Squash               |
|               | ATH814 | Indoor Track & Field | ATH818 | Indoor Track & Field |
|               | ATH811 | Wrestling            | ATH819 | Wrestling            |
| <b>SPRING</b> | ATH822 | Lacrosse             | ATH826 | Baseball             |
|               | ATH823 | Softball             | ATH827 | Tennis               |
|               | ATH824 | Track & Field        | ATH828 | Track & Field        |
|               | ATH807 | Crew*                | ATH807 | Crew*                |

Several programs offer sport-specific, off-season training. Please contact the Head Coach or Athletics Director with questions.

\*Note on Crew: Rowing is a co-ed sport with additional fees associated with participation. GFS is committed to making all athletic offerings available to the student body. Information about financial aid is available through the Business Office.

## **ATHLETES AND GENDER**

GFS is committed to supporting gender nonconforming and transgender athletes. For more on inclusion at GFS, visit the Diversity, Equity & Inclusion page within the About Us section of the GFS website. Please contact our Athletics Director with questions or concerns.

## **ALTERNATIVES TO ATHLETIC REQUIREMENTS**

We value the sense of community, camaraderie, physical well-being, and skill development that come through participating in athletics at GFS. It is our expectation that all students will actively participate in our program and fulfill the athletic requirements.

Students who have undertaken a clear course of study and demonstrated a solid commitment to an out-of-school sport may request an alternative for one athletic season at GFS. Since this out-of-school sport would replace an existing part of the school curriculum, both family and school must give careful thought to such a decision. This does not apply to an activity that is new to a student. Parents make requests by submitting the Alternatives Request Form during the course sign-up period. In addition, students must confirm this request during online course sign-up. Students will be asked for timely updates about their alternative athletic commitment and the school will be in touch with the designated coach outside of school. Decisions will be made by the Requirements Committee (Upper School Division Director, Director of Athletics, PE Department Head, and, as appropriate, the Grade Dean). Every attempt will be made to communicate these decisions in a timely manner.

# CLASSICAL LANGUAGE

The Classics department offers Latin and Greek in grades 7-12. Our Classics teachers focus on training students to develop proficiency in the languages and become close, analytical readers of the literature. We also explore the ancient world through the lenses of class and socio-economic status, citizenship and enslavement, gender and sexual orientation, and race and ethnicity. Our program covers quite a breadth of material. Students read, analyze, interpret, and connect to a wide range of poetry and prose texts, and learn about ancient philosophy, rhetoric, culture, and history. Events like Classics Day involve our students in lively, collaborative learning, and our Classics Trip abroad approximately every three years allows our students a chance to see their texts in context. Many students go on to study Classics in college and beyond.

## » GRADUATION REQUIREMENT NOTE

Students must complete a Level III modern or classical language to graduate. Anyone considering dropping a Classical language must get approval from the Head of Classics.

### **CLA710** Ancient Greek I

major elective | grades: 9, 10, 11, 12

This course provides an introduction to ancient Greek, beginning with learning the alphabet, a parent of our own alphabet. From this, students study vocabulary, syntax, and grammar with the goal of completing about half of the foundational grammar. Students also read short selections from ancient authors and explore the cultural context of the language in myth, history, and art. Along with the other Greek classes, students put on a performance for Classics Day.

### **CLA720** Ancient Greek II

major elective | grades: 9, 10, 11, 12 | prerequisite: Ancient Greek I

In this course, students complete their study of basic ancient Greek grammar. By the end of the year, students transition to translating original ancient Greek in preparation for reading Greek literature in the following year, whether heroic epic, myth, history, or drama. Students also continue to study the cultural context of the language. Along with the

other Greek classes, students put on a performance for Classics Day.

### **CLA730** Ancient Greek III

major elective | grades: 10, 11, 12 | prerequisite: Ancient Greek II

Starting in the third year, students begin to translate and explore actual ancient literature. Topics and genres will vary year to year and may include Greek history (e.g., Herodotus or Xenophon), legal oratory (Lysias), tragedy (Euripides), or epic (Homer). We will explore the social and historical context of the works as well as their literary aspects and later influences.

### **CLA740** Ancient Greek IV: Advanced

major elective | grades: 11, 12 | prerequisite: Ancient Greek III

Topics and genres will vary year by year and may include Greek history (e.g., Herodotus or Xenophon), legal oratory (Lysias), tragedy (Euripides), or epic (Homer). We will explore the social and historical context of the works as well as their literary aspects and later influences.

## **CLA750** Ancient Greek V: Advanced

major elective | grade: 12 | prerequisite: Ancient Greek IV

Topics and genres will vary year by year and may include Greek history (e.g., Herodotus or Xenophon), legal oratory (Lysias), tragedy (Euripides), or epic (Homer). We will explore the social and historical context of the works as well as their literary aspects and later influences.

## **CLA310** Latin I

major elective | grades: 9, 10, 11

Latin I is an introduction to the basic forms, vocabulary, and grammar of Latin, and is taught through English, with a strong emphasis on mastering grammar and forms in sentences. Students begin exploring the vocabulary and examining cognates that bring life to words in English, French, Spanish, and other languages. Alongside this, students study various aspects of the history, culture, and everyday life in Ancient Rome and Greece.

## **CLA320** Latin II

major elective | grades: 9, 10, 11, 12 | prerequisite: Latin I

This second-year course completes the study of Latin grammar, continues the building of essential vocabulary, and provides increased emphasis on reading longer Latin passages about history, mythology, and life in the ancient world. Students develop the skills necessary to read Latin as the Romans wrote it, and to consider the historical and cultural implications of their language and literature.

## **CLA410** Latin III (History)

major elective | grades: 10, 11, 12 | prerequisite: Latin II

Students who love history will have the opportunity to immerse themselves in an interdisciplinary study of Latin and history. The centerpiece of the course concerns the immediate events that brought the Roman Republic to an end. By reading excerpts from Caesar's narrative accounts and Cicero's letters and speeches, as well as other authors, students will become intimately familiar with the primary documents that have survived from this time — documents which every historian of this period must rely upon and know. Alongside learning new grammatical constructions, rhetorical devices, and story-telling techniques, students will explore the political, historical, and social context of the period and consider how our readings live today through the lenses of democratic philosophy and current events.

## **CLA420** Latin III (Poetry)

major elective | grades: 10, 11, 12 | prerequisite: Latin II

Students who love myths and legends will have the opportunity to examine human nature through the windows and mirrors offered by mythological mortals and gods. Latin III Poetry focuses on Ovid's works: *The Metamorphoses*, *The Amores*, and *The Heroides*. Ovid appeared at an important juncture in Roman literary history, flourishing after Horace, Vergil, and Catullus had died, and just as the Roman empire was taking form. Ovid's magnum opus, *The Metamorphoses*, will lead students through Greek myths and ancient legends in the epic meter of dactylic hexameter. In Ovid's *Amores*, his shorter poems written in elegiac couplets, his persona is struggling with various aspects of love, including rivals and rejection. *The Heroides* is a series of imagined letters by women characters from mythology to the men who rejected them. At each stage, students will examine the nature of language, the deeper meaning of words, and the nuance of the poetic. Alongside learning new grammatical constructions, literary devices, and storytelling techniques, students will explore the history and social context of the period and consider how our readings live today in the world of art, music, poetry, and current events.



## **CLA510** Latin IV: Advanced

major elective | grades: 10, 11, 12 | prerequisite: Latin III – History or Literature

In this course, we will focus on Vergil's *Aeneid* as a literary, historical, and philosophical text, and will discuss such topics as the nature of epic and the use of symbolism in poetry. While continuing to refine their skills in translation, use of meter, and knowledge of literary devices, students will also consider the *Aeneid*'s place in the broader, intercultural literary tradition, both as inheritor of the earlier epics and as influencer on later works. Students will also produce a film for Classics Day.

## **CLA610** Latin V: Advanced

major elective | grade: 11, 12 | prerequisite: Latin IV

Students will read, discuss, and write on a variety of Roman authors and topics, chosen in consultation between the students and the teacher. Readings chosen will allow for continuing exploration of issues vital to both the Roman and contemporary worlds and will be explored with a lens that focuses upon social contexts, historical and cultural background, and literary interpretation. On Classics Day, Latin V students stage a Roman triumph, having first read about triumphs in ancient prose and poetry. Other projects will be developed through student teacher collaboration.

## **CLA800** History and Future of Language

minor elective | grades: 10, 11, 12

In this course, students will examine the evolution of spoken and written language, the story of the English language, the current state of languages around the world, and future linguistic possibilities in the global stage. Students will study the science, sounds, and psychology of language, the relationships between languages around the world, how languages change over time, and language current events, while considering concepts of universality, globalization, and identity.

# COMPUTER SCIENCE + DIGITAL MEDIA

The Computer Science and Digital Media Department provides coursework rich in opportunities for building fundamental skills and exploring programming, robotics, electronics, and digital design. Our programming language of choice is the widely-used Python, a favorite for introductory courses in high schools and colleges due to its gentle learning curve. Additional levels of programming offer our student programmers a substantial forum for learning the skills and techniques necessary for sophisticated large-scale projects. Digital Media coursework at GFS, combining technology and design, provides students with the opportunity to develop design skills and explore the creative potential of technology, using the suite of offerings associated with the Adobe Creative Cloud. The department revises its courses every year to account for student interest and the dynamics of this rapidly changing field. All Computer Science + Digital Media classes are pass/fail.

## » COMPUTER SCIENCE MAJOR

A Computer Science Major is comprised of two eligible minors taken simultaneously. At course sign-up, students wishing to create a Computer Science Major should select CS 990 Computer Science Major.

### **CS111** Robotics

minor elective | grades: 9, 10, 11, 12 | one semester

This fun one-semester, no-homework minor elective uses robots to introduce students to the intersection of computer programming and mechanical/electronic devices. Students will assemble robots and then learn to program them to perform tasks, ranging from simple (moving forward, turning on a light, etc.) to complex (finding and retrieving an object, playing soccer, etc.). Most units culminate in an exciting challenge: teams of students try to get their robot to accomplish a task (e.g., robot bowling, relay races, tug of war) more effectively than the other teams. No previous experience in robotics or programming is necessary. Students signing up for Robotics may request their preferred semester, first or second. Enrollment is limited to 12 students per section.

### **CS130** Computer Science I: Introductory Programming with Python

minor elective | grades: 9, 10, 11, 12

This full-year minor elective seeks to introduce students to computer programming. We will focus on learning Python, a programming language used at many colleges and high schools as their introductory language. The learning curve for Python is gentle, so students learn the basics quickly and produce simple programs easily. Students will progress to more advanced projects, such as interactive games, card games, and casino simulations.

No previous experience is necessary.

## **CS131** Introductory Programming: Girls Who Code

minor elective | grades: 9, 10, 11, 12

This Girls Who Code section of Introductory Programming (see previous course description) will also include meetings with women in the field to discuss their work in technology.

No previous experience is necessary.

*A Note on Introductory Programming: Girls Who Code; To encourage girls to study technology, we offer this “girls only” section of Introductory Programming. This section reflects our desire to address the gender gap in technology and engineering. Girls are welcome to take either Introductory Programming offering.*

## **CS140** Computer Science II: Data Science & Object-Oriented Programming

minor elective | grades: 10, 11, 12 | prerequisite: CS I or with  
Department Head approval

This full-year elective course builds on the skills developed in CS I. The course continues to use Python to examine more advanced topics in programming and introduces students to R, a data science program used for statistical analysis. The class will explore data collection, visualization, and analysis using R and topics such as graphics, user interface, abstraction, recursion, hash tables, and object-oriented programming using Python. This class also serves as a brief introduction to the concept of machine learning and algorithms. Students will divide their time between learning concepts and working on their own programs, either in collaboration or independently.

## **CS150** Computer Science III: Algorithms & Computer Organization

minor elective | grades: 11, 12 | prerequisite: CS II or with  
Department Head approval

This course is split into two units. The first unit consists of exploring algorithms and data structures with Java, an object-oriented programming language. This will introduce students to the language that is featured on the AP exam (GFS does not require or discourage students from taking AP exams). The second unit introduces students to computer

organization, or how a computer works. They will learn about digital logic and explore how transistors interact by modeling them with Arduino boards. Students will be briefly introduced to low-level languages such as C and Assembly.

## **CS155** Computer Science Programming Capstone

minor elective | grades 11, 12 | prerequisite: CS III or with  
Department Head approval

The Capstone course in the Computer Science/Digital Media department is the culmination of the academic courses we offer in programming. It builds on the concepts and skills covered in the CS-II and III programming classes. This course will focus on larger projects and, in many cases, students will work in teams. Students will identify a complex problem or project that requires them to apply, and extend, their programming skills and knowledge, and produce an appropriate programmatic outcome. This course is based on student interest, so students will drive the content of the class.

## **CS171** Digital Design I

minor elective | grades: 9, 10, 11, 12

This introductory survey course is open to students eager to explore and develop their creative and technical design skills. While following industry-level digital design methodologies and practices, students gain experience with Adobe Creative Cloud tools, including Illustrator, Photoshop, InDesign, and After Effects. Students apply their knowledge and skills to create a variety of hands-on projects in digital illustration, digital compositing and online graphics, print media design, and motion graphics design. Supporting topics include creative direction, typography, design principles and techniques, and human-centered design. Throughout the course, class readings and discussions introduce a historical overview as well as emerging trends, and students share their original work and critically reflect on their classmates' work as well as real-world examples. Students will be able to use and apply their skills in course work and projects throughout the curriculum and in clubs and student publications such as *Earthquake*, *Polyphony*, and *Anno*.

## **CS160** Web Design & Development I

minor elective | grades: 9, 10, 11, 12

This course covers the basics of designing web-sites, as well as web development using the HTML and CSS authoring languages. Students learn about the creative design of web-sites, including the strengths, constraints, and limitations of this medium of communication. Students code their own web pages from scratch, using the latest web standards and tools, such as HTML5, CSS3, coding software, wireframing, and browser tools and plug-ins for web developers. Students complete several assignments and projects to master the course objectives, including a final project to create an original design for a microsite on a topic of the student's choice. To support their work, students complete readings from the course texts and selected articles; they share their original work and critically reflect on real-world examples.

## **CS180** Mobile Application Development I

minor | grades: 9, 10, 11, 12

Mobile Application Development (M.A.D.) I is an entry-level course in the Computer Science and Digital Media Department. This elective presents students with key concepts and terminology involved in mobile technologies. Students of all coding experience levels are welcome, as this class is responsively designed around student interest and familiarity with technology. Topics covered in this course include user experience design, interface design, business analysis, technical documentation, and project management. This project-based course will operate like a start-up and allow students to work in teams to create a mobile application that solves a problem for a specific group.

## **CS200** Machine Studio

minor elective | grades: 10, 11, 12

This course will introduce students to the processes of developing, prototyping, and testing simple machines that include motors, gears, levers, and pendulums. Students will learn 3D modeling, 3D printing, and laser cutting, as well as traditional fabrication techniques. The class will follow a lecture and workshop format as students prototype inventions, create works of art, and critically revise design objects to update their function. This course is a collaboration between the Computer Science and Art departments. Enrollment is limited to 12 students.

## **CS210** Digital Humanities: Advanced

major elective | grades: 11, 12

This class connects the dots between all the various courses you have taken in high school thus far. Together, we will explore how the languages of technology are translating and encoding society. Art meets Science meets English meets Math, all through the lens of our increasingly digital world and the data it generates. Everything from the ads we see on social media to the legal decisions rendered by our judges is affected by algorithms and clouds of information. This course will give you the skills to filter and make meaning of the rising tide of data. Together, we will learn how to understand and parse text, visuals, maps, and networks to uncover the stories hidden in the metadata around us. The objective of this course is to introduce students to the scope and impact of data science in all fields of study. Students in Digital Humanities will level up their understanding of technology, critical thinking, and communication skills. Through independent and group projects, students will craft research questions and draw conclusions validated with data and research. This content-rich, interdisciplinary class will have regular readings, graded discussions, presentations, research reports, and group/individual projects.

Digital Humanities is open to Juniors and Seniors interested in weaving together a broader understanding of their educational journey across the humanities and sciences. This course will stretch your analytical, research, and reporting skills.

## **CS300** Game Design I

minor | grades: 9, 10, 11, 12

This course will introduce students to the Game Development Process. Students will explore the process of planning, producing, and testing video games. Students will begin the year by creating demo versions of popular games, such as Asteroids and Mario. Following the completion of the demos, students will follow the game development process to create a game of their own. Students will gain exposure to the field of game design, by meeting a professional game designer. Design explorations will be undertaken using Game Maker Studio 2 and Unity. Using this software, students will create 2D and 3D games while gaining a greater understanding of C#.

## **CS172** Digital Design II

minor | grades: 10, 11, 12 | prerequisite: Digital Design I

Digital Design II reinforces the themes and processes introduced in Digital Design I. Students will continue to develop their repertoire of skills as they work on projects related to digital illustration, branding, interface design, and visual communication. Students will further their expertise with Adobe Creative Cloud tools and other creative software to develop specialized skills in support of a student-driven final project. This course will also include extensive industry mentoring, and guest lectures, and virtual tours to expose students to opportunities available in creative technology fields.

# DIRECTED INDEPENDENT STUDY

GFS encourages students to take initiative in their own education. Last year, more than 150 students pursued their particular interests beyond the GFS course catalog by developing a Directed Independent Study (DIS) in consultation with a faculty advisor.

## A DIS MIGHT BE COMPOSED OF ONE OF THE FOLLOWING:

- Individual or group study with a GFS teacher on a subject of mutual interest
- Language classes taught by a part-time instructor
- An online course not already included in the GFS catalog
- A significant weekly project (such as tutoring in a neighborhood school)

### **DIS800** DIS Major

major elective | grades: 11, 12

Students in the upper grades may elect a program of Directed Independent Study as part of their academic schedule. A DIS major is equivalent to a full-credit course and graded in the same way. DIS majors may not replace a preexisting course offering without the permission of the department in question. In the past year, students have created DIS majors in Arabic, Japanese, Philosophy, Creative Writing, and Animation.

### Proposing a DIS Major

Interested students first consult with the Director of Independent Study.

Students must submit a formal proposal to the Director of Independent Study by early May for approval by the Academic Standards Committee.

Students choosing independent study are required to keep a journal, to write a major paper each quarter, and to make periodic informal presentations of their work. In the spring, they are required to make a

formal presentation of their work to their advisor and two other faculty members.

Students should expect to meet regularly with an advisor (a member of the faculty or another adult) and with the Director of Independent Study.

### DIS Minor

minor elective | grades: 9, 10, 11, 12

Students may elect a program of Directed Independent Study as part of their academic schedule. A DIS minor should demand the same commitment as the equivalent of a minor elective course. DIS minors may not replace a preexisting course offering. Students may create a course of study that focuses on an academic interest or a community outreach project within GFS or in the Germantown community. DIS minors have included philosophy, biology research, oil painting, creative writing, computer programming, and tutoring at GFS or local elementary schools. Students must consult with the Director of Independent Study to discuss the details of their DIS. Those who develop a DIS minor after course sign-up must register for a DIS minor before October 1. For more details, email the Director of Independent Study.

## Opportunities in World Languages

A variety of languages are offered for minor or major credit as part of the Directed Independent Study program that supplement the Modern Language and Classics offerings. Students may elect to take a language DIS in addition to, but not in place of, their foreign language requirement. A language DIS may be taught by an outside instructor or by a GFS teacher. Students wishing to create a DIS Major in a global language should refer to the previous section, Proposing a DIS Major.

When signing up, students should indicate their level of study in the notes section of the electronic sign-up form.

### **DIS540** American Sign Language

minor elective | grades: 9, 10, 11, 12

This DIS in American Sign Language and Deaf Culture is a credit/no credit course. Three levels are offered.

### **DIS500** Arabic

minor elective | grades: 9, 10, 11, 12

This DIS in Arabic language and culture is a credit/no credit course. Three levels are offered.

### **DIS900** German

minor elective | grades: 9, 10, 11, 12

This DIS in German language and culture is a credit/no credit course. Three levels are offered. Availability strictly limited by teacher's schedule.

### **DIS810** Italian

minor elective | grades: 9, 10, 11, 12

This DIS in Italian language and culture is a credit/no credit course. Three levels are offered.

### **DIS520** Japanese

minor elective | grades: 9, 10, 11, 12

This DIS in Japanese language and culture is a credit/no credit course. Three levels are offered.

### **DIS970** Russian

minor elective | grades: 9, 10, 11, 12

This DIS in Russian language and culture is a credit/no credit course. Availability strictly limited by teacher's schedule.

## Other Opportunities

### **DIS INVESTMENT** Investment

minor elective | grades: 9, 10, 11, 12

Students in the Investment DIS will learn about the stock market, interest rates, and investment strategies for stocks, bonds, exchange-traded funds and mutual funds. They will also have an opportunity to invest funds set aside in a philanthropic trust account. This DIS meets every Wednesday at 8 am, and requires approximately one hour of independent work per week.



# ENGLISH

Students engage in lively dialogue with texts in English classes at Germantown Friends School. Close critical reading of novels, poems, plays, and essays invites students to develop an appreciation for literature, and the classroom provides a forum for exploration and expression of ideas. Through thoughtful analysis, creative response, and reflective writing, students grapple with the perspectives and ideas of a diverse and ever-expanding repertoire of authors. Students contemplate a range of issues introduced within texts and consider the larger social implications of their reading. We also ask them to consider historical context. Writing is at the center of everything we do, from personal and analytical essays, short stories, and poems to chapbooks, graphic novels, manifestos, scenes, podcasts, and newspapers. Along the way, students gain increased syntactic flexibility and precision through the study of grammar, vocabulary, and rhetoric. A hallmark of the department is the Essentially English program in the spring of tenth, eleventh and twelfth grades, which allows students to elect innovative day or nighttime classes. Our program cultivates writers and readers who are joyous, reflective, honest, and artful.

## » GRADUATION REQUIREMENT NOTE

Students must complete four years of major coursework plus one semester of Style Fundamentals to graduate.

## » NOTE ON PROGRAM FOR GRADES 10-12

- **Quarters One, Two, and Three:** English is devoted to the required courses at each grade level.
- **Quarter Four:** The English Department shifts to elective courses in its Essentially English program for students in grades 10-12.

Essentially English courses can be elected by adults in the community, including parents. Some courses are held in the evening (from 7-9:15 p.m.).

## ENG310 Representations of Identity

required major | grade: 9

Ninth-grade students study works of literature that explore issues of identity. Included in the curriculum are a short story unit, *Claire of the Sea Light*, *A Christmas Carol*, *Klara and the Sun*, a Shakespeare play, and *Dr. Jekyll and Mr. Hyde*. Vocabulary study is based on words drawn from the texts. Teachers emphasize expository and creative writing with three substantial written projects each semester. Through

active reading, students learn to support their arguments with carefully chosen textual examples and consolidate their knowledge of MLA format, style, and correct punctuation by drafting and revising their essays. Regular grammatical instruction reinforces topics covered in the Style Fundamentals course. Concurrent with our critical and structural study of short stories and poetic forms, students write their own short stories and various poems, compiling a writing portfolio by the year's end.



## **ENG650** Style Fundamentals

required minor | grade: 9 | one semester

In addition to their regular English classes, students in ninth grade will study key elements of style and grammar during one half of the year. Topics include, but are by no means limited to, clear reference, phrases and clauses, subordination, syntax, and clarity. Coursework will be supplemented by written assignments and practice using worksheets. The semester concludes with a major summative assessment.

## **ENG410** The Poetry of Language

required major | grade: 10

Students in sophomore English examine the ways that writers create meaning through imagery and language, as well as the ways that writers are created by their own worlds. Students read Sophocles' *Oedipus Rex* and/or *Antigone*, Mary Shelley's *Frankenstein*, William Shakespeare's *Macbeth*, and Madeline Miller's *Circe*, along with poetry by diverse authors. Dramatic and oral presentations are particularly important; students memorize and perform choral odes, soliloquies, blues songs, and dramatic scenes. Formal and informal writing assignments provide frequent opportunities for students to work on usage and coherence in their own creations. An emphasis on drafting, peer-editing, and thoughtful revision develops student voice and precision of expression. Vocabulary lists are drawn from the reading.

## **ENG510** Literature and Composition Part I: Advanced

required major | grade: 11

Junior English classes focus on authors whose innovative writing challenged the status quo and continues to resonate today. Through close reading, study of form and content, and investigation into historical context, we cultivate student engagement. Class discussions invite students to delve into challenging texts and present their ideas and interpretations to their peers. Books studied include F. Scott Fitzgerald's *The Great Gatsby*, Nella Larsen's *Passing*, Jean Toomer's *Cane*, and Yuri Herrera's *Signs Preceding the End of the World*. Shorter texts include Wilde's play *The Importance of Being Earnest*, Franz Kafka's *Metamorphosis*, and short stories from Yiyun Li's collection, *Gold Boy, Emerald Girl*. As they read,

students learn about parallels in the visual arts, specifically photojournalism, modernism, Romanticism, and expressionism.

Writing is central to the course: Students compose informal reading responses, formal analytical essays, poetry, narratives, and creative nonfiction. They undertake an intensive study of the essay, including examples by Langston Hughes, Gloria Anzaldúa, David Sedaris, Chang-Rae Lee, Rebecca Solnit, and Margaret Atwood. Through revision, writing conferences, and workshops, we encourage students to sharpen their writing skills, experiment with style, and develop an academic voice of their own.

## **ENG610** Literature and Composition Part II: Advanced

required major | grade: 12

Advanced Literary Analysis, Poetics, and Composition (Part II) is an intensive course in the analysis of literary texts and writing. The literature frames issues of aesthetics and politics in a global historical context, emphasizing major movements such as realism, modernism, and postmodernism, as well as major historical periods, such as the transatlantic slave trade and colonial and postcolonial eras. The course covers a range of genres from modern and postmodern fiction and drama to poetry and the literary essay.

Students examine the ways in which identity, conceptions of self and other, and understandings of home are formed through language. Literature may include James Joyce's *Dubliners*, Yaa Gyasi's *Homegoing*, and a play by William Shakespeare; as well as shorter works by an array of writers like Claudia Rankine, Jamaica Kincaid, Evie Shockley, Jericho Brown, Toni Morrison, James Baldwin, and David Foster Wallace. Students attend the performance of a locally produced play. Writing assignments are designed to build skills and explore important concepts and include in-class essays, an expository personal essay, a comparison paper, a paper using secondary sources, an essay based on a moral dilemma, a creative work of prose, a character analysis, and an original poem.

## ENG700 Poetry Workshop

minor elective | grades: 10, 11, 12

In Poetry Workshop, we work together to develop a writing practice for ourselves and each other, placing composition and the development of literary voice at the center of our work as we explore the aesthetic, political, and transformational possibilities of language.

Students produce new work for each class session. We highlight and celebrate experimentation with poetic form. As we read contemporary poetry and the poetry of previous centuries aloud, we will observe successful elements of composition. Students will master a vocabulary for discussing and analyzing poetry. As we learn about ourselves and each other as readers and writers of poetry, we will construct a portfolio of a year's worth of work, organize several readings/events, and seek out opportunities for growth and exposure to poetry in the Philadelphia area. We will also hold ourselves accountable to GFS as a poetic community, highlighting poetry and fostering poetic connections between disciplines and divisions.

## NEW ENG710 Short Story Workshop

minor elective | grades: 10, 11, 12

Students will be introduced to advanced elements of storytelling and have the opportunity to explore and apply the principles of fiction writing. Various readings will expose them to the many possibilities open to the fiction writer. Students will workshop their pieces, learning the art of giving constructive feedback to their peers—and receiving it. Students must be comfortable sharing their work and open to hearing feedback and integrating the input of others into their revisions. This workshop will provide students the opportunity to produce a portfolio of polished writing that they can use as a supplement to their college applications as well as submit to literary competitions such as the Scholastic Writing Competition.

## ENG431 Introduction to Journalism

minor elective | grades: 9, 10, 11

In this introductory class, students will learn the fundamentals of journalism, from how to write a compelling lede and catchy headline to how to conduct an interview, develop a story angle, and pitch an article. We will cover a variety of journalistic forms, including the basic news story, features, profiles, Q&As, and Op-Eds, and will introduce the *AP Stylebook*. Weekly assignments will include reading, research, reporting, writing projects, and peer editing. The goals for the course are for each student to publish at least one piece in the Upper School's news magazine, *Earthquake*, in print or online, and to emerge with a new set of writing and editing skills.

## ENG430 Narrative Journalism

minor elective | grades: 10, 11, 12

This course will employ storytelling techniques—plot, conflict, and theme—to convey news. Using the classic tools of fiction writers to tell factual, nonfiction stories, students will focus on story concept, character development, reporting, and research to exercise their narrative voice by writing in-depth, long-form articles. In the process, they will learn to cultivate ideas, hone descriptive-writing skills, and play with tone as they craft compelling narratives to deeply engage readers. This style of journalism is most commonly found in publications such as *The New Yorker*, *The Atlantic*, *Harper's*, and *The New York Times Magazine*, where average story lengths are upwards of 2,500 words. Students will read and discuss many examples of long-form journalism, including Truman Capote's *In Cold Blood* (one of the most influential pieces of creative nonfiction), as well as share their own writing with their peers in a workshop setting. Learning to craft a narrative that engages readers and explores complex ideas and controversial issues is a skill that will benefit any aspiring writer. Students will complete the course with a portfolio of 2-3 long-form articles.

# HEALTH EDUCATION

The health of our bodies, minds, and spirits informs all that lies before us in life. The goal of the Health Education Department is to lead students in understanding that our individual health does not stand alone, but is integrated into every aspect of our lives and is greatly impacted by our identity. Our aim is to educate students on the merits of clear communication and the clarification of their values. We also show them how to access credible health information. Health Education courses are developmentally appropriate and cover a range of health topics, including sexuality, mental health, mindfulness, safety, alcohol and drug use, nutrition, and healthy eating. Health education is interdisciplinary by its very nature—we continually collaborate with both the DEI, science, and physical education departments.

## » GRADUATION REQUIREMENT NOTE

One semester of the minor course Health Education 10 is required in grade 10. A full year of the minor course Life Issues is required in grade 12.

### **HEA401** Health Education 10

required minor | grade: 10 | yearlong course

Health Education is a course focused on decision-making and information gathering on the topics of mental and emotional health, drugs, and sexuality. We begin with a mindfulness-based, stress-reduction program, where together we explore and practice different forms of meditative practices to cultivate our ability to pay attention to the present moment with the hope of allowing us to make more thoughtful decisions. We also discuss stress and our stress reactions, how we experience and process the world through our body, thoughts, and emotions, and ways to cultivate gratitude in our everyday lives. Another main focus of the mental health unit is how to recognize when someone needs help and how to seek help for yourself or others. Sleep, addiction, depression, anxiety, and disordered eating are also addressed. We then examine substance abuse at a societal level as well as the individual consequences of choosing to use, including addiction. We explore drug-related issues through various lenses, including current research, statistics,

media, societal norms, and direct and indirect pressure. Sexuality is presented in a holistic manner, and the topics include sexual identity, gender and society, reproductive health, and building and maintaining healthy relationships. All topics in the course are explored through information gathering, analysis of media, personal reflection, and discussion.

### **HEA600** Life Issues

required minor | grade: 12 | yearlong course

The objective of the Life Issues course is to provide students with the information and tools they need to navigate their senior year and the transition into the next phase of their life, including college. The course is coordinated with Advisory meetings once a cycle all year. The course focuses on a list of topics that the students help generate, including personal finance, mental health, and mood disorders, happiness, stress, basic car maintenance, resume writing and business communications, personal safety, healthy romantic relationships, maintaining a strong relationship with parents and family, buying and preparing food,

physical intimacy, sexual consent, bystander intervention, contraception, sexually transmitted infections, sexual identity, social media, and alcohol and drug use. We recognize that many parents and caregivers are also reflecting on how to prepare students for their lives after GFS and are happy to offer resources to support these conversations.

### **HEA500** **Queer Culture: Past, Present, and Future**

minor elective | grades: 9, 10, 11, 12

In *Queer Culture: Past, Present, and Future*, students will examine the scope of queer culture from early societies to the present day with an eye towards our ever-expanding future. Students will begin by delving into queer theory, its origins, where it stands at current, and where it is headed. We will then survey ancient LGBT cultures, settling into a more in-depth exploration of the Americas with *A Queer History of the United States* by Michael Bronski. The study of history will segue into a look at queer art & culture, queer surrealism, and finally queer futurity. Guest teachers will join us over the course of the year to share about areas of expertise as they relate to queer culture. Over the course of the year, students will engage in several creative research projects.

### **HEA520** **Public Health and Modern Society**

minor elective | grades: 9, 10, 11, 12

In *Public Health*, students will examine the scope of public health and how it works in our society, from conceptual theories to real-life applications. Students will begin by becoming acquainted with the history of modern-day public health and epidemiology. Once that foundation has been built, we will examine public health in today's world, paying specific mind to disparities and differences that exist in groups based on race, sexual orientation, gender identity, age, sex, ability, etc. A group of diverse guest lecturers, who are experts in their fields, will join us over the course of the year. These lectures will coincide with heritage, awareness, and appreciation months, but will also be flexible to include developing situations happening in the world. Students will formulate a research question based on a sector of public health they are interested in. This will culminate with a research proposal presentation for faculty and staff, as well as public health professionals.

# HISTORY

In our history classrooms, students and faculty explore and challenge ideas together, building on the foundational Quaker belief in continuing revelation. Examining differences and empathizing with multiple perspectives are central to this process. We endeavor to help students make meaning out of a variety of sources through thoughtful questioning, close reading, analysis, and research. Students and faculty practice communicating ideas with clear, direct expression supported by evidence. Creating historical consciousness — the consciousness that people in the past had different values, assumptions, and worldviews from people in the present — is foundational to our work together. Our hope is to gain a deeper sense of our own identities, develop moral understanding, and foster engaged citizenship that will contribute positively to the world.

## » GRADUATION REQUIREMENT NOTE

Students must complete three years of major coursework in History.

United States History: Advanced is also required by GFS and the State of Pennsylvania.

African American History is a required course.

### **HIS310** Comparative Cultures

required major | grade: 9

Students take an interdisciplinary approach to this study of culture and society, developing important skills in critical thought, research, writing, and collaboration. By examining how different peoples address a variety of social challenges, students gain a better understanding of their own cultures and societies. The course also fosters cultural competence with its careful look at the context and history of people around the world. Topics covered may include value systems, governance, social relationships, economic systems, cultural expression, and intercultural dynamics. The course's rigorous writing curriculum helps students grow as analytical thinkers, requiring them to organize large quantities of course material in crafting arguments that are clearly expressed and supported with trustworthy evidence. One quarter-long unit guides students through a step-by-step research process that starts with formulating a question on a topic of their choice and ends with writing a sound research paper.

### **HIS500** African American History

required major | grade: 10

This course will take a comprehensive approach to studying the African American experience, including contemporary issues, in the United States through explorations of identity formation, African history, and the contributions of Black people to the growth and development of the country. Central to the course will be seeking to understand the ways that race and racism, both institutional and individual, influence our larger history as well as our interpersonal relationships and experiences. Students will continue to hone skills including critical reading of primary and secondary sources, in-depth analysis of historical concepts, identifying and evaluating historical sources, and presenting ideas in writing and presentations. In this course, students will deconstruct the traditional mainstream view of America's history, understand the complicated ways that we come to know and live race in the United States, and, in the words of the National

Museum of African American History and Culture, “dream a world anew.”

## **HIS610** United States History: Advanced

required major | grades: 11, 12

United States History is a survey course that examines the development of the United States as a cultural, political, and economic entity from its 17th-century European and African antecedents to the recent past. Heavy emphasis is placed on primary sources through numerous documents and images collated by the faculty. Students are also given recent books by historians, which change from year to year, together with selected scholarly articles. Students are required to express their understanding through a combination of intensive classwork, papers, tests, debates, presentations, and simulations.

## **HISTORY ELECTIVES**

major elective | grades: 11, 12

Students interested in pursuing these electives may select either a yearlong course or two semester-long courses. For the latter option, students must select both a fall and a spring course to create a yearlong history major that allows them to delve into two different areas of interest for one semester each.

### **YEARLONG SEMESTER ELECTIVES**

## **HIS431** Applied Economics: Advanced

This course utilizes the principles of design thinking to identify a real-world problem and produce a solution. That solution will serve as the underpinning of a company that students will run in a virtual economy with over five hundred schools from around the country and thousands more internationally. Students will compete in a simulated global economy, using the Virtual Enterprise International global business simulation; this offers students a competitive edge through project-based, collaborative learning and the development of 21st-century skills in entrepreneurship, global business, problem-solving, communication, personal finance, and technology to explore macroeconomic concepts. In addition to running a virtual business, students will compete individually and in teams in monthly national challenges focused on the

following areas: elevator pitch, branding, newsletter, website, regional and national business plans. Students interested in adding to their portfolio in the following areas should consider this course: leadership, graphic design, web design, branding, marketing, social media, accounting, finance, human resources, negotiating contracts, and competition.

### **FALL SEMESTER ELECTIVES**

## **HIS474** The Making of the Modern World: Advanced

The “Age of Reason” spans the era from the Reformation and Scientific Revolution in the 16th and 17th centuries to the Enlightenment of the 18th century. The changes brought about during this “early modern” period shaped the mindset of the modern age from the American and French Revolutions to the present. In this course, we will study the events and ideas that have contributed to our current world, focusing on the political, social, and intellectual developments that have formed the basis for many democratic societies.

## **HIS431** United States Government & Civics: Advanced

In our modern twenty-four-hour news cycle, we are continuously inundated with news about our government: The Supreme Court is considering a case that could dramatically change gun laws or abortion access, the president is unilaterally changing immigration law or environmental policy, Congress is gridlocked and cannot seem to pass anything. But what does it all mean? This advanced government class will teach you the most important facts about how our government runs and will encourage you to think deeply about how it should be running. Topics might include how the federal courts should interpret the Constitution, why the president is so powerful, the extent to which democracy is beneficial to society, and possible reforms to improve government functionality.



## **HIS451** War and Peace: The Modern Middle East: Advanced

This course will examine the conflicts and politics of the Middle East in the 20th- and 21st-centuries. Our studies will include the history and geography of the region, focusing on the breakup of the Ottoman Empire, the mandate system, and the lead-up to the UN partition of Israel and Palestine. Students will grapple with multiple perspectives in that complex conflict, as well as others, and examine peace negotiations. The ongoing conflict in Syria will also be studied, as well as other case studies based on student interest and current events. The course will prioritize analyzing the causes and effects of current challenges, understanding the perspectives of diverse stakeholders, and considering possible local and international solutions. The U.S.'s involvement in the Middle East conflicts in recent decades, with an eye towards the government's strategy, may also be discussed.

### SPRING SEMESTER ELECTIVES

## **HIS473** World Revolutions: Advanced

When does a protest turn into a rebellion? When does a rebellion turn into a revolution? People have long attempted to change their governments employing different strategies and achieving varying degrees of success. In this course, students will first analyze various theories about how revolutions come about and factors that determine whether they succeed or fail. We will then engage in a comparative study of some of the most significant political revolutions in the past several centuries, including those in England, the United States, France, Haiti, Mexico, Russia, China, and Cuba. We will also investigate more contemporary revolutionary movements such as the "Velvet" Revolutions in Eastern Europe and the Arab Spring in the Middle East and North Africa. Finally, Students will explore current geopolitical "hotspots" to look for indications of coming revolutions. ¡Viva la revolución!

## **HIS462** Modern U.S. Political Ideologies and Issues: Advanced

Why are conservatives such jerks? Why are liberals so clueless? We live in a culture that encourages us to demonize those who hold different political views than we do. This class seeks to overcome that divide by discovering how kind, thoughtful people can come to drastically different conclusions about what is best for the country. After spending half of the semester seeking to uncover the core values of conservatives and liberals, the course will turn to analyses of modern issues that divide the American electorate, such as immigration, health care, and inequality. The final project will require groups of students to research a modern issue of their choosing, find compelling arguments from the political left and right about how to solve that issue, and lead the class through a careful analysis of the arguments.

## **HIS433** Patriot Woman, Case Studies in US Women's History: Advanced

What does it mean to be a patriot in the United States? What are the requirements and expectations of patriotism and how do these requirements & expectations change when the "patriot" in question identifies as a woman? This course will seek to answer these questions as we explore the unique experiences of women from all cultural backgrounds who engage in civic discourse and involve themselves in the public affairs of their communities. From politically active women in the pre-revolutionary period, to the prosecution of women activists, and women currently running for the highest elected offices, we will examine the challenging social contexts that have constrained women and the ways women have responded to, rebuked, and changed those norms.

# JUNIOR/SENIOR SEMINARS

## **NEW SEM430** Mythology and Monstrosity

major elective | grades: 11, 12

Why are myths over 3,000 years old still so alive today? Myths explore what it means to be humans, both as individuals and in a collective society. Monsters lurk not only outside, but lie even more dangerous within if we lose our sense of humanity. How true are myths and what is their relationship to facts? As Madeleine L'Engle once said, "Truth is what is true, and it's not necessarily factual." This course will delve into such questions, centering on ancient Greece and Rome, but will also examine other cultures' traditions (e.g. Egyptian, Chinese, Norse, etc.). We will explore ancient myths and their influence down through the ages to modern times. We will examine them not just through the lens of narrative, but also anthropology, art, history, psychology, and drama (theatre and film), and include ancient works such as Homer's epics, the plays of *Sophocles*, *Euripides*, and stories of *Ovid* among others as well as modern pieces, such as Bruegel and Bearden's visual artworks, poems by Auden and William Carlos Williams, a novel by Shamsie, and film by Cocteau.

## **NEW SEM420** Media Studies

major elective | grades: 11, 12

The study of media can tell us a lot about the world in which we live, especially in regards to race and class. Looking at billboards, political propaganda, memes, and examples of high culture, low culture, and the subcultures in between will give students the chance to examine the textured ways humans communicate with each other. With an understanding of rhetoric and visual analysis, students will learn to decode and alter the terabytes of information and media surrounding them. The objective of this course is to unflatten students' perspectives about media as it exists today, in the past, throughout the world, and into the future. This content-rich interdisciplinary seminar will have regular readings, graded discussions, presentations, research reports, and group/individual projects. In the first quarter, students will explore the relations between media, culture, and society and learn about the paradigm shifts from oral to visual to digital formats. Topics during the first semester include stereotypes and media bias as well as how to critically assess news and branding. During the second semester, students will study media from a global perspective, exploring its relationship to intellectual property, public domain, and the public trust. Students will learn how to look at any artifact, like a piece of furniture, and discern the cultural and socioeconomic factors that produced it. The course will culminate with a research project on the implications of media transforming into clouds of data. Media Studies is open to students interested in stretching their analytical skills and leveling up their verbal and visual communication skills.



# ADDITIONAL OFFERINGS

## **SEM950** Social Justice

minor elective | grades: 9, 10, 11, 12

This course will introduce students to Seeking Educational Equity and Diversity (SEED) concepts and dialogue techniques in the examination of race, gender, sexual orientation, and class. We will explore systemic, interpersonal, and intra-personal issues related to our social identities and social positioning in the United States. We will examine contemporary and historical contexts related to issues of inequity, inequalities, and societal oppression. SEED uses evidence-based methods to support transformative social justice dialogue and activism. This course is designed to help students understand how to lead social justice dialogues that can produce real equity, inclusion, and anti-racism.

We will discuss racial identity, anti-racism efforts in schools, the criminal justice system, and youth activism. We will also explore the roles of ally-ship/accomplices. We will embrace our stories, empathize with others' stories, and learn powerful lessons from our "windows and mirrors." We will consider how our social identities are impacted by systems. We will analyze how systems create and reproduce intersecting oppressions. SEED methods will help us to engage in authentic dialogue, show up as our whole and authentic selves, and connect deeply with one another through sharing narratives, engaging dialogue-based activities, analyses of texts, film, art, and videos.

## **SEM990** Peer Writing Advisors Part II Theory into Practice

minor elective | grades: 11, 12 | prerequisite: Peer Writing Advisor Training (Essentially English course)

Peer Writing Advisors are students trained to work with other students one-on-one on writing assignments. They believe that writing is communicating. This course expands on the content of the spring training of the Peer Writing Advisors and translates much of the theory covered in that course into the practical work of being a PWA. During the fall portion of a Peer Writing Advisor's work, more specific questions arise, as well as a desire for deeper knowledge and expertise that would bolster their one-on-one sessions with students. Throughout this year-long minor, topics will include: how to "read" a school culture to offer a relevant service, the politics of teaching grammar, and how to lead a writing workshop to a group. Relative to the spring training, students receive more direct observation and feedback; students receive more feedback on their own writing from both the teacher and their fellow cohort members; and students learn how to support various types of learners, such as ESL students and students with learning differences. Assessments include committee work, self-assessments, presentations, and publicly available blog entries and writing assignments.

# MATHEMATICS

The math program strives to equip each student with the skills to think logically and analytically and to articulate strategies for solving problems, particularly those related to math and science. We seek to develop a student's understanding of algebra and other mathematical concepts throughout the curriculum. Topics in each subject are explored visually, symbolically, and verbally. Scientific and graphing calculators and various software applications are used as instruments for exploration and deeper understanding. Our aim is to encourage students to become confident in their math abilities and to recognize math as a powerful subject and tool. The standard mathematics progression is rigorous, leading to advanced courses in calculus and statistics. In addition, accelerated courses are offered at each grade level, beginning in eighth grade. These courses move at a faster pace and explore topics in greater depth and breadth.

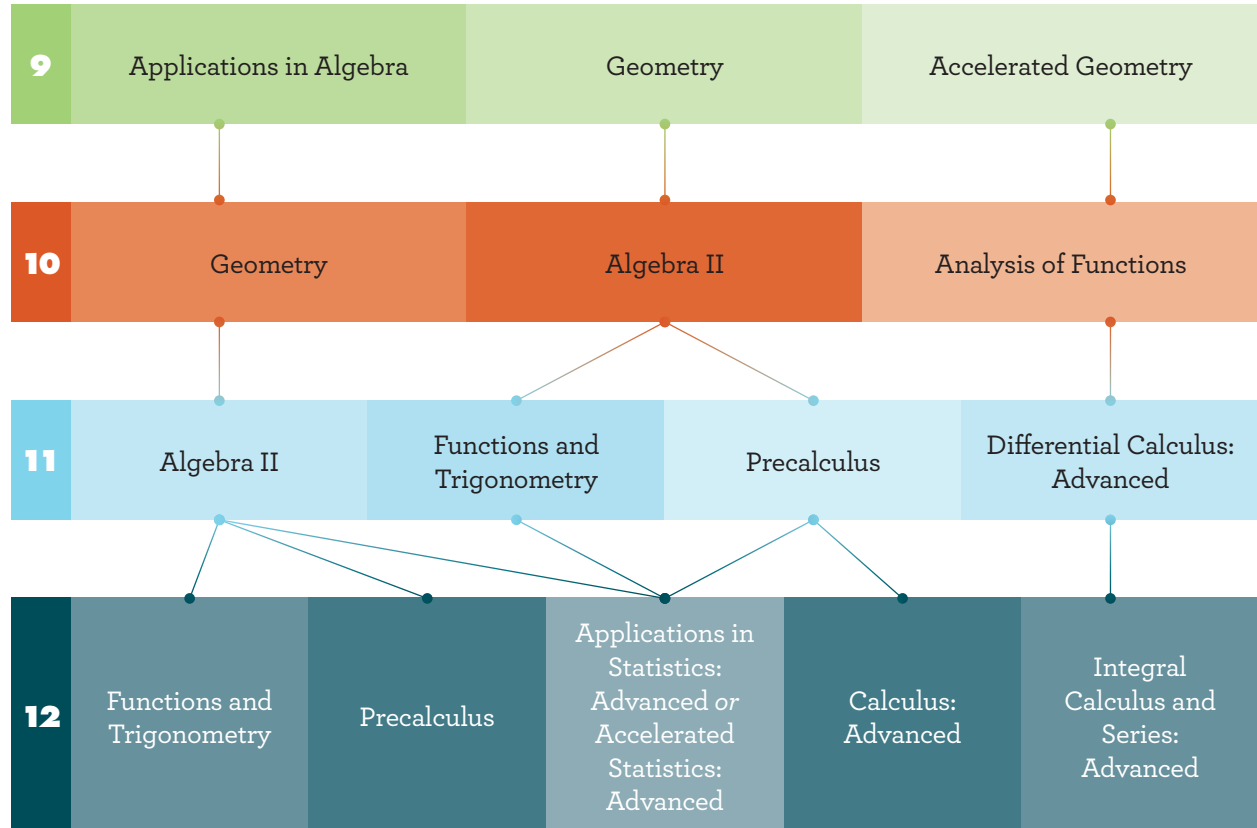
## » GRADUATION REQUIREMENT NOTE

Students must complete three years of major coursework to graduate. Because students progress through the math program differently, there is a range of courses that can be elected to fulfill these three years of required coursework. Please attend closely to information about prerequisites and departmental approval.

- Placement in accelerated courses is based on student performance, teacher recommendation, and the approval of the math department.
- Students in an accelerated course who wish to continue on to the next accelerated math class must have the approval of the math department.
- Students who wish to move from a standard course to an accelerated course must have the approval of the math department and earn an A in the current standard course.
- A student who moves out of an accelerated course, or who drops math before the requirement is met, must have the approval of the math department.
- The courses Accelerated Geometry and Analysis of Functions can lead to the equivalent of two years of college-level Differential and Integral Calculus. When enrolling in Differential Calculus, students must commit to taking the full two-year sequence: typically Differential Calculus in eleventh grade and Integral Calculus and Series in twelfth grade.

## MATHEMATICS COURSE OFFERINGS 2022-23

Lines indicate typical course progression, but students may deviate from this in some instances. Calculus or Integral Calculus students may concurrently add a Statistics course in twelfth grade with departmental approval.



### **MTH310** Applications in Algebra

can fulfill required major for grade 9

The Applications in Algebra course gives students an opportunity to further explore the connections between Algebra I topics and the real world. Students build foundational comprehension of algebra concepts and skills as they examine how mathematics can be used to analyze and model the world around them. Particular emphasis will be placed on constructing methods for exploring what algebra can teach us about topics in social justice, the sciences, and economics.

### **MTH420** Geometry

can fulfill the required major for grades 9 or 10 | prerequisite: Algebra I or Accelerated Algebra I

This course in Euclidean geometry includes the study of geometric figures, shapes, angles, parallel lines, similarity and congruence, circles, area and volume, coordinate geometry, and introductions to analytic geometry and trigonometry. The deductive thought process is emphasized throughout this course, and algebraic skills are reviewed and reinforced. Through the process of writing two-column proofs, students construct logical arguments and develop valid conclusions. Students will explore and visualize concepts using dynamic geometric software. The goal of this course is for students to think geometrically and to see geometry in the world around them.

## **MTH430** Accelerated Geometry

can fulfill the required major for grade 9 | prerequisite: Accelerated Algebra I; departmental approval required

This course takes a strong analytical approach to the study of Euclidean geometry. Progression through this course is broader and more rigorous than MTH420 Geometry. Some topics of study include geometric figures, shapes, angles, parallel lines, similarity and congruence, circles, area and volume, coordinate geometry, and trigonometry. Proofs are emphasized throughout the year to develop strong deductive reasoning. Students will explore and visualize concepts using dynamic geometric software. Algebra will be used frequently in the development and solving of problems. Through the process of making conjectures and testing hypotheses, students will develop a deeper appreciation for thinking geometrically as they defend their thought processes.

## **MTH520** Algebra II

can fulfill the required major for grades 10 or 11 | prerequisite: Geometry

Building from the topics covered in Algebra I, this course guides students through an exploration of linear and nonlinear functions. Students gain fluency in translating between representations of patterns as equations, tables, and graphs. Students also examine function behavior, particularly by exploring transformations and function inverses. Throughout the course, real-world applications and problem-solving activities will provide students with the opportunity to demonstrate a deeper understanding of the material. Students will also use the TI-Nspire, online graphing calculators, and web resources as they explore these topics.

## **MTH530** Analysis of Functions

can fulfill the required major for grade 10 | prerequisite: Accelerated Geometry; departmental approval required

This accelerated-level course moves at a brisk pace while covering a robust selection of topics from Algebra II and Precalculus. The course focuses on algebraic manipulation of expressions, equations, and inequalities. Students will make deep connections between functions and their graphs and explore graphs of non-functions not encountered in previous courses. Rich problem-solving and proof-writing opportunities are integrated into each unit, providing students with a solid base to enter the two-year Differential and Integral Calculus sequence. Students are encouraged to engage with each other to develop understanding through classroom discourse and to persevere through complex, abstract topics.

## **MTH610** Functions and Trigonometry

can fulfill the required major for grades 11 or 12 | prerequisite: Algebra II

Functions and Trigonometry can be an alternative to Precalculus. This course expands on topics from Algebra II and focuses on enhancing students' algebra and problem-solving skills. Topics include exponential and logarithmic functions, polynomial and rational functions, and trigonometric functions, sequences, and series. This course is for students who have completed Algebra II and wish to strengthen and broaden their mathematical background.

## **MTH620** Precalculus

can fulfill the required major for grades 11 or 12 | prerequisite: Algebra II; departmental approval required

Precalculus builds on material from Algebra II and provides a necessary foundation for further mathematical studies. Polynomial, rational, exponential, and logarithmic functions are explored graphically and algebraically. Additionally, Precalculus includes a study of trigonometry from analytical and graphical perspectives, bringing together concepts learned in Geometry and Algebra II. Students planning on taking Calculus must take Precalculus.

## **MTH630** Differential Calculus: Advanced

can fulfill the required major for grade 11 | prerequisite: Analysis of Functions; departmental approval required

Differential Calculus delves deeply into the topics of limits, derivatives, and derivative applications. This is the first year of our accelerated two-year study of calculus. It covers material that is typically found in the first course of college calculus. In addition to the foundational skills of calculus, the course covers selected advanced precalculus topics. Students in Differential Calculus can expect to explore and discover differentiation rules and their underlying reasoning through labs, proofs, and technology. This course aims to build strong mathematical thinkers and communicators and an emphasis is placed on proper notation and the formation of a strong mathematical argument. Students who take this course are expected to complete the calculus sequence by taking Integral Calculus the following year.

## **MTH720** Calculus: Advanced

major elective | grade: 12 | prerequisite: Precalculus; departmental approval required

Calculus begins with a review of essential material from previous courses, which leads to the central calculus concept of a limit, the underlying foundation of the derivative, and the integral. In addition to exploring these big ideas, the course delves into the procedures involved in differentiating and integrating a variety of functions and then explores applications of these calculus techniques. This course covers the skills and concepts of a first-year college-level course.

## **MTH730** Integral Calculus and Series: Advanced

major elective | grade: 12 | prerequisite: Differential Calculus; departmental approval required

Integral Calculus is a thorough investigation of the integral and its role in the study of calculus. This is the second year of our accelerated two-year study of calculus. It covers material that is typically found in the second course of college calculus. The integral is built upon the ideas of limits, summation, and the infinite; that is where the course starts. The main content consists of techniques of integration, applications of the integral, and infinite series. The work is rich, algebraically intense, and detailed. Students are guided to craft solid and clear mathematical arguments, and they will see many previously learned techniques surface throughout this work.

## **MTH710** Applications in Statistics: Advanced

major elective | grade: 12 | prerequisite: Algebra II or Analysis of Functions

If mathematics is the language that describes the natural world, statistics is the language of society. This yearlong, project-based course emphasizes statistical literacy through exposure to the foundational concepts of statistics while also exploring the relevance and role of modern-day statistics. Topics include displaying data numerically and visually in one and two quantitative variables, designing experiments and surveys, understanding basic probability, and introductory statistical inference. The main goal of the course will be to use these tools and techniques to represent and interpret data in meaningful ways while also developing the tools to critically evaluate verbal and written claims made from data by individuals and organizations in our society. In addition, students will be required to read at least one nonfiction work reflecting current scholarship in statistics.

## **MTH810** Accelerated Statistics: Advanced

major elective | grade: 12 | prerequisite: Algebra II or Analysis of Functions; departmental approval required

This accelerated course begins with the same foundational topics and goals of Applications in Statistics. However, students in this class move through these concepts at a quicker pace, exploring more challenging problems and examples with a stronger emphasis on the formal mathematical derivations of procedures as they are developed. Students will cover the full range of inference procedures from a first-semester college statistics course, including one and two means and proportions, slope, and chi-square. It will then move on to more advanced topics, including curve straightening, statistical programming, multiple regression, and nonparametric tests.

## **MTH832** Topics in Advanced Mathematics I

minor elective | grade: 12 | prerequisite: Differential Calculus; departmental approval required

Study in advanced mathematics is available to students who want to explore advanced topics outside of our typical course progression. Based on the number of qualified students, as well as their interests and background, course offerings and course formats may vary. The minor offered by GFS in 2022-23 is Explorations in Non-Rectangular Planes. Interested students should consult with the department head.

## **MTH834** Topics in Advanced Mathematics II

major elective | grade: 12 | prerequisite: Integral Calculus; departmental approval required

Study in advanced mathematics is available to students who have completed our typical course offerings. Based on the number of qualified students, as well as their interests and background, course offerings and course formats may vary. Previous offerings have included Multivariable Calculus and Linear Algebra. Students have studied advanced topics in mathematics courses offered by GFS faculty, the Global Online Academy, or another online course. Interested students should consult with the department head about available course offerings.

# MODERN LANGUAGES

The goal of the Modern Language Department is to equip students with the skills to achieve fluency in a new language. Graduates of the program will approach the world with a sustained curiosity, greater empathy, and openness to new people, places, and cultures. Students will develop listening, speaking, reading, and writing skills in the target language as well as cultural competencies. The department offers many diverse opportunities for student travel in line with our departmental goals.

## » GRADUATION REQUIREMENT NOTE

Students must complete a Level III modern or classical language to graduate. A second language, not fulfilling the graduation requirement, must be completed through Level II before it may be dropped.

## » ADDITIONAL NOTE

Grade levels listed for courses are typical. Students wishing to take a course out-of-grade should see the Department Head.

### MOD310 French I

major elective | grades: 9, 10, 11

This course sets the foundation for the acquisition of a modern language. Students will develop the linguistic skills necessary to learn a language in an immersion setting through the use of targeted vocabulary and expressions. The emphasis is on building communication skills through dynamic and interactive activities focused on four skills (listening, speaking, reading, and writing) while developing cultural competencies.

### MOD320 French II

major elective | grades: 9, 10, 11, 12 | prerequisite: completion of the two-year course in Middle School (French Ia and Ib) or French I

A dynamic classroom environment conducted uniquely in French provides ample opportunity to practice new language skills grounded in real-life scenarios. Several creative projects require Internet exploration on French-language sites, including a dedicated unit on the Francophone world. Students also read a short book, *Le Nouvel Houdini*, designed to improve all language skills. Basic grammatical structures and thematic vocabulary are acquired

through the use of *Bien Dit!*, the second textbook in a series. Continued exposure to French music, poetry, and rhymes provide students with the opportunity to improve their pronunciation and increase their aural comprehension. Students engage in spontaneous conversations and develop more extensive reading and writing skills by working with authentic and diverse materials.

### MOD410 French III

major elective | grades: 10, 11, 12 | prerequisite: French II

Students complete a thorough grounding of grammatical concepts and pertinent vocabulary through the continued study of the textbook *Bien Dit!*, news articles, and authentic texts, such as poetry and fables. Scripted conversations, spontaneous interactions, and oral presentations are used to improve proficiency and to gain confidence in oral expression. Aural comprehension is enhanced by exposure to podcasts, music, and French voices from around the world. Language skills are also reinforced through analytical and creative writing. Throughout the course of the year, Francophone culture is investigated through videos, Internet articles, and current events.



## **MOD510** French IV: Advanced

major elective | grades: 11, 12 | prerequisite: French III

This advanced level class provides a systematic review of finer communication skills, written and oral, as well as an introduction to literary analysis. A grammar textbook will offer an intense review of the language, while the International Baccalaureate coursebook will guide students through a variety of contemporary topics. Selected authors will represent the Francophone world with a concentration in the 19th, 20th, and 21st centuries through various genres, such as poetry, short story, novel, film, Internet articles, and a comic book. Students will demonstrate their proficiency through various assessments: quizzes, tests, oral presentations, essays, and group projects.

## **MOD610** French V: Advanced

major elective | grades: 11, 12 | prerequisite: French IV

This advanced-level French course is designed to further strengthen the students' expressive language skills, cultural competencies, and creative and analytical abilities in the target language. Finer points of grammar and stylistics are reviewed and enriched through the study of Francophone literature, art, cinema, news, and magazine articles. Literary pieces may include readings of Camus, Sartre, Duras, Schmitt, and contemporary short story authors. Formal writing assignments, oral presentations, and extemporaneous interactive discussions are required.

## **MOD810** Mandarin I

major elective | grades: 9, 10, 11

Students are introduced to the speaking and writing of Mandarin within a thematic context. Vocabulary and elementary grammar are taught through authentic videos, websites, music, and readings. Additionally, with the support of the textbook and workbook, students will be given a solid foundation in reading, writing, listening, and speaking. Cultural manners and connections are embedded into every unit for students to understand and connect to the traditions in the Mandarin-speaking world. The emphasis is on building communication skills through dynamic and interactive activities focused on four skills (listening, speaking, reading, and writing).

## **MOD820** Mandarin II

major elective | grades: 9, 10, 11, 12 | prerequisite: Mandarin I or placement | determined by placement test and teacher

This course provides a continuation of the goals of beginning Mandarin at a more advanced level. The use of authentic materials, film, articles, short stories, and music will enhance cultural awareness while developing reading, writing, and oral comprehension skills. Cultural manners and connections are embedded into every unit for students to understand and connect to the traditions in the Mandarin-speaking world. A greater emphasis is placed on character recognition and writing. In this intermediate-low level course, students begin to do oral presentations on contemporary and cultural topics.

## **MOD825** Mandarin III

major elective | grades: 9, 10, 11, 12 | prerequisite: Mandarin I or placement | determined by placement test and teacher

Students will further work towards the mastery of speaking and writing Mandarin. Readings of different genres will help students to develop their language skills and cultural awareness. In this intermediate-mid level course, students will do oral presentations on contemporary and cultural topics. Character recognition will be emphasized with limited support of pinyin. Language skills are also reinforced through analytical and creative writing. Assessments will be based on oral and written mastery, with an emphasis on spontaneous production.

## **MOD830** Mandarin IV and V: Advanced

major elective | grades 9, 10, 11, 12 | prerequisite: Mandarin III or IV | determined by placement test and teacher

Students will systematically work towards mastery of the speaking and writing of Mandarin. Students will solidify their sense of grammar and expand considerably the complexity and scope of their conversational fluency. Authentic readings in an array of genres will help students develop their skills and cultural awareness and understanding. Cultural manners and connections are embedded into every unit for students to understand and connect to the traditions in the Mandarin-speaking world. Students will be asked to complete presentations, and skits, and give oral reports.



## **MOD710** Spanish I

major elective | grades: 9, 10, 11

This course sets the foundation for the acquisition of a modern language. Students will develop the linguistic skills necessary to learn a language in an immersion setting through the use of targeted vocabulary and expressions. The emphasis is on building communication skills through dynamic and interactive activities focused on four skills (listening, speaking, reading, and writing), while developing cultural competencies.

## **MOD720** Spanish II

major elective | grades: 9, 10, 11, 12 | prerequisite: completion of the two-year course in Middle School (1a and 1b) or the yearlong Spanish I course

This course provides a continuation of the goals of beginning Spanish at a more advanced level. The use of authentic materials, film, articles, short stories, and music will enhance cultural awareness while developing reading, writing, and oral comprehension skills. Students are expected to speak exclusively in the target language and will begin to develop increased spontaneous speaking skills focusing on real-life scenarios.

## **MOD730** Spanish III

major elective | grades: 10, 11, 12 | prerequisite: Spanish II

Students complete a thorough grounding of basic grammatical concepts and increasingly sophisticated vocabulary as presented thematically in short stories and other authentic materials. Spontaneous conversation and oral presentations are used to improve proficiency and to gain confidence in oral expression. Aural comprehension is enhanced through exposure to podcasts, music, and Spanish voices from around the world. Language skills are also reinforced through analytical and creative writing. Throughout the course of the year, Spanish and Latin American culture is investigated through videos, internet articles, and current events.

## **MOD740** Spanish IV: Advanced

major elective | grades: 10, 11, 12 | prerequisite: Spanish III

This course is designed to improve students' mastery of grammar, reading comprehension, and oral fluency through short readings, discussions, and dramatizations, as well as creative and analytical reading and writing. The International Baccalaureate coursebook will guide students through a variety of contemporary topics. The curriculum may include units on identity, magical realism, war and propaganda, and folklore. Additional readings will include short stories, Spanish theater, a Latin American novel, poetry, essays, and periodical literature. Authors may include Jorge Luis Borges, Julio Cortázar, Federico García Lorca, Julia Alvarez, and Carlos Fuentes. Students will demonstrate their proficiency through various assessments: tests, quizzes, oral presentations, essays, and collaborative group projects.

## **MOD750** Spanish V: Advanced

major elective | grades: 11, 12 | prerequisite: Spanish IV

This advanced-level course will focus on increasing both students' language skills and their analytical abilities through the study of a novel, short stories, poetry, art, film, and online resources. Students will further explore the people, places, culture, and history of Latin America and its relationship to Spain. Authors may include Gabriel García Márquez, Isabel Allende, Sor Juana Inés de la Cruz, and Antonio Skármeta. Students will explore the Spanish Conquest of Latin America, women's voices in Latin American literature, dictatorships in the Southern Cone, and Latinidad in the United States today, while improving writing and speaking skills through guided discussions and directed grammatical study.

# MUSIC

Rooted in the conviction that students learn most about music by making and experiencing it, the Music Department offers numerous performance and skill-based classes throughout the GFS curriculum. In the Upper School, students may elect classes in both large and small ensembles, which typically culminate in public performances, as well as take academic music classes that cover specific historical topics, technical skills, or theoretical and practical understanding.

## » FULFILLING THE MUSIC REQUIREMENT

Two semesters taken in grades 9-12.

## » MUSIC MAJOR

The Music Major is comprised of two or more minor classes taken simultaneously to fulfill a major course requirement. Students may create a Music Major by combining an academic music course (e.g., Music Theory or Advanced Music Composition) with a performance music course (e.g., Orchestra or Choir). The number of course meeting times must be the equivalent of five or more classes. At course sign-up, students in grades 9-12 wishing to create a Music Major should select their two or more minors and also select MUS690. Departmental approval required.

## FALL OFFERINGS

### **MUS410** Music Connections

minor elective | grades: 9, 10, 11, 12 | one semester

This course explores how styles of music changed throughout history along with other art forms, based on what was happening in the world. Developments in communication, technology, and relationships between nations all played a part in how composers created music. Defining characteristics of four significant periods in music history will be identified, and parallels in styles of literature, visual art, fashion, and dance will be studied. Why did large concert halls become more common starting in the 1800s? What is the fabled tradition that goes along with Handel's famous "Hallelujah" chorus? How did the invention of recording devices change the music industry? These are some of the questions that we will consider. This project-based class requires no previous musical training.

### **MUS320** Musical Instrument Building

minor elective | grades: 9, 10, 11, 12 | one semester

This hands-on class will focus on how musical instruments are made. Students will experiment with sound production by designing and creating musical instruments from household and recycled materials. We will learn about the science of how instruments work in each of the major instrument families, not only in Western music but also in music from other cultures around the world. We will also compose short pieces for our homemade instruments. Projects may include constructing some of the following instruments: electric kalimba, tin whistle, Cajon, slide trombone, stomp percussion, PVC thongophone, cigar box guitar, and bamboo pan flute.

## **MUS310** Critical Listening in Music

minor elective | grades: 9, 10, 11, 12 | one semester

This class will challenge students to listen more deeply, carefully, and thoughtfully through the lens of recorded and live music. While learning about some of the more creative/artistic music genres (classical, ambient/electronic, jazz, and world music, to name a few), students will also examine the relationship between listening and mindfulness. We will learn about dissonance in music and art, about the difference between thematic and experiential content, and about some basic music theory ideas and how they pertain to our perception of music. Students can expect a hefty amount of listening and discussion, along with creative writing assignments meant to reflect on, and put to words, our listening skills.

## **MUS345** History and Impact of Hip-Hop

minor elective | grades: 9, 10, 11, 12 | one semester

In this course, students will explore the musical and social contributions and conflicts that hip-hop and rap have contributed to both American and global culture over the past half-century. In addition to studying the musical characteristics of both early and contemporary styles, students will discover the historical influences of the genre, including connections to jazz, gospel, and reggae, among others. Students will also compose, create, and record essential elements found in the genre, using the GarageBand app. The social impact of hip-hop will also be explored, with discussions centered around social justice, cultural appropriation, and other topics highlighted in the lyrics of rap and hip-hop.

## **MUS400** Music Essentials

minor elective | grades: 9, 10, 11, 12

This introductory course is designed to teach students the building blocks of music. Curriculum includes essential rhythm, harmony, melody, and instrumentation. Students will learn how to read notes in a variety of clefs, analyze music from various genres, and understand how to access music through performance and fundamental skills. This course is ideal for students who have limited experience with music but are eager to learn more.

## **SPRING OFFERINGS**

### **THT840** Ninth Grade Musical

minor elective | grade: 9 | one semester

In this course, students will rehearse and produce a full-book musical. They will engage in the process of taking a show from script and score to stage and performance. Students will have the choice of auditioning for a lead role or participating as a member of the ensemble. Once the show has been cast, the course will move to the rehearsal process, including the study of scene work, choral, solo, and dance pieces. In the final stages of the rehearsal process, the rest of the grade will also join the efforts and support the final production. Performances occur in early May and will require evening rehearsals. No previous singing or acting experience is necessary. May be taken for Music or Theatre credit.

### **MUS300** Songwriting

minor elective | grades: 9, 10, 11, 12 | one semester

This class will explore the craft of songwriting by listening and analyzing popular music, examining chord progressions, and studying melodic and chordal relationships. We will look at the role that poetry plays in lyrics, phrasing, and rhyme schemes, and dissect song structure, and social and political themes. Musicians and bands to be studied include the Beatles, Simon & Garfunkel, Joni Mitchell, Nirvana, and Bob Dylan. No instrumental or choral experience is needed, but these skills can be utilized in the class. Students will be able to record their songs on GarageBand and score using Sibelius or Noteflight. We will build the art of singing while playing, and potentially pursue keyboarding and guitar skills as an accompaniment.

### **MUS310** Critical Listening in Music

minor elective | grades: 9, 10, 11, 12 | one semester

This class will challenge students to listen more deeply, carefully, and thoughtfully through the lens of recorded and live music. While learning about some of the more creative/artistic music genres (classical, ambient/electronic, jazz, and world music to name a few), students will also examine the relationship between listening and mindfulness. We will learn about dissonance in music and art, about the difference between thematic and experiential content, and about some basic music theory ideas and

how they pertain to our perception of music. Students can expect a hefty amount of listening and discussion, along with creative writing assignments meant to reflect on, and put to words, our listening skills.

## YEARLONG COURSES

### **MUS360** Conducting

minor elective | grades: 9, 10, 11, 12

Through the development of basic conducting technique, students will develop the relationship between gesture and sound. New conductors will learn to demonstrate musical ideas clearly and efficiently through fundamental conducting gestures. The conducting gesture includes appropriate posture, the use of the baton, expressive and independent use of both hands, beat patterns, cueing, and control of tempo, dynamics, and phrase shaping. We will also study and review musical terminology, instrument transposition, and score reading. Students will need to purchase a baton (of their choice) for use in the class.

### **MUS880** Jazz Ensembles

minor elective | grades: 9, 10, 11, 12 | co-requisite: private instrumental lessons

The jazz ensembles are open to all instrumentalists who wish to explore music from the jazz tradition. Students explore facets of performing as an ensemble, with special attention given to the study of jazz history, important musicians, theory, improvisation, and listening to influential recordings. Styles of music other than jazz are sometimes included. Ensembles are arranged with regard to instrumentation, student ability, and scheduling. Students in the ensembles are required to take private lessons in order to gain facility and adequate technique. These skills will greatly enhance the proficiency of the individual and the collective progress of the ensemble. Performance opportunities include GFS assemblies, community events, and Jazz Night in April.

### **MUS790** Chamber Ensembles

minor elective | grades: 9, 10, 11, 12 | co-requisite: private instrumental lessons

The Chamber Ensembles are open to all instrumentalists who wish to explore music in small ensembles. Students explore facets of performing as an ensemble, with special attention given to the unique communication and independence of parts within this

structure. Repertoire is drawn from a wide range of genres, including classical, contemporary, pop, rock, medieval, and instrument-specific styles. Students who enroll in Chamber Ensembles are placed in duets, trios, quartets, or quintets to experience the unique and intimate level of communication that occurs in a small ensemble setting. Ensembles are arranged with reference to instrumentation and students' abilities; all instruments and levels of playing are placed in appropriate groups. Chamber ensembles may include traditional instrumentation (e.g. two violins, viola & cello) or more non-traditional formations (e.g. ukulele or guitar ensemble), depending on the students' interest. Students may also propose their own groups with the assistance of the Orchestra Director. Performances include community events, GFS functions, and the Chamber Music Concert in May. Interested musicians should speak with the Orchestra Director for placement.

### **MUS800** Orchestra

minor elective | grades: 9, 10, 11, 12 | co-requisite: private instrumental lessons

The Orchestra is open to all instrumentalists (except guitar) who wish to perform within a large ensemble context. (Pianists are often taught percussion technique as well.) The ensemble plays repertoire from a wide variety of genres, including classical, contemporary, Broadway, and pop music; these works are featured in many assemblies, the Holiday Concert, and the Orchestra Night concert. In addition to learning challenging repertoire, students focus on orchestral playing techniques that include accurate intonation, dynamic range, sectional blend, and musical phrasing. Students are required to take private lessons on their instrument in order to gain an adequate technical facility. Although most rehearsals occur during the academic day, occasional after-school and weekend commitments are required.

### **MUS940** World Percussion Ensemble

minor elective | grades: 9, 10, 11, 12

Study in percussion techniques from Africa, the Middle East, Cuba, and Brazil is available to any interested student. This course accommodates students of all levels, from beginner to advanced. Students will learn about the process of building a percussion ensemble based on the traditional instrumental and vocal cues used within the various cultures studied. Techniques and repertoire are

presented through rote, traditional notation, graph notation, audio and visual examples, and transcriptions. Instruments used are provided by the instructor and include Bata drums, Agbadza drums, doumbeks, djembes, and Gyili (African balafons). Students will develop an understanding of and appreciation for the collaborative nature of a percussion ensemble, and gain insight into their own creative forces via this genre. Although most rehearsals occur during the academic day, occasional after-school and weekend commitments are required.

### **MUS730** Chorus

minor elective | grades: 9, 10, 11, 12

Chorus is a large choral ensemble and is open to any student who wishes to participate in a singing group. Students in this ensemble work to establish and develop vocal technique, aural skills, and sight-reading abilities. Singers focus on both choral and choral-orchestral works in this ensemble, culminating with concert exhibitions in December and May, among others. This is a non-auditioned ensemble that is open to all students in the Upper School. Although most rehearsals occur during the academic day, occasional after-school and weekend commitments are required.

### **MUS750** Choir

major elective | grades: 9, 10, 11, 12 | Co-Requisite: Chorus

Choir is an auditioned choral ensemble in the Upper School that seeks to achieve excellence in choral study. Through the examination and performance of a diverse range of repertoire as well as participation in rehearsals and performances throughout the year, students develop their vocal technique, sight-singing skills, and sense of ensemble. Selection is through audition only and singers are expected to attend regular rehearsals and performances outside of the academic day, including biweekly Sunday rehearsals. Auditions begin in February of the preceding academic year and are open to all students entering the Upper School.

Singers are also required to attend Choir Camp, which will be held during the last weekend of August. Additional fees for Choir Camp, attire, and materials are required for this class; financial aid is available.

### **THT830** Musical Theatre

minor elective | grades: 10, 11, 12

This course develops the 'triple threat', someone who can act, dance and sing. We will study Broadway musicals, both past, and present, through the complementary but distinct lenses of libretto, score, and choreography. Students can expect to learn through participation as we study the vocal, acting, and movement techniques common in this genre of theatre. Coursework will also include dramaturgical studies of particular periods in history as they relate to the creative team and director's vision, performance, and writing styles of a given show. The course will culminate with an in-class showcase of student work and can be taken for either Music or Theatre credit.

### **MUS350** Sight Singing & Ear Training

minor elective | grades: 9, 10, 11, 12

This course develops the skills necessary to read and sing melodies at sight and notate aural material. Classwork includes the study of solfège, rhythm and meter, key signatures, the major, minor and chromatic scales, pitch and interval identification, dictation and error detection, conducting patterns, and the application of sight-reading to musical scores. Basic piano skills will be incorporated into our study as a tool for understanding pitch relationships. This course develops fundamental aural and sight-singing skills, building confidence that will prepare students for more advanced musical performance.

### **MUS710** Music Theory I

minor elective | grades: 9, 10, 11, 12

Students in this course study the fundamental skills and language of music in order to become increasingly expressive and literate musicians. Course content includes major and minor scales, intervals, key signatures, basic harmonic progressions, and rhythmic figures in simple and compound meters. Aural skills are developed through sight singing with solfège syllables, rhythmic dictation, interval identification, and melodic dictation. Four-part writing and analysis will be studied towards the end of the second semester.



## **MUS720** Music Theory II: Advanced

minor elective | grades: 10, 11, 12 | prerequisite: Music Theory or approval by Department Head

This course continues work in four-part writing and analysis through proper voice-leading technique and advanced harmonic progressions. Strong emphasis is placed on the development of aural skills through rhythmic and melodic dictation, as well as intervallic and harmonic identification. Students explore various compositional techniques, culminating in a performance of original works during a spring assembly.

## **MUS610** Music Composition I: Advanced

minor elective | grades: 11, 12 | prerequisite: Music Theory II: Advanced or approval by Department Head

This course focuses primarily on 19th-, 20th- and 21st-century Western music, developing the students' understanding of advanced chromatic techniques through both analysis and composition. The material covered includes variation technique, orchestration, form, and model composition. Throughout the year, students will learn a number of techniques to grapple with different repertoires, such as chromatic-mediant relationships in early-Romantic music, basic Riemannian functions for late-Romantic harmony, scale networks in Debussy and Faure, ostinato techniques in Stravinsky, post-tonal theory in Bartok and the Second Viennese School, and minimalist techniques in Part, Berio, and Reich. Our study of a wide diversity of musical styles will serve as an incentive for student compositions in those styles, and throughout the year students will compile a portfolio of their original compositions. The course will culminate with the performance of an original piece in a style of the student's own choosing during a spring assembly.

## **MUS620** Music Composition II: Advanced

major elective | grades: 11, 12 | prerequisite: Approval by Department Head

This course is a continuation of Music Composition I: Advanced and focuses on 20th- and 21st-century Western music, developing students' understanding of advanced musical techniques through analysis and original composition. The material covered will depend largely on student interest and

personal compositional goals, but some possible topics might include choral music, canonic and fugal writing, orchestration, scoring for film, video games, and theatre. Throughout the year, students will learn a number of analytical and compositional models to understand different repertoires, such as scale and modal networks from French music, ostinato techniques from Stravinsky and Glass, octa-tonic writing from Messiaen, and film scoring from Herrmann and Williams. Our study of a wide diversity of musical styles will serve as an incentive for student compositions in those styles, and students will compile a portfolio of their original compositional work so that they can track their progress. The course will culminate with the performance of an original composition during a spring assembly.

## **MUS910** Digital Music Recording and Production

minor elective | grades: 9, 10, 11, 12

This course is about the future of music. This is a digital age, and the absolute transformation of everything we thought music to be is well underway. This course is designed to inspire students to create new music and push the boundaries of what music is, has been, and can be in their lives. We will first survey the history of sound synthesis, the art of noise, and the role electronic technology has played in sonic culture throughout the past 120 years. We will timeline the progression from analog to digital recording, synthesizers, MIDI, beat-making, and finally today's 'in the box' software-based computer music. After providing a thorough background on electronic music, we will work primarily with Ableton Live, a software already installed on every computer in M-303. The class will cover the basic functionality of both hardware and software mixing consoles, and discuss the dichotomy between 'button-pushers' and 'real musicians' and how artists bring soul and true musicality to computer music.

# PHYSICAL EDUCATION

Physical Education in the Upper School is focused on fostering a culture of wellness through regular, meaningful physical activity for all members of our community. Our emphasis is on leading students to develop movement skills and to discover individual interests through their participation in class. Upon completion of a semester-long Fitness & Wellness course in the freshman year, students take on increased responsibility for choosing a PE activity plan that best meets their needs and interests.

## REQUIREMENTS

- 9th grade: One semester PE Ninth Grade Fitness and Wellness; two seasons Athletics
- 10th grade: Three seasons: one season of Athletics; choice of PE or Athletics for other two seasons
- 11th grade: Three seasons, choice of PE or Athletics
- 12th grade: Two seasons, choice of PE or Athletics

## GRADE 9

### **PE300** PE Ninth Grade Fitness and Wellness

required minor | grade: 9 | one semester

This interdisciplinary class provides a foundation for lifetime fitness and wellness and includes a thorough introduction to the use of our Fitness Center. The understanding and management of one's own fitness and health are at the core of the curriculum. Topics include nutrition, proper strength-training techniques, and the components of fitness.

## GRADES 10, 11, 12

The Physical Education Department provides a rich menu of options in terms of developing personal fitness and exploring fitness options. Students may choose to participate in physical education classes while they are playing a GFS sport but are not required to do so. Physical Education courses are offered by sport season: fall, winter, and spring.

Course offerings are organized as follows:

- GFS Fitness Club: Personal fitness activities that meet during or after school (see course descriptions for full information). Fitness Club is two workouts weekly.
- PE Electives: These courses generally occur during the school day and may vary by season. Courses meet for two or three single periods per 8-day cycle, or two extended periods per 8-day cycle to facilitate travel off-campus.

## YEARLONG ELECTIVES

### **PE610** GFS Fitness Club—After School

minor elective | grades: 10, 11, 12

Join the GFS Fitness Club and customize your personal fitness plan. This program consists of movement activities and classes that generally occur after school. Students commit to a minimum of 2 workout periods per week, choosing the days and times that are most convenient.

### **PE670** Personal Fitness

minor elective | grades: 10, 11, 12

Need to finish your school day by 3:20 p.m.? This Personal Fitness course consists of workout sessions that will occur during the school day. It will meet 3 times per 8-day cycle to allow two workouts per week. No after-school workouts are required. All skill levels are welcome as you develop an individualized plan that works for you.

### **PE601** Vinyasa Yoga

minor elective | grades: 10, 11, 12

This all-level vinyasa (flow) yoga class offers poses designed to stretch and strengthen your body using your own breath as your guide so that you can find the balance that is most appropriate for you! A strong emphasis is placed on proper alignment, which helps you to stay centered and present while avoiding injury. Poses, especially more challenging ones, are taught slowly and thoughtfully. This class offers a nice opportunity to release physical and mental stress while cultivating inner peace and relaxation—no experience necessary! Class meets after school twice a week. Students must be available each Tuesday and Thursday from 3:30-4:30 p.m. to take this class.

### **PE401** PE Classics

minor elective | grades: 10, 11, 12

This course is designed to have students play the “classics” of Physical Education such as, capture the flag variations, dodging games, kickball, and more! Students will participate in moderate to vigorous physical activity levels and use heart rate monitors while playing the “classics”. Students will have the opportunity to work with the teacher to choose games and sports that are of interest to them.

## FALL ELECTIVES

### **PE700** Badminton/Net Games

minor elective | grades: 10, 11, 12

Back by popular demand! Take your game to a new level. Hone your skills and play, play, play. We will begin with badminton and may include other net games, e.g. volleyball or pickleball based on student interest. All skill levels are welcome.

### **PE780** Wissahickon Hiking

minor elective | grades: 10, 11, 12

Take to the hills, rocks, and valley. Observe the re-awakening of the forest. Venture onto a variety of trails, and savor the spring. Bouldering and rock climbing are possibilities, depending on student interest. All skill levels are welcome.

### **TH1800** Movement for Theatre

minor elective | grades: 10, 11, 12

This course trains the actor in methods and techniques for opening and conditioning the physical body, one of the actor’s primary instruments for artistic expression. Students increase awareness, range, and freedom of movement while exploring the fundamental importance of space, weight, and time as theatrical principles. The course assumes a collaborative approach to theater-making in the study of ensemble-based techniques. Students can also expect to focus on flexibility, strength training, breathwork, coordination and balance, creative and improvisational movement. This is not a performance-based class and no prior experience is needed. This course can be taken for Theatre or PE credit.

## WINTER ELECTIVES

### **PE710** Archery

minor elective | grades: 10, 11, 12

Experience the Zen of this target shooting sport. All skill levels are welcome. The course, designed for students with some archery experience, uses both compound and recurve bows. Our purpose is to take students beyond the basic techniques of archery emphasizing the care and use of equipment, range safety, stance and shooting techniques, using a sight, scoring and competition, and learning how to teach novice archers. We will be following the USA Archery



Level 1 Instructor Curriculum. Students completing the course will earn a USA Archery Level 1 teaching certificate.

### **PE720** Volleyball/Table Tennis

minor elective | grades: 10, 11, 12

Are you an outside hitter, defensive blocker, or libero? Not sure? Delve into volleyball on the tactical level while you further hone your skills. In this class, we will up your game in two of the most popular recreational activities: volleyball and table tennis. Get ready to play, play, play!

### **TH820** World Dance

minor elective | grades: 10, 11, 12

This winter course is an opportunity to explore a number of cultural dance forms from Latin America and the African Diaspora. Accompanied by live musicians and led by guest artist teachers, students will feel the rhythms, learn the cultural significance, and experience the movement of several different global dance traditions. Students can expect this class to be vigorous but playful and a chance to move their body in a fun, low-stakes environment. This is not a performance-based class and no prior experience is needed. This course can be taken for Theatre or PE credit.

## **SPRING ELECTIVES**

### **PE760** Ultimate Frisbee/Disc Golf

minor elective | grades: 10, 11, 12

Get outside and play! Get comfortable learning to throw and catch the disc playing Ultimate Frisbee. Then try your hand at Disc Golf. We will travel to the Disc Golf course in Fairmount Park to play after learning how to throw disc “drivers” and “putters.” All skill levels are welcome.

### **PE770** Archery

minor elective | grades: 10, 11, 12

Experience the Zen of this target shooting sport. All skill levels are welcome. The course, designed for students with some archery experience, uses both compound and recurve bows. Our purpose is to take students beyond the basic techniques of archery emphasizing the care and use of equipment,

range safety, stance and shooting techniques, using a sight, scoring and competition, and learning how to teach novice archers. We will be following the USA Archery Level 1 Instructor Curriculum. Students completing the course will earn a USA Archery Level 1 teaching certificate.

### **TH810** Modern Dance

minor elective | grades: 10, 11, 12

This course is an all-level modern dance class that includes explorations in technique, improvisation, and choreography. Students will engage methods and language common to a variety of modern dance styles and concepts. Most material will be learned through physical participation as students deepen their awareness of the body and explore the connection between the physical, cognitive, and emotional aspects of themselves. Should they choose, students will have the opportunity to perform as part of the annual Poley Festival of student-created work. Course material will be leveled based on the experience of those registered, therefore, previous dance experience is welcome, but not necessary. This course can be taken for PE or Theatre credit.

## **Request for Alternative Physical Education Credit**

From ninth grade through twelfth grade, Germantown Friends School requires participation in athletics to foster community, camaraderie, and physical and mental well-being. Students who have an already established commitment to an outside-of-school athletic activity for off-season training or for a sport that GFS does not offer can apply for alternate credit through the alternate credit application. The request must be for an activity with a comparable time commitment and the family should provide details about the training or performance schedule including contact information for the coach or instructor. Students who are approved for alternate credit must complete assignments through Google Classroom to document their progress and train a minimum of six hours a week. Applying does not guarantee acceptance.

Remember that alternate credit requests are due the prior academic year. Requests at the beginning or during the current season cannot be granted.

# SCIENCE

The study of science provides students with powerful ways to understand the natural world. We seek to inspire students' curiosity, develop critical thinking and analytical skills, and provide a foundation for further exploration. Our curriculum emphasizes laboratory work, data analysis, problem-solving, and clear communication. All science courses are lab-based and meet for the equivalent of five periods each cycle. Typically, students take Physics in ninth grade, Chemistry in tenth grade, and Biology in eleventh grade. Advanced Physics, Advanced Chemistry, Advanced Biology, Principles of Engineering, and Environmental Science are available to students who complete introductory coursework. The Science Department also offers one minor elective, Human Anatomy; and Physiology, to tenth, eleventh, and twelfth graders.

## GRADUATION REQUIREMENT NOTE

All students must take three years of major coursework in science. Recommended sequence: Physics (9th Grade), Chemistry (10th Grade), Biology (11th Grade).

### SCI310 Physics

major elective | grades: 9, 10

This introductory physics course primarily focuses on concepts and laws of classical physics, especially mechanics, including the topics of motion in one and two dimensions, Newton's Laws of Motion, work, energy, power, circular and rotational motion, and the relevant laws of conservation. Material is also drawn selectively from wave motion, sound, light, and color. The emphasis in this course is on conceptual comprehension of this material, but there will be quantitative work that complements the information being studied. Frequent laboratory experiments and reading material will reinforce problem-solving skills. Participation in the Physics Olympics during Science Night is required.

### SCI720 Chemistry

major elective | grades 10, 11

This introductory course covers basic chemical vocabulary, nomenclature, stoichiometry, thermochemistry, gas laws, atomic theory, molecular geometry, equilibrium, and acid-base chemistry, and provides a solid foundation for more advanced work in chemistry and biochemistry. Weekly labs are included. Participation in Science Night is required. We strongly recommend that students take chemistry before taking biology.

## **SCI710** Biology

required major | grades: 11, 12 | prerequisite: Chemistry or departmental approval

This is an introductory biology course. Students study a range of topics in evolutionary biology, cell biology, systems biology, and molecular biology. Specific units include evolution and biodiversity, ecology, cellular structure and function, cell cycle, biochemistry, DNA and genetics, protein synthesis, cell respiration, photosynthesis, and systems biology. Labs and several projects give students hands-on experience with biological materials and concepts. It is strongly recommended that students take chemistry before they take biology. Participation in Science Night is required.

## **SCI810** Principles of Engineering: Advanced

major elective | grades: 11, 12 | prerequisite: satisfactory completion of Chemistry and Physics, and departmental approval

The solutions to society's greatest problems lie between disciplines. On top of that, the techniques necessary for approaching our most vexing questions are changing and will continue to evolve in unpredictable ways. In Principles of Engineering, students will work independently and collaboratively to use the engineering design process and equity-informed variables to design solutions to a variety of challenges. In that process, each student will master a number of skills, including fabrication, graphical analysis, data collection, time management, presentation, and critique. They will apply these skills to complete projects focused on different areas of Engineering, including Mechanical, Electrical, Civil, Chemical, and Biomedical.

## **SCI730** Advanced Chemistry

major elective | grades: 11, 12 | prerequisite: satisfactory completion of Chemistry; departmental approval required

This course covers much of the same material encountered in first-year college chemistry programs. Labs will occur on a nearly weekly basis and include experiments using pH, temperature, pressure, and other Vernier probes that employ computer-based data acquisition and analysis methodology. Topics covered include the structure of matter; solution stoichiometry; the kinetic theory of gases and gas laws; thermodynamics; quantum theory and periodicity; chemical bonding; the chemistry of solids, liquids, and solutions; kinetics and equilibria; acids, bases, and aqueous equilibria; spontaneity, entropy, and free energy; oxidation-reduction reactions and electrochemistry; nuclear chemistry; and a brief overview of organic chemistry. Students will develop a deep understanding of the foundational concepts of chemistry, fluency in dealing with complex chemical problems, and the ability to form mental models of the molecular world.

## **SCI750** Advanced Biology

major elective | grade: 12 | prerequisite: satisfactory completion of Chemistry and Biology; departmental approval required

This course focuses on a variety of topics, including, but not limited to, the origin of life, cancer biology, population genetics, gene regulation, genetic engineering, evolutionary theory, and phylogenetics. Laboratory activities are a part of each unit. During the spring semester, students will learn how to apply molecular data to analyze evolutionary patterns, and will work collaboratively to build a data set that can be used to answer a specific evolutionary question. Participation in Science Night is required.

## **SCI1770** Advanced Physics

major elective | grade: 12 | prerequisite: concurrent enrollment in or completion of Calculus or Integral Calculus; departmental approval required

This is a fast-paced course that will focus on a variety of topics, including mechanics, energy, electrostatics, circuits, and magnetism. We will integrate current events, both scientific and social, into our daily explorations. Advanced Physics builds on material from the introductory physics course, but the introductory course is not a prerequisite. This course is math-intensive and we will use calculus and trigonometry as tools to develop a rigorous understanding of the world around us. Computers will be used for simulation, data analysis, and the completion of labs. Experimental design will be an important aspect of the laboratory experience. Participation in Science Night is required.

## **SCI740** Environmental Science

major elective | grades: 11, 12 | prerequisite: Chemistry

Students will look at a wide range of topics covering five major themes: ecology, human population, energy and climate, resource use and reform, and applied sustainability. Concepts in each theme will be explored by considering global and local environmental issues with special consideration of current events as they arise. The coursework will make use of laboratory and field experiments, which use local resources, such as the GFS Cary Arboretum and the Schuylkill River, as well as a simulation of the UN Framework Convention on Climate Change. This course is designed for students who would like to pursue a science course that is not a second-year course in chemistry, biology, or physics. Participation in Science Night is required.

## **SCI800** Human Anatomy & Physiology

minor elective | grades: 10,11,12

Students will study basic principles of human form and function at the system level, including the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Laboratory activities will be included as part of each unit. In addition, students will engage in independent research.

# THEATRE

Our Theatre program provides a range of opportunities that allows every talent to find a place for expression. In addition to an active schedule of annual stage productions, students may elect to pursue coursework in the dramatic arts, movement, technical theatre, and film. Classes and productions focus on articulate speech, clarity of utterance, fullness of expression, and storytelling that explores both aesthetics and our common humanity.

## THEATRE GRADUATION REQUIREMENT

As of the class of 2024, and for all subsequent classes, students must complete one semester of Ninth Grade Theatre. Students in the class of 2023 must take the equivalent of two semesters of theatre or art.

## THEATRE MAJOR

A theatre major is comprised of two year-long minors (or the equivalent) taken simultaneously. At course sign-up, students in eleventh and twelfth grades wishing to create a theatre major should select their two or three minors and also select THT990 Theatre Major. Departmental approval required.

## THEATRE COURSES

### **THT725** Ninth Grade Theatre

required minor | grade: 9

This introductory class investigates the art of theatre and explores performance as a vehicle for self-expression; it aims to bring to life each student's personal sensibility as a storyteller, story-maker, and story-seeker. The course includes a survey of the ritualistic and performative storytelling methods that have developed throughout time and how they have evolved into the forms of theatre we currently practice. Students will engage with the storytelling of personal narratives, dramatic theory, writing, and physical theatre exercises, as well as explore elements of design and technical theatre. In the spring, students also have the opportunity to participate in the Ninth Grade Musical, a long-standing GFS production — onstage, backstage, and beyond. Please note: Ninth Grade Musical must be chosen as an additional elective.

### **THT840** Ninth Grade Musical

minor elective | grade: 9 | one semester

In this course, students will rehearse and produce a full-book musical. They will engage in the process of taking a show from script and score to stage and performance. Students will have the choice of auditioning for a lead role or participating as a member of the ensemble or stage crew. Once the show has been cast, the course will move to the rehearsal process, including the study of scene work, choral, solo, and dance pieces. Stage Crew will begin building the set and preparing lights, sound, and other technical aspects of the production. Performances occur in early May and will require evening rehearsals. No previous singing, acting, or technical experience is necessary. May be taken for Music or Theatre credit. Please note: participation in the Ninth Grade Musical is in addition to the required Ninth Grade Theatre course.

## **THT250** Dramatic Text & Performance

minor elective | grade: 10, 11, 12

What is acting and how is it done? How does someone become someone else? How does the actor free their emotions? How important is believability? Is acting an art or a craft? This course explores these questions and the evolution of actor training as we study and investigate the methods of Stanislavski, Uta Hagen, and Declan Donnellan. Students can expect to study acting techniques using outstanding dramatic classical and modern texts, chosen to reflect the interests and experience of the students enrolled. The class explores how different interpretations and a deep understanding of historical context affect both direction and performance. The fall will include an opportunity to participate in a Reader's Theatre performance of a dramatic work. The spring term study is dedicated to production and performance work for the Poley Festival.

## **THT200** Sketch Comedy & Improvisation

minor elective | grades: 10, 11, 12

In this comedy intensive, students will study long and short-form improvisation techniques. Using methods developed by Upright Citizens Brigade, Keith Johnstone, Viola Spolin, and Del Close, students will focus on character and plot development as they explore the famous 'Harold' long-form improv game. Students will then use improv to generate written material, individually and together as a group in a "writer's room," as they work to hone their sketch writing skills. There will be a balance of live performance and digital content creation, culminating in a *Saturday Night Live*-*Esque* final show. Students can expect to showcase their work as part of the spring Poley Festival.

## **THT830** Musical Theatre

minor elective | grades: 10, 11, 12

Acting, singing, dancing: this course is what they call a 'triple threat.' We will study Broadway musicals, both past, and present, through the complementary but distinct lenses of libretto, score, and choreography. Students can expect to learn through participation as we study the vocal, acting, and movement techniques common in this genre of theatre. Coursework will also include dramaturgical studies of particular periods in history as they relate to the creative team and director's vision, performance, and writing styles of a given show. The course will culminate with a showcase of student work and can be taken for either Music or Theatre credit.

## **THT122** Scriptwriting Workshop for Stage & Screen

minor elective | grades: 11, 12

Whether we are writing a script to be performed on stage or filmed for a streaming platform, we start in the same place: the empty page with a story in our mind. We then set out to create an event where bodies, language, sound, movement, and visual arts are equal partners in transforming an audience. In this writing workshop, students will study and explore playwriting and writing for television and film. Students will sample a range of scripts, surveying the vast array of structures. They will be offered writing prompts in class to hone various aspects of the form and can expect to write both a pilot script for TV and a one-act play. This is a course for students who enjoy writing and are eager to explore a new form.

## **TH940** Shakespeare Studio: Advanced

minor elective | grades: 11, 12

The influence of Shakespeare's plays on our language and culture is evident and alive in daily conversation and across artistic genres — cinema, theatre, opera, and pop culture. Shakespeare Studio is a course dedicated to the premise that few things are as interesting as the works of William Shakespeare. This course welcomes actors and non-actors alike. We seek a dynamic and diverse range of backgrounds and experiences. All voices are necessary when it comes to interpreting Shakespeare. Centered around four Shakespearean plays, the course gives students the opportunity to delve in and get to know them well. We will work around the table and get up on our feet. We will study as actors, directors, and dramaturgs in the staging of various scenes from the plays. Students will begin the course with a Shakespeare toolkit to introduce them to the world of text work, rhetoric, scansion, and dramaturgical study. Professional theatre artists will workshop various techniques and approaches to Shakespeare's plays. We hope to attend professional productions in the region and screen cinematic interpretations, considering varying directorial viewpoints.

## **DANCE & MOVEMENT COURSES**

### **TH800** Movement for Theatre

minor elective | grades: 10, 11, 12

This fall course trains the actor in methods and techniques for opening and conditioning the physical body, one of the actor's primary instruments for artistic expression. Students increase awareness, range, and freedom of movement while exploring the fundamental importance of space, weight, and time as theatrical principles. The course assumes a collaborative approach to theater-making in the study of ensemble-based techniques. Students can also expect to focus on flexibility, strength training, breathwork, coordination, and balance, as well as creative and improvisational movement. This is not a performance-based class and no prior experience is needed. This course can be taken for Theatre or PE credit.

### **TH820** World Dance

minor elective | grades: 10, 11, 12

This winter course is an opportunity to explore a number of cultural dance forms from Latin America and the African Diaspora. Accompanied by live musicians and led by guest artist teachers, students will feel the rhythms, learn the cultural significance, and experience the movement of several different global dance traditions. Students can expect this class to be vigorous but playful and a chance to move their body in a fun, low-stakes environment. This is not a performance-based class and no prior experience is needed. This course can be taken for Theatre or PE credit.

### **TH810** Modern Dance

minor elective | grades: 10, 11, 12

This spring course is an all-level modern dance class that includes explorations in technique, improvisation, and choreography. Students will engage methods and language common to a variety of modern dance styles and concepts. Most material will be learned through physical participation as students deepen their awareness of the body and explore the connection between the physical, cognitive, and emotional aspects of themselves. Should they choose, students will have the opportunity to perform as part of the annual Poley Festival of student-created work. Course material will be leveled, based on the experience of those registered; therefore, previous dance experience is welcome, but not necessary. This course can be taken for Theatre or PE credit.



## TECHNICAL THEATRE COURSES

### **THT700** Technical Theatre I

minor elective | grades: 9, 10, 11, 12

In Technical Theatre, students have an opportunity to work on all aspects of bringing a show to opening night and running that show once it gets there. Students work on set construction, stage painting, lighting, design, and all of the other aspects that go into bringing a show to life. Each trimester will focus on the technical needs of the specific production in the season. Students are expected to participate as a member of a production team for at least one main-stage show, which will include call times outside of the regular school day.

### **THT765** Technical Theatre II

minor elective | grades: 10, 11, 12 | prerequisite: Technical Theatre I

If the first level of Technical Theatre is about skill acquisition and development, this course is about the direct application of those skills in the context of theatrical production. In this hands-on course, students will do the work of bringing a concept to life through the ‘magic’ of theatre. The study will include lighting, sound, and set construction with a focus on how to interpret design and working drawings. In addition to class time, students are expected to be involved in at least one GFS Theatre production throughout the performance season.

### **THT770** Technical Theatre III

minor elective | grades: 11, 12 | prerequisites: Technical Theatre I & II

In this course, students will take a deeper dive into the roles of technical direction and production management. Building on the skills developed in Tech 1 & Tech 2, students will be expected to help problem-solve real-world issues related to theatrical production. The focus of this final level of Technical Theatre will be on leadership and management: scheduling, troubleshooting, space & equipment maintenance, and lighting and A/V set-up. Students enrolled in this course are expected to support at least one major production each semester and regular school assembly events.

### **THT791** Scenic and Costume Design

minor elective | grades: 10, 11, 12

This course exists at the intersection of fine art and theatrical storytelling. Design is an essential part of the theatrical form; sets and costumes create the world of the play and have a powerful effect on how an audience experiences the story being told. In this class, students will learn both conceptual and practical skills related to theatre design, scenic painting, and costuming. Students can expect to support GFS Theatre productions as part of their work in the course.

## FILMMAKING COURSES

### **THT780** Filmmaking I: An Introduction

minor elective | grades: 10, 11, 12

This entry-level course provides students with a foundation in cinema studies and filmmaking. Students begin the course by examining the history and technology of film while discovering their cinematic voices through micro-films and exercises shot and edited with their smartphones. Students will gain an appreciation of the technical, theatrical, and narrative elements of cinema through assignments that introduce concepts related to cinematography, production design, genres, and editing. Once essential terminologies are defined and students have a greater appreciation for the production process, professional filmmaking equipment is introduced to the mix as students are trained to use and maintain the necessary hardware and software to create films. By the end of this course, students will have a firm grasp of pre- and post-production filmmaking techniques. They will also have a portfolio of films that demonstrate their burgeoning skills and unique point of view as a storyteller. The course will also include assignments related to film criticism and screenings to create dynamic cinephiles out of every student.



## **TH1781** Filmmaking IIA : Editing & Post-Production

minor elective | grades: 11, 12 | one semester | prerequisite: Intro to Filmmaking

In this intermediate course, students learn the incredible creative power that post-production provides the filmmaker. Topics of study will include color correction, sound editing and mixing, and visual effects (VFX). Emphasis is on the overall post-production process and editing, and the importance of knowing the production direction well before filming takes place. Hands-on learning with non-linear editing software will introduce students to creating a project and properly organizing and naming files for the purposes of editing. Students will also wrestle with the philosophy and craft of editing to imbue their projects with more substance and meaning.

## **TH1782** Filmmaking IIB : Light, Sound, and Production Design

minor elective | grades: 11, 12 | one semester | prerequisite: Filmmaking 1

This hands-on semester course is intended for students interested in building upon their filmmaking skills and diving deeper into aspects of production design with a particular focus on lighting and sound. For the lighting portion of the class, students will learn about three-point lighting and other aesthetic and technical tricks of the trade. Students will also develop an understanding of “how” sound works through the practical use of microphones and digital audio tools. The history of sound design from analog to digital formats will inform this process as students learn about recording original sound effects (Foley) and dubbing audio. Additional topics include lighting and makeup for actors of all hues and sound mixing and sampling.

## **TH1783** Filmmaking III : The Picture Is the Thing: Advanced

minor elective | grade: 12 | prerequisite: Filmmaking I and Filmmaking IIA OR IIB

The goal of this yearlong course is to complete one feature-length film by year’s end. Requirements will consist of a series of short films, including one completed for submission to the Philly Youth Film Festival. (Participants will also be required to attend the festival.) Additional assignments will include watching and discussing multiple films with an eye towards approach and execution. Another goal of the class is for students to decide on the genre of the feature film; narrative, documentary, or experimental, and complete the film. The final feature-length will be between 50 and 90 minutes long. During the course of the year, we will commit to making two to three short films and simultaneously complete work on the long-term feature-length film. We will focus on lighting, sound, set design, etc. as well as story construction, budgeting, casting, etc. From time to time we will have subject-area guest lecturers visit with the class.

## **CREDITED AFTERSCHOOL PROGRAMMING**

### **TH1900** Winter Musical

grades: 9, 10, 11, 12 | can be taken for one season athletic credit grades 9 and 10

Each winter GFS Theatre presents a winter musical as part of its full season of co-curricular performance and production opportunities. Participation in the Winter Musical provides rich training in musical theatre and movement for stage. Rehearsals and performances occur in the after-school, evening, and/or weekend hours. In recognition of the out-of-school time commitment, as well as the collaborative and physical nature of producing musicals in particular, students involved in the Winter Musical production can receive an alternative sports credit in place of winter season athletics. Participation in the musical can satisfy one season of the athletics requirement in ninth and tenth grades.

# REQUIRED PROGRAMS

## JANUARY TERM (J-TERM)

January Term enables our community to live the mission and values of our school and explore new passions, interests and interdisciplinary ways of learning about the world. Through a schedule dedicated to course offerings outside of the regular curriculum, January Term provides teachers and students a space for experimentation, investigation and reflection. Students sign up for their January term courses during the fall of each school year.

### GRADUATION REQUIREMENT NOTE

Students must complete January Term in ninth, tenth, and twelfth grades.

## JUNIOR PROJECTS

Our faculty believes that independent study outside the bounds of any particular classroom is an important part of any student's education. The experience of creating a project, organizing it and sustaining it to completion is invaluable in helping students take responsibility for what they learn and how they learn it. By completing their Junior Projects before senior year, students will be able to incorporate the experience of their project into their work in twelfth grade. Colleges often ask for assessments of the student's ability to do independent work.

### GRADUATION REQUIREMENT NOTE

In eleventh grade, every student completes a month-long independent project during the month of January.

### JUNIOR PROJECT PROCESS

In early May, each member of the current tenth grade class will be assigned a liaison from the Junior Project Committee. Students should arrange to meet with their liaison twice before the end of the school year. Liaisons help students decide on a project by discussing opportunities that are available to them through members of the school community and programs outside school.

### JUNIOR PROJECT COMMITTEE

This committee, composed of faculty and staff, the eleventh grade advisors and the Upper School Division Director, oversees the students as they plan and complete their proposals. The committee works hard to give every student the support they need to select a project and complete a successful proposal by December.

## GUIDELINES

- All projects must be student-initiated and student-designed.
- All projects must have definite start and end dates. Students are expected to undertake their projects five days a week for four weeks.
- Proposals must clearly state goals for the project and plans for final presentations, which include both oral and written reports.
- Each student must arrange to have an advisor, who is a member of the GFS faculty or staff, and an on-site supervisor.
- Proposals must be specific, may require a bibliography, and always require a letter from the on-site supervisor confirming details of the project.
- Students must report to their GFS advisors once a week during the duration of the project.
- Expensive projects are discouraged. Students are required to earn at least half the money necessary to cover the cost of any project.

# GLOBAL ONLINE ACADEMY

GFS is a founding member of Global Online Academy (GOA), a consortium of outstanding independent schools offering an innovative selection of online courses. Sophomores, juniors, and seniors can supplement their education by taking an online course in a variety of interdisciplinary subjects offered by experienced teachers around the world.

Students in tenth through twelfth grades may elect, as part of their academic schedule, a semester or year-long course in GOA. Students must be responsible for collaborating with their classmates across time zones as they complete class assignments. GOA online courses may be taken as an elective major or as an overload. Students considering registering for a GOA course should consult GFS' Site Director for GOA and their grade dean. Students enrolled in GOA courses will have check-ins once per cycle with the Site Director to assist and oversee student progress. GOA registration will take place through the GOA Site Director. Sophomores will need to register with the approval of the Upper School Division Director. Once enrolled in a course, students will receive an email from Global Online Academy about their course and what the next steps are.

The subsidized cost for GOA courses is \$100 for a semester-long course and \$200 for a year-long course. The Business Office will bill families this amount. Should a student withdraw from a course after the drop deadline, all associated late-drop fees will be billed to the family. The cost of a summer course is \$750.

## KEY DATES

- Summer 1: June 14 - August 1, 2022
- Summer 2: July 5 - August 22, 2022
- Semester 1: August 31 - December 16, 2022
- Semester 2: January 11 - April 28, 2023
- Yearlong: Both Semesters

### GOA286 9/11 in a Global Context

The tragedy of September 11, 2001 changed the world in profound ways. In this course, students explore the causes of 9/11, the events of the day itself, and its aftermath locally, nationally, and around the world. In place of a standard chronological framework, students instead view these events through a series of separate lenses. Each lens represents a different way to view the attacks and allows students to understand 9/11 as an event with complex and inter-related causes and outcomes. Using a variety of technologies and activities, students work individually and with peers to evaluate each lens. Students then analyze the post-9/11 period and explore how this event affected the U.S., the Middle East, and the wider world.

### GOA266 Abnormal Psychology

This course provides students with a general introduction to the field of abnormal psychology from a western perspective while exploring the cultural assumptions within the field. Students examine the biopsychosocial aspects of what we consider abnormal while developing an understanding of the stigma often associated with psychological disorders. Through book study, videos, article reviews, and discussions, students consider how our increasingly global world influences mental health in diverse settings. In learning about the different areas of western abnormal psychology, students study the symptoms, diagnoses, and responses to several specific disorders such as anxiety, depression, eating disorders, or schizophrenia. Students develop an understanding

of how challenging it can be to define “normal” as they begin to empathize with those struggling with mental distress. Throughout the course, students are encouraged to attend to their own mental well-being. The course culminates in an independent project where students showcase their learning with the goal of making an impact in their local communities.

### **GOA330** Applying Philosophy to Global Issues

This is an applied philosophy course that connects pressing contemporary issues with broad-range philosophical ideas and controversies, drawn from multiple traditions and many centuries. Students use ideas from influential philosophers to examine how thinkers have applied reason successfully, and unsuccessfully, to many social and political issues across the world. In addition to introducing students to the work of philosophers as diverse as Socrates, Confucius, and Immanuel Kant, this course also aims to be richly interdisciplinary, incorporating models and methods from diverse fields including history, journalism, literary criticism, and media studies. Students learn to develop their own philosophy and then apply it to the ideological debates that surround efforts to improve their local and global communities.

### **GOA258** Architecture

In this course, students build an understanding of and apply skills in various aspects of architectural design. While gaining key insights into the roles of architectural analysis, materials, 3D design, and spatial awareness, students develop proficiency in architectural visual communication. We begin by learning the basic elements of architectural design to help analyze and understand architectural solutions. Through digital and physical media, students develop an understanding of the impact building materials have on design. At each stage of the course, students interact with peers from around the globe, learning and sharing how changes in materials, technology, and construction techniques lead to the evolution of contemporary architectural style and visual culture. The course culminates with a final project in which each aspiring architect will have the opportunity to work towards a personal presentation for the GOA Catalyst Conference. Students will, through a variety of outcomes, present an architectural intervention that they have proposed as a solution to an

identified need, one emanating from or focused within their own community. Throughout the course, students will refer to the design process and will use techniques to track, reflect, and evidence their understanding of architecture.

### **NEW GOA360** Arts Entrepreneurship

In this course, aspiring visual artists, designers, filmmakers, musicians, and other creatives will learn how to find success in the dynamic fields of their choosing. Students will learn about arts careers and organizations by attending virtual events and interviewing art practitioners, entrepreneurs, and administrators. Beyond exploring trajectories for improving their crafts, students will build skills in networking and personal branding while examining case studies of a variety of artistic ventures—some highly successful and some with teachable flaws. Using real-world examples of professional and emerging creatives and arts organizations, students will gain a better understanding of the passion and dedication it takes to have a successful creative career.

### **GOA267** Bioethics

Ethics is the study of what one should do as an individual and as a member of society. Bioethics refers to the subset of this field that focuses on medicine, public health, and the life sciences. In this course, students explore contemporary, pressing issues in bioethics, including the “right to die,” policies around vaccination and organ transplantation, competence to consent to care, human experimentation and animal research, and genetic technologies. Through reading, writing, research, and discussion, students will explore the fundamental concepts and questions in bioethics, deepen their understanding of biological concepts, strengthen their critical-reasoning skills, and learn to engage in respectful dialogue with people whose views may differ from their own. The course culminates with a student-driven exploration into a particular bioethical issue, recognizing the unique role that bioethics plays within the field of ethics.

## **NEW** GOA361 **Data Visualization\***

Through today's fog of overwhelming data, visualizations provide meaning. This course trains students to collect, organize, interpret, and communicate massive amounts of information. Students will begin wrangling data into spreadsheets, learning the basic ways professionals translate information into comprehensible formats. They will explore charts, distinguishing between effective and misleading visualizations. Employing principles from information graphics, graphic design, visual art, and cognitive science, students will then create their own stunning and informative visualizations using Datawrapper, Tableau Public and/or Python. From spreadsheets to graphics, students in this course will practice the crucial skills of using data to decide, inform, and convince. There is no computer science, math or statistics prerequisite for this course, though students with backgrounds in those areas will certainly find avenues to flex their knowledge in this course.

## **GOA319** **Climate Change and Global Inequality**

Nowhere is the face of global inequality more obvious than in climate change, where stories of climate-driven tragedies and the populations hit hardest by these disasters surface in every news cycle. In this course, students will interrogate the causes and effects of climate change, and the public policy debates surrounding it. In case studies, we will research global, regional, and local policies and practices along with the choices of decision makers and what they mean to the populations they serve. Who benefits, who suffers, and how might we change this equation? We will collaborate in workshops with classmates to deepen our collective understanding of the complex issues surrounding climate change. Throughout the semester, we will meet with professionals working in the field of climate change, and will also build and curate a library of resources and share findings in varied media, engaging as both consumers and activists to increase knowledge and advocate for sustainable norms. Finally, students will have the opportunity to reach a global audience by participating in GOA's Catalyst Conference in the spring, as they present their individual projects to spark change in local communities through well-informed activism.

## **GOA321** **Cybersecurity**

Cyber criminals leverage technology and human behavior to attack our online security. This course explores the fundamentals of and vulnerabilities in the design of computers, networks, and the internet. Course content includes the basics of computer components, connectivity, virtualization, and hardening. Students will learn about network design, Domain Name Services, and TCP/IP. They will understand switching, routing and access control for internet devices, and how denial of service, spoofing and flood attacks work. Basic programming introduced in the course will inform hashing strategies, while an introduction to ciphers and cryptography will show how shared-key encryption works for HTTPS and TLS traffic. Students will also explore the fundamentals of data forensics and incident response protocols. The course includes analysis of current threats and best practice modelling for cyber defense, including password complexity, security, management, breach analysis, and hash cracking. Computational thinking and programming skills developed in this course will help students solve a variety of cybersecurity issues. There is no computer science prerequisite for this course, though students with some background will certainly find avenues to flex their knowledge.

## **GOA350** **Developmental Psychology:**

Over a few short years, most human beings grow from infants who are not even able to hold up their heads to become walking, talking, thinking people who are able to communicate using language, to understand complexities, to solve problems, and to engage in moral reasoning. This course is an introduction to the fascinating study of human growth and development focusing on the significant changes that occur physically, emotionally, cognitively and socially from birth through adolescence. Students consider the big questions of heredity versus environment, stability versus change, and continuity versus discrete stages of change as they investigate language acquisition, sensorimotor development, thinking and learning, and personality and emotions. Through readings, observations, case studies, and application activities, students examine development from the perspectives of major theorists in the field from both Western and non-Western traditions.



## **GOA254** Digital Photography

In an era where everyone has become a photographer obsessed with documenting most aspects of life, we swim in a sea of images posted on Instagram, Facebook, Snapchat, Pinterest, and other digital media. To that end, why is learning how to use a digital camera important and what does taking a powerful and persuasive photo with a 35mm digital single lens reflex (DSLR) camera require? Digital Photography explores this question in a variety of ways, beginning with the technical aspects of using and taking advantage of a powerful camera and then moving to a host of creative questions and opportunities. Technical topics such as aperture, shutter, white balance, and resolution get ample coverage in the first half of the course, yet each is pursued with the goal of enabling students to leverage the possibilities that come with manual image capture. Once confident about technical basics, students apply their skills when pursuing creative questions such as how to understand and use light, how to consider composition, and how to take compelling portraits. Throughout the course, students tackle projects that enable sharing their local and diverse settings, ideally creating global perspectives through doing so. Additionally, students interact with each other often through critique sessions and collaborative exploration of the work of many noteworthy professional photographers whose images serve to inspire and suggest the diverse ways that photography tells visual stories. Prerequisite: Students must have daily access to a DSLR camera.

## **GOA333** Entrepreneurship in a Global Context

How does an entrepreneur think? What skills must entrepreneurs possess to remain competitive and relevant? What are some of the strategies that entrepreneurs apply to solve problems? In this experiential course, students develop an understanding of entrepreneurship in today's global market; employ innovation, design, and creative solutions for building a viable business model; and learn to develop, refine, and pitch a new startup. Units of study include Business Model Canvas, Customer Development vs. Design Thinking, Value Proposition, Customer Segments, Iterations & Pivots, Brand Strategy & Channels, and Funding Sources. Students use the Business Model Canvas as a roadmap to building

and developing their own team startup, a process that requires hypothesis testing, customer research conducted in hometown markets, product design, product iterations, and entrepreneur interviews. An online startup pitch by the student team to an entrepreneurial advisory committee is the culminating assessment. Additional student work includes research, journaling, interviews, peer collaboration, and a case study involving real-world consulting work for a current business.

## **GOA285** Game Theory

In this course, we explore a branch of mathematics known as game theory, which uses mathematical models to inform decision making. There are many applications to everyday dilemmas and conflicts, many of which we can treat as mathematical games. We consider significant global events from fields like diplomacy, political science, anthropology, philosophy, economics, and popular culture. We examine models of world conflicts and scheduling of professional athletic contests. Specific topics include two-person zero-sum games, two person non-zero-sum games, sequential games, multiplayer games, linear optimization, and voting theory.

## **NEW GOA362** Gender & Society

This course uses the concept of gender to examine a range of topics and disciplines that include feminism, gay and lesbian studies, women's studies, popular culture, and politics. Throughout the course, students examine the intersection of gender with other social identifiers: class, race, sexual orientation, culture, and ethnicity. Students read about, write about, and discuss gender issues as they simultaneously reflect on the ways that gender has manifested in and influenced their lives.

## **NEW GOA363** Global Health

What makes people sick? What social and political factors lead to the health disparities we see both within our own communities and on a global scale? What are the biggest challenges in global health and how might they be met? Using an interdisciplinary approach to address these questions, this course improves students' health literacy through an examination of the most significant public-health challenges facing today's global population. Topics addressed

include the biology of infectious disease, the statistics and quantitative measures associated with health issues, the social determinants of health, and the role of organizations (public and private) in shaping the landscape of global health policy. Throughout the course, students use illness as a lens through which to critically examine such social issues as poverty, gender, and race. Student work includes analytical writing, research and curating sources around particular topics, readings and discussions exploring a variety of sources, and online presentations, created both on their own and with peers.

### **NEW** GOA364 **How to Argue Well**

This course, which teaches critical thinking skills through argument mapping, offers students the opportunity to make a significant intellectual leap and improve not only their performance in school but also their ability to engage in productive arguments. When your teachers push you to “be more specific” or ask, “Where is your evidence?” or say you need more “analysis,” they are highlighting your need to improve your critical thinking skills. Research has measured argument mapping as being a more effective learning tool than a semester at college when it comes to developing these skills, and it is this skill set that best predicts one’s performance in school and one’s performance on standardized tests, as well. Further, bad arguments are what give arguments a bad name. We live in a world of polarized communications where name-calling, emotion, and blurred lines between fact and fiction result in arguments based on extreme opinions that eclipse reason. The problem is not that we are arguing: the problem is that we do not know how to engage in arguments using logic and reasoning. These skills – the bedrock of critical thinking – give people the ability to argue thoughtfully and effectively. Good arguments are illuminating, generative, and compelling. This course will teach students how to master and deploy critical thinking skills to think independently; improve academic performance across disciplines; create, assess, and engage thoughtfully in arguments; and successfully forge community in the process.

### **GOA315** **International Relations**

Are China and the U.S. on a collision course for war? Can the Israelis and Palestinians find a two-state solution in the holy land? Will North Korea launch a nuclear weapon? Can India and Pakistan share the subcontinent in peace? These questions dominate global headlines and our daily news feeds. In this course, you will go beyond the soundbites and menacing headlines to explore the context, causes, and consequences of the most pressing global issues of our time. Through case studies, you will explore the dynamics of international relations and the complex interplay of war and peace, conflict and cooperation, and security and human rights. Working with classmates from around the world, you will also identify and model ways to prevent, mediate, and resolve some of the most pressing global conflicts.

### **NEW** GOA365 **Introduction to Artificial Intelligence**

Aspects of artificial intelligence permeate our lives and the algorithms power your favorite apps. How much do you really know about how AI works or how it is changing the world around us? This course will explore the history of research into artificial general intelligence and the subsequent focus on the subfields of narrow AI: Neural networks, Machine Learning and Expert Systems, Deep Learning, Natural Language Processing, and Machine Vision and Facial Recognition. Students will learn how AI training datasets cause bias and focus on the ethics and principles of responsible AI: fairness, transparency and explainability, human-centeredness, and privacy and security.

### **NEW** GOA366 **Introduction to Blockchain & Cryptocurrency**

Much attention has been brought to the cryptocurrency space by the meteoric rise in the valuation of Bitcoin and other cryptocurrencies. More recently, meme tokens have also grabbed the spotlight. When thinking about cryptocurrency, there is much more to consider than just market capitalization or coins named after canines. Introduction to Blockchain & Cryptocurrency is an entry level course for anyone excited by the space. This course explores how we arrived at the place we are now, and what the current

and possible applications of crypto are. We'll explore how markets in crypto operate, where they've received practical application, and where the space may head in the future through the lenses of creators, consumers, and governments. In addition, we will take a deeper look at blockchain, the underlying technology that powers cryptocurrencies, and it's many, far-reaching implications for the future of government, business, the arts and more.

Each lens represents a different way to view the complex and interrelated causes and outcomes of the changing crypto landscape. Using a variety of technologies and activities, students work individually and with peers to evaluate each lens. Students then analyze and explore how these technologies may shape and disrupt the future not only of the crypto space, but of many current and future industries.

### **GOA312** Introduction to Investments

In this course, students simulate the work of investors by working with the tools, theories, and decision-making practices that define smart investment. We explore concepts in finance and apply them to investment decisions in three primary contexts: portfolio management, venture capital, and social investing. After an introduction to theories about valuation and risk management, students simulate scenarios in which they must make decisions to grow an investment portfolio. They manage investments in stocks, bonds, and options to learn a range of strategies for increasing the value of their portfolios. In the second unit, students take the perspective of venture capital investors, analyzing startup companies and predicting their value before they become public. In the third unit, students examine case studies of investment funds that apply the tools of finance to power social change. Throughout the course, students learn from experts who have experience in identifying value and managing risk in global markets. They develop their own ideas about methods for taking calculated financial risks and leave this course not just with a simulated portfolio of investments, but the skills necessary to manage portfolios in the future.

### **GOA316** Introduction to Legal Thinking

Inspired by GOA's popular Medical Problem Solving series, this course uses a case-based approach to give students a practical look into the professional lives of lawyers and legal thinking. By studying and debating a series of real legal cases, students will sharpen their ability to think like lawyers who research, write and speak persuasively. The course will focus on problems that lawyers encounter in daily practice, and on the rules of professional conduct case law. In addition to practicing writing legal briefs, advising fictional clients and preparing opening and closing statements for trial, students will approach such questions as the law and equity, the concept of justice, jurisprudence and legal ethics.

### **GOA263** Introduction to Psychology

What does it mean to think like a psychologist? In Introduction to Psychology, students explore three central psychological perspectives—the behavioral, the cognitive, and the sociocultural—in order to develop a multi-faceted understanding of what thinking like a psychologist encompasses. The additional question of “How do psychologists put what they know into practice?” informs study of the research methods in psychology, the ethics surrounding them, and the application of those methods to practice. During the first five units of the course, students gather essential information that they apply during a group project on the unique characteristics of adolescent psychology. Students similarly envision a case study on depression, which enables application of understandings from the first five units. The course concludes with a unit on positive psychology, which features current positive psychology research on living mentally healthy lives. Throughout the course, students collaborate on a variety of activities and assessments, which often enable learning about each other's unique perspectives while building their research and critical thinking skills in service of understanding the complex field of psychology.



## **GOA281** Linear Algebra

In this course students learn about the algebra of vector spaces and matrices by looking at how images of objects in the plane and space are transformed in computer graphics. We do some paper-and-pencil calculations early in the course, but the computer software package Geogebra (free) will be used to do most calculations after the opening weeks. No prior experience with this software or linear algebra is necessary. Following the introduction to core concepts and skills, students analyze social networks using linear algebraic techniques. Students will learn how to model social networks using matrices as well as discover things about the network with linear algebra as your tool. We will consider applications like Facebook and Google. Prerequisite: Geometry and Algebra 2 or the equivalents.

## **GOA291** Macroeconomics

Macroeconomics is the study of economic units as a whole rather than of their individual components. The aggregate unit is usually a national economy and that will be our focus in this course. Students will learn to better understand how to measure national economic activity with concepts like gross domestic product, unemployment and inflation and the strengths and weaknesses of these statistics. Students will then study theoretical methods of influencing national economic activity with monetary and fiscal policy and will learn about some of the controversy surrounding these policy tools. The advantages and disadvantages of international trade and of methods of setting exchange rates will also be introduced. The course will include an individual student investigation of a national economy other than their home country. Students will identify their economic findings and present resolutions in their final report.

## **GOA264** Medical Problem Solving I

In this course, students collaboratively solve medical mystery cases, similar to the approach used in many medical schools. Students enhance their critical thinking skills as they examine data, draw conclusions, diagnose, and identify appropriate treatment for patients. Students use problem-solving techniques in order to understand and appreciate relevant medical/biological facts as they confront the

principles and practices of medicine. Students explore anatomy and physiology pertaining to medical scenarios and gain an understanding of the disease process, demographics of disease, and pharmacology. Additional learning experiences include studying current issues in health and medicine, interviewing a patient, and creating a new mystery case.

## **GOA269** Medical Problem Solving II

Medical Problem Solving II is an extension of the problem-based approach in Medical Problem Solving I. While collaborative examination of medical case studies remain at the center of the course, MPS II approaches medical cases through the perspectives of global medicine, medical ethics, and social justice. The course examines cases not only from around the world but also in students' local communities. Additionally, the course addresses the challenges patients face because of a lack of access to health care, often a result of systemic discrimination and inequity along with more general variability of health care resources in different parts of the world. All students in MPS II participate in the Catalyst Conference, a GOA-wide conference near the end of the semester where students from many GOA courses create and publish presentations on course-specific topics. For their projects, students use all of the lenses from the earlier parts of the course to choose and research a local topic of high interest. Further, their topics enable identifying a local medical problem, using local sources, and generating ideas for promoting change. Prerequisite: Medical Problem Solving I.

## **GOA288** Microeconomics

In this course, students learn about how consumers and producers interact to form a market and then how and why the government may intervene in that market. Students deepen their understanding of basic microeconomic theory through class discussion and debate, problem solving, and written reflection. Students visit a local production site and write a report using the market principles they have learned. Economic ways of thinking about the world will help them better understand their roles as consumers and workers, and someday, as voters and producers.

## **GOA278** Multivariable Calculus

In this course, students learn to differentiate and integrate functions of several variables. We extend the Fundamental Theorem of Calculus to multiple dimensions and the course will culminate in Green's, Stokes' and Gauss' Theorems. The course opens with a unit on vectors, which introduces students to this critical component of advanced calculus. We then move on to study partial derivatives, double and triple integrals, and vector calculus in both two and three dimensions. Students are expected to develop fluency with vector and matrix operations. Understanding parametric curves as a trajectory described by a position vector is an essential concept, and this allows us to break free from one-dimensional calculus and investigate paths, velocities, and other applications of science that exist in three-dimensional space. We study derivatives in multiple dimensions and use the ideas of the gradient and partial derivatives to explore optimization problems with multiple variables as well as consider constrained optimization problems using Lagrangians. After our study of differentials in multiple dimensions, we move to integral calculus. We use line and surface integrals to calculate physical quantities especially relevant to mechanics, electricity and magnetism, such as work and flux. We will employ volume integrals for calculations of mass and moments of inertia and conclude with the major theorems (Green's, Stokes', Gauss') of the course, applying each to some physical applications that commonly appear in calculus-based physics. Prerequisite: The equivalent of a college year of single-variable calculus, including integration techniques, such as trigonometric substitution, integration by parts, and partial fractions. Completion of the AP Calculus BC curriculum with a score of 4 or 5 on the AP Exam would be considered adequate preparation.

## **GOA290** Neuropsychology

Neuropsychology is the exploration of the neurological basis of behavior. Within this course, students will learn about basic brain anatomy and function as well as cognitive and behavioral disorders from a neurobiological perspective. They will do an in-depth analysis of neural communication with an emphasis on how environmental factors such as smartphones affect nervous system function, their own

behaviors, and the behaviors of those around them. Students will also have the opportunity to choose topics in neuropsychology to explore independently including Alzheimer's disease, Addiction, Neuroplasticity, and CTE and share their understanding with their peers in a variety of formats. The course concludes with a study of both contemporary and historic neuropsychological case studies and their applications to everyday life.

## **GOA298** Number Theory

Once thought of as the purest but least applicable part of mathematics, number theory is now by far the most commonly applied: every one of the millions of secure internet transmissions occurring each second is encrypted using ideas from number theory. This course covers the fundamentals of this classical, elegant, yet supremely relevant subject. It provides a foundation for further study of number theory, but even more, it develops the skills of mathematical reasoning and proof in a concrete and intuitive way and is necessary preparation for any future course in upper-level college mathematics or theoretical computer science. We progressively develop the tools needed to understand the RSA algorithm, the most common encryption scheme used worldwide. Along the way we invent some encryption schemes of our own and discover how to play games using number theory. We also get a taste of the history of the subject, which involves the most famous mathematicians from antiquity to the present day, and we see parts of the story of Fermat's Last Theorem, a 350-year-old statement that was fully proven only twenty years ago. While most calculations will be simple enough to do by hand, we will sometimes use the computer to see how the fundamental ideas can be applied to the huge numbers needed for modern applications. Prerequisite: A strong background in precalculus and above, as well as a desire to do rigorous mathematics and proofs.

## **GOA322** Personal Finance

In this course, students learn financial responsibility and social consciousness. We will examine a wide array of topics including personal budgeting, credit cards and credit scores, career and earning potential, insurance, real estate, financial investment, retirement savings, charitable giving, taxes, and other items related to personal finance. Students will apply

their understanding of these topics by simulating real life financial circumstances and weighing the costs and benefits of their decisions. Throughout the course, students will have the opportunity to learn from individuals with varying perspectives and expertise in numerous fields. By reflecting on their roles in the broader economy as both producers and consumers, students will begin to consider how they can positively impact the world around them through their financial decisions.

### **GOA305** Positive Psychology

What is a meaningful, happy, and fulfilling life? The focus of psychology has long been the study of human suffering, diagnosis, and pathology, but in recent years, however, positive psychologists have explored what's missing from the mental health equation, taking up research on topics such as love, creativity, humor, and mindfulness. In this course, we will dive into what positive psychology research tells us about the formula for a meaningful life, the ingredients of fulfilling relationships, and changes that occur in the brain when inspired by music, visual art, physical activity, and more. We will also seek out and lean on knowledge from positive psychology research and experts, such as Martin Seligman's well being theory, Mihaly Csikszentmihalyi's idea of flow, and Angela Lee Duckworth's concept of grit. In exploring such theories and concepts, students will imagine and create real-world measurements using themselves and willing peers and family members as research subjects. As part of the learning studio format of the course, students will also imagine, research, design, and create projects that they will share with a larger community. Throughout the development of these projects, students will collaborate with each other and seek ways to make their work experiential and hands-on. Students will leave the class with not only some answers to the question of what makes life meaningful, happy, and fulfilling, but also the inspiration to continue responding to this question for many years to come.

### **GOA310** Prisons and Criminal Justice Systems

How do societies balance individual freedoms with security? How do definitions of "crime" and "punishment" shift across jurisdictions and time periods? How do recent protests and discussions about racial biases and systemic racism inform our understanding of criminal law and its applications? Although the United States has been frequently cited as having the highest "mass incarceration" rate, other countries in the world have also been criticized for injustices in their criminal justice systems. In this course, students become familiar with the legal rules and institutions that determine who goes to prison and for how long. Along the way, students gain a concrete, practical understanding of legal systems while grappling with mass incarceration as a legal, ethical, and practical issue. To understand current views on crime and criminal punishments and to examine proposed systemic reforms, we immerse ourselves in the different forms of rhetoric and media that brought the U.S. and other nations to our present. We read and analyze jury arguments, courtroom motions, news op-eds, judicial decisions, recent cases, and other forms of public persuasion that shape the outcomes of criminal defendants. The final project requires students to advocate for a major reform to a criminal justice system in a city, state, or country. Having developed research skills, students apply them to build an effective argument that includes a real-world solution.

### **GOA317** Race & Society

What is race? Is it something we're born with? Is it an idea that society imposes on us? An identity we perform? A beneficial privilege? Does our own culture's conception of race mirror those found in other parts of the world? These are just a few of the questions that students in this course will explore together as they approach the concept of race as a social construct that shapes and is shaped by societies and cultures in very real ways. Throughout the course, students will learn about the changing relationship between race and society across time and across cultures. Engaging with readings, films, and speakers from a variety of academic fields (history, sociology, anthropology, literature) students will explore, research, reflect on and discuss the complex set of relationships governing race and society.

## GOA340 Religion & Society

Religion is one of the most salient forces in contemporary society but is also one of the most misunderstood. What exactly is religion? How does religious identity inform the ways humans understand themselves and the world around them? How can increased levels of religious literacy help us become more effective civic agents in the world today? Students in this course will conduct several deep dives into specific case studies in order to understand how religious identity intersects with various systems of power, including race, gender, class, sexual orientation, and ethnicity. By engaging with material from a variety of academic fields (history, sociology, anthropology, psychology), students will grapple with the complex ways in which society and religious identity relate to one another.

## GOA367 Social Psychology

Are you thinking and acting freely of your own accord or is what you think, feel, and do a result of influences by the people around you? Social psychology is the scientific study of how and why the actual, imagined, or implied presence of others influences our thoughts, feelings, and behavior. The principles of social psychology help explain everything from why we stop at stop signs when there is no one around to why we buy certain products, why in some situations we help others and in some we don't, and what leads to more dramatic (and catastrophic) events such as mass suicides or extreme prejudice and discrimination. As we take up these topics and questions, students will build and engage in a community of inquiry, aimed primarily at learning how to analyze human behavior through the lens of a social psychologist. Social Psychology invites students to explore, plan, investigate, experiment, and apply concepts of prejudice, persuasion, conformity, altruism, relationships and groups, and the self that bring the "social" to psychology. The course culminates in a public exhibition of a student-designed investigation of a social psychological topic of their choice. This course uses a competency-based learning approach in which students build GOA core competencies that transcend the discipline and learn how to think like a social psychologist. Much of the course is self-paced; throughout the semester, students are assessed primarily in relation to outcomes tied to the competencies.



## NOTES





## NOTES





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