St. Luke’s Mission:

An exceptional education that inspires a deep love of learning,
a strong moral compass, the commitment to serve, and the confidence to lead.

Community Goals for Learning

Our mission states that, “A St. Luke’s School education prepares students for a lifelong commitment to learning and social responsibility.” In order to develop lifelong learners and socially responsible citizens, the school’s pedagogy, curriculum, ethos, and environment are designed to foster in its students the following “thinking” dispositions:

Curiosity: wondering at our world, asking questions about it, exploring it.
Open-Mindedness: being willing to consider and try new ideas, generating alternative options and explanations, and looking beyond the given and expected.
Seeking Truth and Understanding: examining things more closely, looking for connections, exploring applications and consequences, pushing ideas to the limits, pulling ideas apart, contrasting one idea with another, and building explanations.
Reflection: thinking about one’s thinking, actively monitoring, regulating, evaluating, and directing one’s thinking.
Integrity: living a life of honor, characterized by trustworthiness and moral and ethical strength.

Further, we believe that lifelong learning is contingent upon three broad educational goals, including (1) actively acquiring knowledge (defined as skills combined with information), (2) active use of knowledge and, (3) retention of knowledge. Specifically, as a result of their educational career, St. Luke’s School graduates will have developed the ability to:

Think Critically and Creatively
- sustain a process of inquiry
- see multiple perspectives
- generate new ideas
- read, view, and listen with comprehension
- take an approach to problem solving that is imaginative, original and strategic

Communicate Effectively
- write clearly and cogently in modes appropriate to the topic and audience
- speak confidently and effectively
- use technology effectively and ethically to gather information and formulate new ideas
- express ideas creatively in a variety of artistic media

Demonstrate Character and Social Responsibility
- live by the tenets of the St. Luke’s School Honor Code: kindness, responsibility, honesty, and respect
- help others through community service activities
- understand and respect what it means to be a part of a multicultural society and act accordingly

Grow and Mature on a Personal Level
- develop self-confidence and the ability to act independently
- work effectively alone and in collaboration with other students and teachers
- be willing to meet appropriate challenges, both intellectual and physical
- put forth maximum effort; realize the intrinsic value of hard work
- take personal responsibility for learning
- cultivate strong organizational skills
Academic Policies

Upper School Academic Credits and Graduation Requirements

1. All students must be enrolled in and receive at least five academic credits (one credit per year-long course, ½ credit per semester-long course) for promotion to the next grade. In the Upper School, 20 credits are required for graduation and must include the following:

- **English:** Literary Genres (starting in 2019-2020, World Literature), British and World Literature (starting in 2019-2020, British Literature), and American Literature (or the equivalent of each course) in 9th-11th grades, plus an English elective during both semesters in 12th grade.

- **Health and Wellness:** complete 5 Health units (“mini-courses”)

- **History and Social Science:** Foundations of World History, Modern World History, and United States History (or the equivalent of each course).

- **Mathematics:** three years in the Upper School, including Geometry and Algebra II.

- **Science:** Biology, a physical science (either Chemistry or Physics), and a third year of Science (one full-year course or two semester-long courses).

- **Visual Arts and Performing Arts:** one year-long class or two semester-long classes of Upper School Art, Music, or Theatre.

- **World Language:** three years in the Upper School; Mandarin Chinese, French, Latin, or Spanish, through level three.

2. Grade level is determined by awarding one grade promotion for every five credits earned above 8th grade. While at St. Luke’s, students will be promoted only one grade each year, provided they earn at least five credits for that year.

3. A student who does not pass at least five credits during the regular school year must make up the deficit as arranged by the Head of Upper School and/or Director of Studies. Otherwise, that student must repeat the grade. There will be a limit of two make-up courses that a student may take during one summer. A student who drops a year’s course after the add/drop period will receive no credit for it and will have “W” for “Withdraw” or “W/P” for “Withdraw/Pass” on the transcript. Poor performance, possible failure or failing status are not necessarily adequate reasons for withdrawal from a course.

4. Summer courses may enrich or prepare students for a future course or may support students who have failed a course. However, a summer course cannot fulfill the requirement for a year-long course unless the appropriate Department Chair, Head of Upper School, and the Director of Studies approve it, and also unless the student passes an SLS exam demonstrating proficiency.

5. All students are required to perform 20 hours of community service for each year in the Upper School. This requirement must be completed prior to Commencement. Please see the Director of Character Education for more information.

6. Ninth graders may not take seven classes during a semester without approval of both the Head of Upper School and Director of Studies.
Dropping and Adding Courses

Students must obtain a "Request for Schedule Change Form" from the Director of Studies and secure the necessary signatures. A course may only be added within one rotation; a course may be dropped anytime, provided that the student is left with at least five courses (not including Independent Study and some designLab courses). Withdrawals from courses generally will not show on the transcript if the course is dropped within six weeks of the first day of school (or, for second semester courses, within six weeks of the first day of the second semester); after that date, the dropped course will appear on the transcript. If a student changes courses within the same department, then the report card grade will be calculated by the percentage of time in each class. The Director of Studies and/or appropriate Division Head may make exceptions to these rules.

Honors and Advanced Placement (AP) Courses

St. Luke’s School offers a variety of Honors and Advanced Placement (AP) courses in the Upper School. They receive a 0.33 “bump” in weighted GPA calculations. Students enrolled in AP courses are required to take the AP exam in May.

By their very nature, these courses are reserved for students who have excelled in a subject and are capable of dealing with academic rigor at the highest level. Placement into these courses is based on a student’s ability to meet criteria in a number of areas, as noted below, for each of the academic departments. Teachers believe strongly that these criteria should be met if the student is to succeed at an appropriate level in an Honors or AP course. The student’s current instructors are in the best position to determine future success; their recommendation is an essential requirement for placement. Recommendations are tentative and are subject to change.

- **Grade:** earn a minimum grade of A- to move from a regular course to an Honors course; a minimum grade of B to remain at the Honors or AP level. (Some academic departments might have other requirements to move into or to remain in an honors course.) Teachers do consider semester grades (not just year-long grades) and March Exam grades when making suggested placements.

- **Standardized Tests:** for English and mathematics placement in Honors and AP courses, score highly on the ACT Aspire, PreACT, PSAT, SAT/Subject Tests, or ACT for comparable student category (e.g., Science, Math, Reading). Percentile requirements will be determined when annual data for each standardized test are available.

- **Skills:** demonstrate exceptional ability in the skills required for success in the appropriate discipline, whether reading comprehension, analysis, grammar, calculation, or oral ability.

- **Motivation:** exhibit a great interest for the subject; demonstrate a strong work ethic; take initiative and be proactive in one’s work; complete homework promptly and completely; participate actively in the classroom.

- **Other:** meet all of the prerequisites listed for a particular course.

**Recommendation:** receive the recommendation of the student’s current instructor for placement into Honors and AP courses. In some cases, students also will require the recommendation of the course’s instructor, if the current instructor and the course instructor are different.

Independent Studies

Detailed, written proposals for Upper School independent study projects must be submitted to the Director of Studies with the name of the faculty member willing to sponsor the course. The final project for an independent study typically includes a paper and a presentation, coordinated by the student, to a panel of at least three faculty members. Independent study projects are restricted to juniors and seniors and can last either one semester or an entire academic year. The project must be driven by an essential question that is challenging and thought provoking, broad in scope, and can be answered only by research, reading, and writing. An Independent Study may be added to a five-course load as a sixth course; an IS may not be one of the five required courses in a typical St. Luke’s schedule. All Independent Study projects are graded on a proficiency scale (instead of the traditional A-F grading scale) and are not calculated into a student’s GPA.

Scholars Programs

St. Luke’s offers three academic programs in our Upper School where high-achieving and highly-motivated students might pursue independent research in a particular field of interest. The Classical, Global, and STEM Scholars programs have specific requirements that go beyond our graduation requirements, and they are listed below. All three programs culminate with the successful completion and presentation of their scholarly research at the SLS Scholars Symposium in April of the student’s senior year. Scholars receive special recognition at both the Upper School Awards Ceremony and Commencement.
Classical Scholars Program
St. Luke’s School offers students the opportunity to graduate with special recognition honoring their commitment to the study of classical languages and cultures. The requirements of this enriched course of study are:

1. The successful completion of AP or Advanced Latin.
2. The successful completion of one year of Honors Ancient Greek and two semester-long survey classes, History of Ancient Greece and History of Ancient Rome. These courses are offered in alternating years.
3. A final research project or paper as an outgrowth of the studies in Latin, Ancient Greek and/or Classics. Proposals and a basic outline of study for this project must be submitted by the end of the student’s junior year. By mid-second semester of their senior year, students must successfully complete their project and present it at the SLS Scholars Symposium in April.

Global Scholars Program
The Global Scholars Program is a means for students at St. Luke’s to demonstrate their commitment to global education through achievement in a wide variety of disciplines. The honors bestowed reflect students’ accomplishments across disciplines that relate to developing a “global understanding” of the world in which we live. Accomplishment in the liberal arts, social and natural sciences as well as world languages that relate to understanding the global nature of the world in which we live are core elements of the program. Related experiences such as international travel, hosting an international student, service learning, and related extra-curricular activities provide evidence of a student’s commitment to global education and serve as a basis for admission into the final stage of the program.

In order to be admitted into the program, applicants must have maintained a strong academic average in Humanities courses during their Upper School career. They must submit an application during the winter of their junior year (date to be announced after Thanksgiving Break) showing a commitment to global education, including a teacher recommendation. In order to apply, students must also be on target to complete all of the following program requirements by the end of their senior year:

1. Coursework
   - World Languages: Students participating in the Global Scholars Program must complete at least five years of high school level study in World Languages. Students may fulfill this requirement in several ways: by completing through level 5/AP in French or Spanish or Level 4 in Mandarin, OR by completing a total of five years of high-school level language study (e.g., 3 years of Spanish & 2 years of French) Generally, students completing a course sequence in Latin must complete at least one year of a modern language. Summer immersion courses (e.g., Middlebury Language Schools) can also help meet this requirement.
   - Ethics of Global Citizenship: Students must also complete this course by the end of senior year.
   - Global Electives: Students must complete at least one additional approved elective that relates to global studies by the end of their senior year. Please contact the Director of Global Education or Director of Studies to learn which electives can fulfill this requirement.
   - Global Scholars Seminar: All Scholars must participate in this year-long course during the senior year.

2. International Learning Experience
   Students must document their international learning experience. This experience may come from having studied abroad, participated in an overseas service program, or volunteered/worked in an international environment such as hosting an exchange student or working with an immigrant community. St. Luke’s sponsored international trips and exchanges automatically fulfill this requirement. International travel that does not include both structured educational content and cultural immersion will not be deemed to have fulfilled this program requirement.

3. Multicultural Understanding and/or Interest
   Students must demonstrate an interest in or commitment to multicultural perspectives through involvement in extra-curricular activities or clubs at St. Luke’s.

4. Capstone Project and Presentation/Demonstration of Learning
   All program participants must complete and present an advanced in-depth study of a question relating to their interest in global education. Their interest may be in any discipline, though it is recommended and likely that the project will require a multi-disciplinary approach. The project is part of the Global Scholars Seminar course, and a presentation of the student’s work will be given at the SLS Scholars Symposium in April.
STEM Scholars Program
The STEM Scholars Program is offered to students whose interests and talents lay in STEM-related disciplines: Science, Technology, Engineering, and Math. In order to be admitted into the program, students must submit an application during the winter of their junior year. In order to apply, students must be on target to complete all of the following program requirements by the end of their senior year:
1. Four years of Mathematics
2. Four years of Science
3. designLab courses: Foundations of Computer Science and Foundations of Engineering
4. Completion of AP courses in two out of the following three STEM disciplines: AP Mathematics (Calculus AB, Calculus BC, or Statistics), AP Computer Science A, and/or AP Science (Chemistry, Biology, or Physics)
5. Enrollment and successful completion of the STEM Scholars Seminar course, which includes a year-long research project and presentation of the project at the SLS Scholars Symposium in April.
Given the long-range, multi-year requirements of the STEM Scholars Program, interested students are encouraged to complete the program’s requirements as early in their Upper School careers as possible.

Online and Blended Learning
St. Luke’s embraces online learning as an extraordinary opportunity to expose our students to the many ways one can learn and share knowledge. Our goal is to enhance traditional face-to-face curriculum with a spectrum of online options - from web-facilitated to fully online courses. We have found technology enhanced education engages students and prepares them for interactive, digital learning in college and beyond. Beyond gaining knowledge from class content, students gain technological literacy, time management and collaboration skills, and independent study strategies. St. Luke’s Upper School offers several online and blended learning courses; these classes are labeled within the Curriculum Guide.

Digital Citizenship
The concept of Digital Citizenship is to introduce, teach, practice, and reinforce the norms of responsible behavior with technology. In grades 5-12, our integrated curriculum reinforces the positive aspects of technology and teaches students to make wise choices. The curriculum is based on the nine elements identified by the International Society for Technology in Education (ISTE): access, commerce, communication, literacy, etiquette, law, rights and responsibilities, health and wellness, and security.

Grading Philosophy
The primary purpose of education at St. Luke’s School is student learning. By learning, we mean that our students will have been successful in reaching our Community Goals for Learning, which emphasize the abilities to think critically and creatively, to communicate effectively, to demonstrate character and social responsibility, and to grow and mature on a personal level. Further, the School attempts to foster in its students the following dispositions: curiosity, open-mindedness, seeking truth and understanding, reflection, and integrity. Teachers have developed rubrics to determine their students’ relative success at meeting these goals.

By setting high academic standards, the School acknowledges its responsibility to assess and evaluate its students’ success at meeting them. Traditional assessment tools include tests, quizzes, papers, projects, and portfolios, among others; the evaluation of students’ success at learning takes the form of grades and, more importantly, written comments that often say more than letter grades express. The purpose of grades, therefore, is to provide an assessment of student learning on a particular assignment, or in a cumulative manner, at a particular point in time.

Grades serve a different purpose in the Middle School where teachers have the opportunity to deal appropriately with the developmental uniqueness of their adolescent students and to stimulate effective work and study habits. At the core of their approach is the desire to provide students with a love and appreciation of the learning process. Emphasis is therefore placed on the skills, habits, and attitudes necessary to become lifelong learners. Students are encouraged to be open-minded, creative, and flexible as they discover how to learn. Grades then serve to promote and assess this learning and discovery process, allowing
students to gain a sense of confidence and success. Assessments provide evidence of progress in learning and are tailored to challenge students at each grade in developmentally appropriate ways. Because significant emphasis is placed on process rather than product in the Middle School, report card grades may not always correlate with those earned later in the Upper School.

The grading system used at St. Luke’s serves the purposes stated above and allows its students the opportunity to present themselves to colleges in a clear way. More importantly, it measures the extent to which our Community Goals for Learning are being met and, ultimately, plays a critical role in the School’s stated mission to create lifelong learners. Transcripts include semester and final grades as well as various academic awards earned in the Upper School. Report cards go beyond mere grades to include twice-a-year in-depth comments that provide students and parents with a solid understanding of the learning that has taken place and suggestions for improvement.

A system of grading is essential to the operation of the School and obviously can have a major impact on college acceptances senior year. However, it can be argued that grades, like standardized tests, often have little effect on success later in life. As pointed out by Pat Bassett, former President of the National Association of Independent Schools (NAIS), “It is the non-scholastic attributes of individuals that often pay the biggest dividends in life: confidence, amiability, sense of humor, perseverance, the ability to get along with other people, team orientation, etc.” He goes on to point out that the best source of motivation is a desire to learn, a need to know, and a drive to excel, not grades. At St. Luke’s, therefore, we emphasize learning as opposed to the achievement of high grades or test scores. Further, we include in our Community Goals for Learning not only those goals dealing with academics that can be readily assessed and measured with grades, but also less tangible ones dealing with issues of character and maturity.

**Standardized Testing**

A system of standardized testing is one method to obtain meaningful feedback on students’ progress and achievement, taking a snapshot of the academic status of the student body at a particular point in time, as well as providing data that can be used for assessment of students’ growth over time and for benchmarking purposes. In addition, the results of standardized tests remain key criteria for college admissions offices when considering students’ applications.

At St. Luke’s, standardized tests can be used as tools to identify an individual student’s areas of strength and weakness. The results are shared with some teachers, as well as the Director of Educational Support Services, and strategies are developed to improve necessary academic skills. Additionally, teachers may use the results as one aspect to gauge the appropriateness of Honors or AP placement when making recommendations for the next school year. Each year, we are able to track students’ progress in each of the areas covered by the individual tests. Further, the cumulative results for a particular grade or subject may also help us with curriculum planning.

Standardized testing is but one means of determining a student’s growth and progress. In the end, the test scores reflect only the student’s ability or knowledge about what was asked on that particular test. St. Luke’s has always placed far greater weight on the overall academic performance of a student than on a single test or combination of tests.

**SAT Subject Tests**

SAT Subject Tests are one-hour, multiple-choice tests. Each test contains questions covering a specific academic content area; there are currently 20 different subject areas that students can take. A student may take up to three subject tests at any one test sitting. Students choose how many and which subject tests to take, if any, depending on the requirements of the colleges in which they are interested. These tests are intended to allow students to demonstrate their achievements in areas of strength.

Only a small number of schools require SAT Subject Tests. Students should check with teachers to see if they are prepared to take a SAT Subject Test in a particular discipline. For further information regarding SAT Subject Tests, please contact the College Counseling Office.
Using This Guide
This Curriculum Guide is provided to current families, and a student's provisional course of study will be posted on the login portion of the St. Luke’s School website. The provisional course of study is based either on the natural sequence of courses or the recommendations of current instructors. The Curriculum Guide provides the School’s Mission and Community Goals for Learning, an overview of the curriculum, and academic policies and procedures, and course descriptions.

Whenever questions about course choices, academic requirements, or academic policies arise, please direct them to the student’s advisor, the Director of Studies, or the appropriate Division Head.
The Upper School Program of Studies

The goal of the faculty in the Upper School is to hold students to rigorous academic standards while supporting them with understanding and compassion. In addition to excellence in academics, the Upper School is committed to excellence of character and regards honor as a major component of its development. The School’s Honor Code serves as a guide for all student endeavors.

The Upper School carries out the mission to give students an exceptional education that inspires a deep love of learning by teaching critical thinking skills, highlighting global imperatives, imparting aesthetic sensibilities, and offering an integrated approach to science and technology.

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<tr>
<th>Department</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
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<tr>
<td>designLab</td>
<td>Electives</td>
<td>Electives</td>
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<td>British and World Literature (or British Literature in 2019-2020)</td>
<td>American Literature or AP Literature &amp; Composition</td>
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<td>Foundations of World History</td>
<td>Modern World History</td>
<td>United States History (Regular, Honors, or AP)</td>
<td>Electives, AP United States Government &amp; Politics, or AP European History</td>
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<td>Speech &amp; Debate</td>
<td>Ethics of Global Citizenship</td>
<td>Ethics of Global Citizenship Finance &amp; Entrepreneurship Leadership Seminar Life Worth Living Speech &amp; Debate Scholars Seminars</td>
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<td>French, Latin, Mandarin, Spanish, or Ancient Greek (every other year)</td>
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designLab
The mission of the designLab is to increase creative problem-solving abilities through engineering, computer science, and design thinking. In the Upper School, the designLab encompasses the Engineering and Computer Science curricula, which include courses such as Foundations of Computer Science and Foundations of Engineering, as well as more advanced electives such as Computer Systems Architecture and Mechanical Design.

designLab offers Mechanical and Electrical Design as project-based, portfolio courses that shift the variable from time to mastery. A student taking these portfolios earns credit for the course when s/he has successfully completed the portfolio, not simply at the end of the traditional academic semester. Grades for these courses will not be traditional letter grades, but rather “Working Toward Mastery” or “Mastery,” depending upon the student’s progress with the coursework. Because these courses are graded differently, they are not calculated within a student’s GPA. Additionally, these courses are not considered within the required five-course minimum per semester.

*Foundations of Computer Science (Online course) Summer (5 weeks)*
This intensive course focuses on the conceptual ideas of computing as they relate to various problems throughout history. Students will be exposed to common computational practices, such as algorithm development, problem solving, and simple programming. Students will develop an understanding of what computers originally were created for, what they are used for today, and how they may be used in the future. Additionally, students will learn how the intended purpose of each new machine, and other technologies of the day, influenced the designs. Students begin the course with an overview of the history of computer development. As the course progresses, students will continue to study modern computer research and development through a series of readings, videos, and reflection essays. Students will also learn new skills, including basic programming and algorithm design using Scratch, as well as web design and development with HTML, CSS, and JavaScript. Students will be briefly introduced to the Python programming language at the conclusion of the course. This course serves as an alternative to the full semester Foundations of Computer Science course offered during the school year, and it fulfills the prerequisite for Foundations of Engineering, Computer Programming, and STEM Scholars requirements. Due to the modification of content from the full-semester course, students will not have the option of bypassing Computer Programming before enrolling in AP Computer Science A.

*Foundations of Computer Science 1st or 2nd Semester*
This course provides an introduction to the field of computer science through a high-level exploration of programming and software development tools, with a focus on important but often overlooked computer literacy topics such as file types and extensions, directory structures, and data types. The main goals of the course are for students to develop an understanding of the basic principles of end-user computing, and how websites and programs function behind the scenes while developing problem-solving and design skills. Students will also learn power user skills as we explore the Mac Finder and terminal applications. Students will learn what the Internet is, how it works (in layman’s terms), and how to create websites with HTML, CSS, and JavaScript before moving on to programming with Python. Upon completion of the course, students may move on to Foundations of Engineering, and then either Computer Programming or AP Computer Science A, depending on instructor approval.

*Foundations of Engineering 1st or 2nd Semester*
This course provides an introduction to the fundamentals of engineering through an exploration of fabrication and physical computing. Through the course of the semester, students will develop their abilities as creative problem solvers through a series of real world design challenges. The main goals of the course are for students to develop an understanding of the engineering design process and a familiarity with the software and hardware related to rapid prototyping. Students will learn how to model objects in 2D & 3D, create prototypes via additive and subtractive fabrication, model circuits via simulation, and use inputs and outputs to create basic physical computer systems.
Computer Programming

This course presents an introduction to object-oriented computer programming and algorithm development using Python. It is designed to give students a solid foundation in common programming practices and conventions, as well as basic programming techniques. Topics include primitive data types, control structures, loops, lists/arrays, functions, classes/objects, and basic graphics – all with a strong focus on problem solving, program design, and documentation. It is presented both as a prerequisite for AP Computer Science A, and as a general introduction to programming that can be applied to other disciplines.

Prerequisites: completion of Foundations of Computer Science, and minimum concurrent enrollment in Geometry and Foundations of Engineering

Robotics

This course explores physical computing and rapid prototyping and applies them both to the field of robotics. The course begins with a deeper exploration into fabrication as students explore basic mechanical systems and methods of movement. Students will then be introduced to the Arduino physical computing platform and will further explore basic circuits involving various inputs (sensors, etc.) and outputs (stepper motors, etc.). Through an exploration of both software and hardware, students will build their own robot that is capable of autonomous motion and exploration of both predictable and unpredictable environments. The goal is for students to appreciate the complexities and develop a deeper understanding of embedded systems.

Prerequisite: Foundations of Computer Science & Foundations of Engineering

Mechanical Design (Portfolio course)

Mechanical Design challenges students to incorporate their previous knowledge of fabrication with Design Thinking in order to creatively define and then solve real world challenges. Using technologies such as computer aided drafting (CAD) software and fabrication hardware such as 3D printers and CNC routers, students will work collaboratively in small groups to develop their designs. Given the project-based structure of the course, students will develop collaborative problem-solving skills through teamwork, as well as public speaking and presentation skills through sharing their designs with the St. Luke’s community. Please note that students will be required to draw on knowledge gained through previous math and science courses, and in some cases students may be expected to complete independent research to supplement background knowledge.

Prerequisite: recommendation of the course’s instructor.

Note: this course is offered every other year and will be offered again during the 2019-2020 school year.

Electrical Design (Portfolio course)

Electrical Design challenges students to incorporate their previous knowledge of physical computing with Design Thinking in order to creatively define and then solve real world challenges. Using open source platforms such as Arduino and Raspberry Pi, students will work collaboratively in small groups to develop their designs. Given the project-based structure of the course, students will develop collaborative problem-solving skills through teamwork, as well as public speaking and presentation skills through sharing their designs with the St. Luke’s community. Please note that students will be required to draw on knowledge gained through previous math and science courses, and in some cases students may be expected to complete independent research to supplement background knowledge.

Prerequisite: recommendation of the course’s instructor.

Note: this course is offered every other year and will be offered again during the 2020-2021 school year.

AP Computer Science A

This course is a comprehensive study in Java programming, equivalent to a first semester college-level computer science course. It emphasizes problem solving with an object-oriented approach, as well as algorithm and data structure development and analysis. The course involves several large projects that encourage good program design and documentation. By the end of the course, students will be able to design, implement, and analyze solutions to problems using the Java programming language by using common and standard algorithms and data structures, as well as their own.

Prerequisites: recommendation of the course’s instructor.
Honors Data Structures
This course is a comprehensive study of the C++ programming language for students who have excelled in AP Computer Science A. Topics include those from the AP course as they relate to C++, as well as enums, structs, pointers, file I/O, operator overloading, linked lists, stacks & queues, binary trees, graphs, and the STL. Students will complete several large projects over the course of the year, one of which will fulfill the March Exam grade requirement.
Prerequisites: AP Computer Science A and recommendation of the course’s instructor. It is generally expected that to enroll in the course students will have earned a grade of A- or better in AP Computer Science A and scored 3 or better on the AP Computer Science A exam.
Note: this course may not be offered every year, based on enrollment.

Honors Computer Systems Architecture
Students in this course will build a complete computer system from the ground up, using the NAND to Tetris model (nand2tetris.org). Beginning with the simple NAND gate, students will build upon continuing layers of hardware abstraction until they have a working CPU and memory. From there, students will repeat the process with software, beginning with a machine language for their new computer and working through an assembler, VM translator, and compiler for their own simple object-oriented language with which they will write an operating system and software for their new computing hardware.
Prerequisites: recommendation of instructor. It is generally expected that to enroll in the course students will have earned a grade of A- or better in Honors Data Structures.
Note: this course may not be offered every year, based on enrollment.

Honors Software Engineering
Students in this course will complete a year-long group software project. Group size will depend on enrolled students, but typically ranges from four to six students. Projects will be done for St. Luke’s School, which will function as the client for the project group(s). Students will learn team-based project management & presentation skills, along with any new languages and software development environments required for the project’s completion. Projects are traditionally web-based, but the platform will be dependent on the nature of the project.
Prerequisites: AP Computer Science A and recommendation of the course’s instructor. It is generally expected that to enroll in the course students will have earned a grade of A- or better in AP Computer Science A; scored 3 or better on the AP Computer Science A exam; and are passionate about working on this type of project.
Note: this course may not be offered every year

English
First and foremost, the English Department places a strong emphasis on clear and persuasive writing. Our courses take students through a progression of rhetorical styles and methods designed to make their writing as effective, compelling, and original as possible. To that end, we assign numerous in-class prompts along with extended out-of-class essays, and we present grammar and phrasing exercises on a regular basis with an eye toward standardized testing. In addition, we are committed to the importance of critical reading, with an emphasis on the “classics” – along with selected modern and multicultural titles. Exposure to challenging literary texts, we believe, enhances students’ literacy, empathy, and ability to make informed moral decisions.

In the Upper School, primary importance is placed on the formal analytical essay, and the literature is studied for its cultural and artistic importance. The 9th grade course provides an introduction to the four literary forms (novel, short story, drama, and poetry) and the literary terms and concepts that will be needed for the coming years. In 10th grade students study British authors, and in 11th grade the focus is on American literature. Finally, given their exposure over the previous three years, seniors can select from the various elective offerings in the 12th grade – whether genre, author, theme, or period studies. In some cases, juniors may also register for these electives as second English courses. Furthermore, AP Literature is available to qualifying students in the 11th grade, and several honors-level courses are available to seniors.
In most cases, English courses are discussion-based and so encourage students to share their views and interpretations and to listen attentively to others. They also develop the formal skills to work in collaboration with their peers in group assignments, and, in addition, they are frequently required to give short oral presentations.

**World Literature**

World Literature provides a foundation for the study of literature in the Upper School. The readings for this course are selected for their rich language, cultural influence, and universal themes. Through study of a wide variety of texts spanning the globe, students will consider how these works inform their understandings of identity and self. With close reading and lively discussions centered on the texts, students develop intellectual confidence, study skills, and an appreciation of literature, all of which is preamble to writing. The process of composition is given great attention in the freshman English course, as students work towards mastering organization, diction, and voice to build fluency in academic conversation, composition, and presentation. Students will study challenging vocabulary words and receive instruction in grammar, proper sentence structure, and idea flow.

**Honors World Literature**

This course is an introductory study of literature and its various forms (short story, mythology, novel, drama, and poetry) for the freshman with a love of inquiry as well as strong fundamental skills in reading and writing. Like World Literature, this course encourages students to consider how works from around the globe inform their understandings of identity and self; however, reading and writing assignments are more demanding, both in terms of scope and complexity. Emphasis is placed on learning how to analyze literature critically and write with voice, focus, and fluency. Students in this course will engage in frequent composition, both in class and at home, vocabulary and grammar study, Harkness discussions, presentations, and projects.

*Prerequisite: recommendation of the student’s current instructor.*

**British Literature**

Students in this course will examine a wide array of texts from the British Isles that address an important question: how are our individual identities and choices shaped by the societies in which we live? In search for an answer to this question, students study several works of English literature, ranging from long-standing classics to contemporary novels. Students will continue to refine their composition skills, focusing primarily on thesis generation and development, the effective use of close reading of quotations, and revision and editing. In addition, students will develop their public speaking skills through oral presentations and graded discussions.

**Honors British Literature**

This rigorous course explores classic and contemporary texts in British literature. The central intellectual task of the students will be to expand their natural critical thinking talents, and to write clearly and sequentially about complex ideas. All genres—poetry, plays, fiction, and film—will be integrated into the curriculum, and students will become aware of the way art reflects and illuminates the human condition. Students in this course should have exceptional reading skills and a strong appreciation of the written word.

*Prerequisite: recommendation of the student’s current instructor.*

**American Studies: “America Is…” (English and History combined course)**

The people of the United States, indeed people around the world, would finish this sentence in many different ways. It is a difficult thing to define “America.” Yet, this course will attempt to do so. In a rich multidisciplinary context, we will examine together the major historical realities that brought the United States into being and have defined its development into the major political, economic, and cultural power that it is today. We will explore history, literature, fine arts, as well as music and popular culture in our quest to better understand who we are as a nation. The course will establish a firm understanding of the history of the United States and embroider that understanding with a close analysis of the many ways American expresses its culture and its power in the world, both past and present. Students will further develop their analytical thinking and persuasive writing skills while building a deep understanding of what “America is.”

*Note: American Studies will meet during two academic periods and will be a two credit course (English and History).*
American Literature
This course traces the foundations of American literature with an emphasis on the historical, political, and cultural influences of the time periods. Students will examine literature in terms of the American experience and investigate such pervasive themes as the American Dream, equality, and the conflict of the individual versus society. Writing is the chief means of demonstrating understanding of the readings and the themes. Assignments will be frequent and will call upon critical and creative thinking skills to formulate arguments. Major papers will address key themes and issues. Oral presentations in which students explain and interpret writings, images, and songs will also be part of the course. Finally, discussion will be one of the primary means of “unpacking” texts and issues. A high degree of student interaction and engagement with the material is expected.

AP Literature & Composition
“AP Lit” is an advanced course in sophisticated literature that demands intellectual focus, a high-level of critical thinking, and strong writing skills. The class provides deep and meaningful exposure to American authors, values, and literary movements not only to educate students, but also to prepare them to take the challenging AP Literature test in May. In addition to close reading and discussion of American classics and poetry of the 18th to 21th centuries, students will write both major papers and timed, on-the-spot prompts. In both cases, the ability to penetrate text and to write clearly and comprehensively is imperative. Therefore, a genuine attraction to literature and ideas is one of the requisites of this class. Finally, supplemental reading and analysis of contemporary American and international authors is required during the summer months in preparation for the curriculum.
Prerequisite: recommendation of the student’s current instructor.

Yearbook
Yearbook is a course in photojournalism and publishing, open to all Upper School students. The goal of the course is to publish the annual chronicle of life at St. Luke’s, The Caduceus, and to learn elements of print and photographic style, management, teamwork, and organization. The staff uses professional level design software, and both the publisher’s designer and guest designers work with the class as part of the design process. The class discusses and settles on a design, including the book’s theme and styles. Following these decisions, the staff schedules assignments and then creates content to build their pages around set deadlines. During the spring, the staff reviews the process of having completed the book, critiquing the process for the following year. Participants in Yearbook should expect to put in time outside of school and manage their assignments according to deadlines.
Note: Yearbook does not count as a permitted course for English graduation requirements; it is only considered an additional elective for students. Also, experience or demonstrated interest in photography or publications is preferred.

Seniors, and in some cases Juniors, can choose from a variety of semester electives. The electives listed are examples of recent courses and do not necessarily reflect those that will be offered in 2019-2020. Those electives will be shared with students later in the spring.

Global Literature
‘Global’ is a shorthand term for non-Western, contemporary, often as not in translation. In this survey course of modern writers, we will study works that challenge our literary and cultural assumptions. Although the authors exercise a sovereign voice, their characters grapple with persisting colonial predominance and criticize Western influence. During the second part of the course, we leave colonial vestiges behind and read books that test our “comfort level” in both style and subject matter. The works may confound, offend, or surprise us, but in the end, they remind us of our common humanity.

Honors Contemporary Literature
Since the rise of technological media, beginning in the mid-20th Century with TV, social critics have been decrying the death of literature as a viable art form. Yet the books keep coming, albeit with twisted perspectives. This course will examine prominent recent and current writers, from Vonnegut to Atwood and Murakami, in order to determine the relevance of reading fiction in the modern world. Indeed, students in this course should be prepared to do a considerable amount of reading.
Prerequisite: recommendation of the course’s instructor and/or Upper School English Department Chair.
Honors Feminist Literature  
1st Semester

This interactive course will explore the rich stash of novels, plays, poetry, film, and non-fiction for and about women from a psychological and socio-political lens. Is biology destiny? Where does myth and reality diverge? What does society have to fear from strong women? What is meant by ‘closing the gender gap’—and is it beneficial to women? Close reading and seminar-style discussion will dominate the class, and papers will mix the academic and the personal. A NYC museum excursion to view female artists, or a theatrical production, will be on the docket, and women’s voices from classic to contemporary—Amazon ancestors to cover girls—will be examined.

Prerequisite: recommendation of the course's instructor and/or Upper School English Department Chair.

Honors Shakespeare  
1st Semester

The Bard did not intend his plays—passionate, bawdy and bloody—to be recited under florescent lighting while seated on metal chairs. Therefore, this course explores the theatrical nature of the tragedies—how to move, speak, leap, fight and swoon. In brief, the class will examine the essential humanity of Shakespeare’s most compelling figures, and how both the spirit and the technique of the master resonate in contemporary life and art. Hamlet, Othello and Richard III will be analyzed, dissected and staged; moreover, critical analysis by leading Shakespeare scholars will be introduced in preparation for college-level essays. A provocative selection of film adaptations, and at least one live theatre production, will also be in the wings. The rest is definitely not ‘silence.’

Prerequisite: recommendation of the course's instructor and/or Upper School English Department Chair.

Note: this course will not be offered during the 2018-2019 school year.

Reading and Writing Satire  
1st Semester

Satirists use humor to make a point or offer a critique. There is much in our world to critique, and we live in a moment when satire is dominant in popular culture. From Saturday Night Live to Key & Peele, from The Office to The Onion, so much of what makes us laugh today is structured as satire. But where did this literary form come from, and how has it evolved over time? Students in this course will learn the history of satire dating back to ancient Rome, and they will read and analyze examples from 17th century France (Moliere) and 18th century Ireland (Swift). We will also consider contemporary literature from authors such as George Saunders and filmmakers such as Stanley Kubrick, as well as the burgeoning television and online landscape. The course is discussion based, and students should expect to write regular short reflection papers as well as several full-length analytical essays. Having learned about the form through study, students will be challenged to create their own works of satire in different media, reflect on their artistic choices, provide feedback to peers, and share their creations with the community.

The Art of Memoir  
1st Semester

Be the hero of your own story! The memoir, or personal narrative, is the fastest growing literary form of the 21st Century. Writers of this form share their experience with the reader, with an eye toward highlighting prominent events and framing them so as to be universally appealing. A job incident, a class, a game, even a date or a drive in the country, can be fodder for a good story—if presented artfully. In recent years, writers such as Frank McCourt, Jeannette Walls, and J.R. Moehringer have brought personal narrative to the forefront in our culture. Students in this course will read a selection of critically acclaimed memoirs and then try their hands at their own.

Voices of the 60s  
1st Semester

There was more to the 1960s than peace, love, and rock and roll. It was a time of major social upheaval that forever changed the fabric of American society. By reading selected fiction, biography and essays from the era, students in this class will gain a better understanding of how the present-day world came to be. Authors will include Kurt Vonnegut, Hunter Thompson, Malcolm X and Tim O’Brien. Several seminal films and songs from the era will supplement this literature. Writing assignments will be journalistic in nature, consisting of news articles, interviews, editorials, and reviews. A multi-media research project will be assigned as a course-culminating activity.
African-American Literature 2nd Semester
What is African American literature? Drawing from Kenneth Warren’s *What Was African American Literature*, we will try to define the genre by relating it to other categories of literature based on race, ethnicity, gender and geography. We will also explore the historical context and literary content of the works to determine if they are judged based on aesthetics or their social and/or political representations. Readings in this course will include short stories, essays, articles, poems and one novel.

Classical Mythology 2nd Semester
While the mythological tales of Greece and Rome were created millennia ago, the ideals and morals shared within them can still be relevant to our lives today. Ancient Greek and Roman literature are generally defined by their use of mythology and religion. In this course, students will analyze some of the most important myths and mythological figures of ancient Greece and Rome to determine how these stories can help us better understand the people and societies who believed them. Additionally, students will study how Greek and Roman art enhanced or, in some cases, contradicted the best-known versions of mythological stories.

Creative Writing 2nd Semester
Students in this course will be given a variety of opportunities to produce original creative works while at the same time learning the fundamentals of “good writing.” Assignments will include both formal and “modern” poetry, narrative writing, and personal essays. Reading will consist of selected contemporary poems and essays. There will also be an interdisciplinary project with the Art Department.

Honors European Literature: Civilization and Barbarism 2nd Semester
In 1929, Sigmund Freud came to the astonishing conclusion that, “What we call our civilization is largely responsible for our misery.” What inspired such iconoclasm from the founding father of psychoanalysis, and did it share anything in common with the overwhelming anxiety that compelled Edvard Munch to endeavor to paint “the infinite scream of nature” nearly forty years prior? This interdisciplinary seminar will probe this and related questions by exploring significant developments in European culture and society in the period running from the Belle Époque to the close of the 1920’s. Against a backdrop of ascendant nationalism and the mounting crisis of liberalism, we will examine a wide array of writers, artists, and thinkers whose work critiqued established social norms regarding gender, class, and race. We will consider efforts in fiction, philosophy, and psychology to test and even transcend the limits of reason, along with those of modernist artists and musicians to challenge long-running assumptions concerning meaning and authenticity. Across group discussions, as well as individual research and writing, students will engage with text and context simultaneously, blending English and History in order to lay bare the profound role played by the arts and humanities in giving shape to this transformative age.

*Prerequisite: recommendation of student’s current instructor and/or the course’s instructors.*

Honors Non-Fiction: New Journalism 2nd Semester
The line between political truth and fiction has become blurred in recent times, but in journalistic style that line was crossed half a century ago. Back in the 1960s writers such as Tom Wolfe, Joan Didion, Hunter Thompson, and Truman Capote began writing articles and books about real events using the devices of fiction, such as dialogue, setting, and narrative point of view. The result was a much more readable and entertaining version of non-fiction that has become standard by the 21st century. Students in this class will sample numerous examples of this writing, and they will try their hands at this style of “reporting.” Extensive reading and composition will be necessary.

*Prerequisite: recommendations of the course’s instructor and/or Upper School English Department Chair.*

Modern and Contemporary Theatre 2nd Semester
“The play’s the thing,” especially when it catches the conscience of an audience. This course will examine the dynamics of dramatic art as it reflects, challenges and informs our current cultural, social, and political climate. Theatre is designed to provoke, disturb and enlighten, and students will learn—from the playwright’s craft to the actor’s interpretation—how artists bring the page to the stage. Expect close reading of scripts from the late 20th Century to current times, as well as interactive performance of sciences both in the classroom and the Black Box Theater.
Health & Wellness

The purpose of this required wellness program is to promote principles of wellness with emphasis on the whole child’s social, mental, emotional, intellectual, and physical health. Health education will provide the practical knowledge and skills for students to make responsible, effective decisions regarding everyday life choices and give them the opportunity to learn, explore, ask questions, and challenge ideas. Furthermore, students will have a forum to bring up and discuss issues in a non-threatening atmosphere that will encourage both personal and group reflection, with respect and tolerance for others. Our Upper School Health and Wellness curriculum is divided into five units, or “mini-courses,” which are required for graduation from St. Luke’s. These mini-courses vary in length, and they can be taken from the winter season of 9th grade through the fall season of 11th grade. Some mini-courses will be offered over the summer, and all mini-courses will be offered several times during the school year. Additionally, Sports Medicine is an optional elective available to sophomores, juniors, and seniors.

Health Mini-Course: Drugs & Alcohol

This mini-course provides students with critical information about the use and misuse of alcohol and drugs, including over-the-counter, prescription, and illegal drugs. Students will explore seven specific drug categories: alcohol/tobacco/juuling; club drugs; hallucinogens; marijuana; inhalants; stimulants; prescription and over-the-counter drugs. While many prescription medications can be abused or misused, these three classes are most commonly abused: opioids, CNS depressants, and stimulants. Students will learn the effects and street names for each drug category, and they also will discuss statistics and trends. There will be an emphasis on the process and consequences of decision-making and the influences of peer pressure. Topics will be presented through class discussions, videos, PowerPoint presentations, and activities (Fatal Vision goggles, teen alcohol PSA, and golf cart driving simulation).

Health Mini-Course: Health & Stress

This mini-course will focus on emotional, psychological, and social well-being. Mental health is important at every stage of life, determining how we handle stress, relate to others, make decisions, develop points of identity and perform in school. Through research, class discussion, case studies, and videos, students will learn about the neuroscience of emotion; conflict and stress; anxiety disorders; phobias; post-traumatic stress; and coping and defense mechanisms.

Health Mini-Course: Healthy Relationships

This mini-course will give students the opportunity to study the causes and potential risk factors of teen violence and how it affects teenagers in their everyday lives. Students also will take a look at teen dating and relationships, in the context of what behaviors constitute healthy and unhealthy relationships. Lastly, students will learn ways dating violence can be prevented.

Health Mini-Course: Healthy Tech Use

This mini-course focuses on how to be a well-informed digital citizen. Students will learn about the dangers associated with social media, identity theft, and excessive smartphone use. They also will learn how to cultivate a positive digital footprint, think more intentionally about how to spend and structure their time in the face of digital distractions, and more thoroughly understand the ramifications of personal information stored on the cloud or accessed through app permissions. Each student will keep a journal for the duration of the course in order to more mindfully reflect on their current habits and strategize ways to make healthy, informed decisions around future technology use.

Health Mini-Course: Human Sexuality

This mini-course focuses on human sexuality, taking a fact-based approach to sharing information that is important for student wellness. Through lecture, class discussions, PowerPoint presentations, and classroom activities, the students will have the opportunity to participate in a healthy conversation around a multitude of areas, including sexually transmitted diseases, HIV/AIDS education, and gender and sexuality. The emphasis of this mini-course is student awareness.

Sports Medicine

The purpose of the sports medicine program is to provide a general overview of the sports medicine field through a five-part series. First, students will be introduced to the different professions that make up the allied health field including orthopedics, neurology, pediatrics, physical therapy, athletic training, occupational therapy, nursing and chiropractic medicine. The second
part will cover bone and muscle anatomy. The third section will cover exercise physiology related to the human body during activity. In the fourth section, students will learn how to recognize and evaluate common sports medicine injuries, such as concussion management, ankle sprains and muscle strains. And finally, the class will discuss rehabilitation techniques and protocols to the common injuries discussed in section four, which will include a project developing a personal rehabilitation program for a sports medicine injury. This is an elective and does not count toward any core academic graduation requirements, though ¼ credit will be granted and regular assessments will occur.

History and Social Science
The broad objective of the History and Social Science Department is to prepare our students to be humane, rational, participatory citizens in a national and global context. The scope and sequence of the course offerings are designed to provide students with an essential base of knowledge and a cumulative development of skills necessary to their growth as individuals, as members of their communities, and as students preparing for college study. We encourage students to gain a perspective for life in other eras and in other regions of the world. The Department also trains students in the skills of critical reading, research, writing, discussion, and debate.

Students in grades 9 through 11 take a sequence of courses in World History and United States History. Additional year-long and semester electives are offered to juniors and seniors. The Department recommends that Upper School students pursue at least one year-long elective or one pair of semester electives in order to complement the required courses. These electives are normally taken as a senior, although occasionally juniors enroll in semester electives. There is some variation from year to year in the electives offered.

An Honors section is available for each of the required, year-long courses for grades 9 through 11. AP courses are offered to juniors and seniors who show exceptional levels of achievement through 10th grade. Entrance into Honors and AP courses is determined by recommendation of the department faculty.

Foundations of World History
Ninth grade students will learn what it means to think like a historian and to work like a historian. Close reading, analysis and interpretation of events, persuasive writing and research skills (especially the ability to analyze the veracity of sources) will be emphasized throughout the course. By studying the foundations of civilization and patterns of development in the ancient world, students will be asked to think deeply about historical connections between the ancient and modern worlds. Students will study cultures and civilizations from the ancient Near East and Far East to Mesoamerica and Sub-Saharan Africa in order to develop appreciation and understanding of the meaning of World History.

Honors Foundations of World History
The Honors course will help students develop the skills of historians, with a heavy emphasis on analytical thinking and writing skills. Students must be able to read and analyze more complex texts, including many primary sources, as well as to take responsibility for managing the workflow of long-term assignments. Daily classes, homework assignments, thesis-driven essays and test questions will require students to take a more critical approach to the material, exercising their ability to analyze, synthesize and evaluate course content. Students will be expected to generate original ideas and to demonstrate independent thought.
Prerequisite: recommendation of the student’s current instructor.

Modern World History
Sophomores will consider what it means to be “modern” and how the development of new modes of thought in early modern Europe has affected the development of World History since the 15th century. They will practice the skills of the historian as they read and analyze a variety of texts and cultural artifacts. Students will practice political, economic and cultural modes of interpreting history as they encounter questions as varied as the significance of the scientific method, the development of modern nation states and the meaning of revolution. Students will develop a keener understanding of our contemporary world as they examine the impact of global conflict and interdependence in the 20th and 21st centuries.
Honors Modern World History
The Honors level course is similar in content to the standard course. In-class discussions and written work will require a high level of independent critical thought. Students will read and analyze more complex texts, both primary and secondary, and will grapple with highly abstract concepts. Students must be responsible for managing the workflow for long-term projects. Most class sessions will be discussions and workshops.
Prerequisite: recommendation of the student’s current instructor.

American Studies: “America Is…” (English and History combined course)
The people of the United States, indeed people around the world, would finish this sentence in many different ways. It is a difficult thing to define “America.” Yet, this course will attempt to do so. In a rich multidisciplinary context, we will examine together the major historical realities that brought the United States into being and have defined its development into the major political, economic, and cultural power that it is today. We will explore history, literature, fine arts, as well as music and popular culture in our quest to better understand who we are as a nation. The course will establish a firm understanding of the history of the United States and embroil that understanding with a close analysis of the many ways American expresses its culture and its power in the world, both past and present. Students will further develop their analytical thinking and persuasive writing skills while building a deep understanding of what “America is.”
Note: American Studies will meet during two academic periods and will be a two credit course (English and History).

United States History
United States History is an introductory survey of the creation and evolution of the American Republic from the colonial period through the present day. The political history of the United States anchors the course, but social, economic, diplomatic and cultural developments are covered as well. In addition to reading narrative texts, students will spend time grappling with a variety of primary sources. Students will write analytical essays as well as complete research papers. By acquiring a basic knowledge of United States history, and by developing their critical thinking, reading and writing skills, students will be better equipped to be informed and involved citizens of the United States.

Honors United States History
The Honors course will cover the same material as the non-Honors course, although the pace will be quicker and certain topics will be studied in greater depth. Additionally, students will be required to do more independent work and analyze the past on a higher level. More challenging readings, including longer primary source documents and scholarly secondary sources, will be a feature of the course. This course will prepare students to take the SAT Subject Test in United States History.
Prerequisite: recommendation of the student’s current instructor.

AP United States History
This course prepares students for the AP examination in United States history in early May. Students in AP United States History are expected to gain a solid background in political, economic, social, intellectual and diplomatic trends in American history from colonial times to the modern era. Students are exposed to heavy doses of primary source documents and the scholarly writings of distinguished historians. Students will write analytical and interpretive essays frequently, as well as complete a major research paper during the course of the year. This course requires a strong commitment to hard work and independent learning, as there is not sufficient class time to cover every topic in detail. Those who accept the challenge of this course are adequately prepared to take both the AP and the SAT Subject Test examinations.
Prerequisite: recommendation of the student’s current instructor.

Seniors, and in some cases Juniors, can choose from a variety of semester electives. Students will prioritize their elective requests later in the spring.

History of Ancient Greece
This course covers millennia of ancient Greek history, from the Minoan civilization to the campaigns of Alexander the Great. There particular emphasis on the (fifth century BCE) Golden Age of Athens, though earlier ages will be covered to add background, and later ages will be presented to consider the development of concepts or effects of events in the Classical Age. Students will gain an appreciation for the pivotal role played by Athens in the development of western culture in various aspects
of civilization, and will trace the rise and decline of the *polis* from the Persian Wars through the Peloponnesian War. The course will wrap up with a study of Alexander the Great and his successors during the Hellenistic period.

*Note: this course is offered every other year and will be offered again during the 2020-2021 school year.*

**Economics**

*1st Semester*

“There’s no such thing as a free lunch,” goes the most famous saying in Economics. But if you can’t get something for nothing, then how do individuals and societies make choices about who gets scarce resources? This course is designed to help students answer that question by gaining a working knowledge and deeper understanding of a short list of key economic concepts, including: opportunity cost, voluntary exchange, supply & demand, marginal analysis, and real vs. nominal values. We then use those concepts to look at the areas that interest us the most individually—because all areas can be examined through the lens of economics. The course emphasizes discussion, collaboration, written expression, and encourages students to explore interesting and relevant issues faced by citizens of modern society.

**Life Worth Living**

*1st Semester*

Based on a popular undergraduate course at Yale University, Live Worth Living spurs critical thinking on the question of what constitutes a flourishing life. Drawing upon several religious and philosophical traditions, students and teachers together approach the core question—*what is a life worth living?*—by examining different models of the good life, by practicing individual habits of reflection and action in discerning and pursuing the good life, and by practicing collective habits of discussion within a respectful, honest, and diverse community of learners. The course is rooted in the belief that diverse communities can reason together about the good life and the practices that support it. Through sustained personal reflection coupled with group conversation, students will grapple with consequential thinkers while engaging in a deep learning experience that prepares them for the concluding exercise in which they articulate their own vision of a life worth living. This course is cross-referenced within the History and Leadership Studies Departments.

*Note: this class is open to 11th and 12th graders.*

**Vietnam**

*1st Semester*

America’s involvement in the Vietnam War (what the Vietnamese know as “The American War”) is one of the most controversial and troubling periods of the history of the United States in the 20th century. This course will examine the war in Vietnam from 1945-1975, exploring the political and economic motivations for American involvement in Vietnam as well as the broad impacts the war had on life in Vietnam, the United States, and the rest of the world. Students will gain a strong understanding of why people fought, how people fought, and how all this fighting continues to effect combatants more than 40 years after the conflict officially ended. Students will examine primary source documents, read and discuss scholarly sources, and practice the skills of both written and oral argument in this class.

**History of Ancient Rome**

*2nd Semester*

This course focuses primarily on the history, literature, art, architecture, and philosophy of Rome from the 2nd century B.C.E. through the 2nd century C.E. The course will pay particular attention to the end of the Roman Republic and beginning and height of the Empire, though earlier ages will be covered to add background to the time period from the Gracchi to the Good/Adoptive Emperors. Students will gain an appreciation of Rome’s transition to an empire that dominated the world for the coming four centuries and the legacy left by the Romans for civilizations that followed.

*Note: this course is offered every other year and will be offered again during the 2020-2021 school year.*

**Civil War**

*2nd Semester*

The most destructive war in American History consumed the nation for four intense years in the middle of the 19th century. From 1861-1865, more than 600,000 Americans died as a result of this conflict. Americans killed Americans to the point that nearly 2% of the national population was lost. The outcomes of this conflict were many and remain with us today, echoing in the political structures and debates that characterize the United States. This course will closely examine the political, social, and economic roots of the American Civil War, learn the stories of the men who fought in the great conflict, and evaluate the degree to which the United States as a nation has been defined by its Civil War. Students will examine primary source documents, read and discuss scholarly sources, and practice the skills of both written and oral argument in this class.
Psychology 2nd Semester

Have you ever wondered why we behave as we do? Have you ever thought about the personality differences among people or the nerve activity that is involved with emotions? Would you like to know more about the history of the field of psychology or different stages in developmental psychology? This course is designed to expose students to foundational concepts and historical figures in psychology. Topics covered will include learning theories, memory, motivation, sense, perception, personality theories, abnormal psychology and more.

Violent Politics: Insurgency, Secession, and Terrorism in the 20th and 21st Centuries 2nd Semester

This course examines the major revolutionary trends of the 20th and 21st centuries using events in China, Russia, Iran, Nigeria, and Sri Lanka as case studies. Students will trace the origins of these countries (either by violent revolution or decolonization) through the emergence of fragmentary forces including terrorism and secession. Students will explore the past and current regimes of the five countries, major challenges to their legitimacy as well as government responses to these challenges. Students will learn basic government and economic structures in addition to the centrifugal and centripetal forces that exist within each nation state.

Seniors may take either an AP or Advanced course (by recommendation) or a first and/or second semester elective. AP and Advanced courses will always be considered the “first choice” for seniors within the lottery course selection process.

AP European History

This is an advanced course for seniors that will prepare for them for the AP examination in Modern European History. The course begins with the Renaissance and runs through to the current state of affairs in Europe today. Along the way, students will study the Reformation, the English Civil War, Scientific Revolution, the French Revolution, Napoleon, the Industrial Revolution, European Imperialism, both World Wars, the Cold War and the fall of communism. Students will be expected to decipher primary source material as well as scholarly articles on the subject matter. The course will include intensive writing instruction in preparation for the AP exam. Students will write short papers frequently and complete a year-end research paper.

Prerequisite: recommendation of the student’s current instructor.

Advanced European History

Advanced European History provides highly motivated high school seniors the opportunity to explore this subject in greater depth while preparing for college-level work in the discipline. To that end, this course draws heavily upon primary sources of a diverse nature, ranging from political tracts and theoretical essays to fiction and memoirs. We will also explore a wide array of art and visual culture, along with audiovisual sources (music, cinema, speeches, newsreels), from the period. We will pay meticulous attention to the changing geography and demography of modern Europe by analyzing maps and statistical renderings. Moreover, we will examine secondary sources that have helped define these fields of historical inquiry.

Prerequisite: recommendation of the student’s current instructor.

AP United States Government and Politics

This course prepares students for the AP examination in United States Government and Politics. Students are expected to gain an analytical perspective on government and politics in the United States by mastering general concepts and analyzing specific case studies. Specific topics include: the constitutional underpinnings of the government of the United States; American political beliefs and behaviors; the roles of political parties, interest groups, and the mass media; the institutions of national government; the formulation of public policy; and the civil rights and liberties of American citizens.

Prerequisite: completion of United States History, and recommendation of the student’s current instructor.

Leadership Studies

The Department of Leadership Studies offers academic courses designed to help students better understand leadership, so that they can apply their learning to become compassionate, intentional and effective leaders in the world. The courses are housed in the Center for Leadership (CFL), which was created to help all students develop exceptional leadership abilities and the
confidence to use them in service to their communities. In a world where rapid change regularly redefines the future, the CFL enables students to hone their own distinct leadership skills by developing a Design mindset, an Inclusive ethos, a Global perspective, and a Service orientation—finding their voice, and making a difference in the areas that matter most to them and to society.

**Ethics of Global Citizenship**

*1st Semester*

This class explores the question: "What does it mean to be an ethically engaged citizen of the 21st century?" Students will explore and learn about the concepts of leadership, citizenship, ethics, empathy, and intercultural communications. Students will focus on various global issues and the connections among them. This course requires curiosity, a willingness to engage in thoughtful discussions and initiative.

*Note: this class is open to 10th, 11th, and 12th graders.*

**Life Worth Living**

*1st Semester*

Based on a popular undergraduate course at Yale University, Live Worth Living spurs critical thinking on the question of what constitutes a flourishing life. Drawing upon several religious and philosophical traditions, students and teachers together approach the core question—*what is a life worth living?*—by examining different models of the good life, by practicing individual habits of reflection and action in discerning and pursuing the good life, and by practicing collective habits of discussion within a respectful, honest, and diverse community of learners. The course is rooted in the belief that diverse communities can reason together about the good life and the practices that support it. Through sustained personal reflection coupled with group conversation, students will grapple with consequential thinkers while engaging in a deep learning experience that prepares them for the concluding exercise in which they articulate their own vision of a life worth living. This course is cross-referenced within the History and Leadership Studies Departments.

*Note: this class is open to 11th and 12th graders.*

**Speech & Debate**

*1st Semester*

Speech & Debate is a one-semester introductory course that covers a variety of styles of public speaking and formal debate. Students in this course will improve their ability to make and respond to arguments, identify faulty logic, think on their feet, and tailor their public speaking to the audience and occasion. No prior experience is needed. Each unit will culminate in performance assignments that require students to demonstrate their abilities within the classroom setting. Students are encouraged to participate in competitions outside of the school day, but it is not a required component of the course.

**Finance & Entrepreneurship**

*2nd Semester*

This one-semester course is designed to introduce students to the world of finance and business including entrepreneurship and economics. We will cover personal and corporate finance, unit economics, pricing/costing, entrepreneurship, and different business models, as well as communication, selling, business leadership. The final project of the course will ask students to apply the tools that they have acquired in order to analyze and launch their own business. This elective course includes design thinking principles and a focus on public speaking. Students interested in a business career or in starting their own nonprofit organization will find this course invaluable.

*Prerequisite:* completion of Algebra II.

*Note: 11th and 12th graders receive scheduling priority for this class.*

**Leadership Seminar**

*2nd Semester*

What is it that makes for an effective leader? How does one develop processes for influencing groups of people? When one hears the word “leader,” different definitions come to mind. As the field of leadership studies continually expands, this class will introduce students to come of the different approaches to leadership. When is each style most constructive? When can each style be a liability? Through the exploration of the varied approaches to leadership, an examination of case studies, and some consideration of their own leadership strengths and challenges, students will complete this course with a concrete understanding of how they can best use their skills to move their communities forward.

*Note: this course is open to 11th and 12th graders. Sophomores may enroll only with permission of the instructor.*
Mathematics

The Upper School Mathematics curriculum is focused on building in our students the skill of communicating (reading, writing and speaking) in the language of mathematics, while being able to explain their thinking beyond simply supplying answers. Through studying applications of real-life situations, the consecutive courses promote awareness in our students that mathematics is a life skill, as much a part of their lives outside of the classroom as in the classroom. We develop in our students a flexibility to select appropriate methods to accomplish their goals and to utilize the proper tools for the task at hand. Access to technology is important. Computers and calculators are integral parts of the mathematics curriculum. Throughout their studies, students are expected to use estimation, mental math and pencil and paper to verify the work of the calculators.

Our students’ mathematical knowledge and ability to use that knowledge in a variety of problem-solving settings increase by involving critical thinking skills that include deduction, inference, and conjectures. When possible, mathematical ideas are presented to foster an appreciation for the historical context in which they were formed, so as to encourage students to appreciate the place and beauty of mathematics in our civilization and culture in a personal and empowering way. All Upper School courses provide informal preparation for standardized tests by teaching the essential concepts that are covered on the math sections of these exams.

Please Note: students who wish to move from a regular to honors Math course must maintain an A- test average (before test corrections) in their current course, and students who wish to remain at the honors Math level must maintain a B+ test average (before test corrections). This is in addition to their current instructor’s recommendation.

Integrated Algebra I

This course strengthens and expands students’ algebraic skills and understanding while integrating Geometry throughout the course of study. The logical reasoning abilities developed during an algebra course promote deeper critical thinking and problem-solving prowess that will serve learners throughout their lives. It will also build students’ confidence and facility with mathematical problem solving using linear equations, systems of equations, quadratic functions, graphing data and functions, and understanding the meanings of those graphs. Other skills include factoring, multiplication of binomials, basic operations with polynomials, coordinate geometry, and use of formulas with symbols. All of the concepts will include integrated topics in geometry. Upon completion of this course, students will have a solid understanding of basic algebraic techniques along with knowledge of geometry concepts in area, perimeter, volume, two and three dimensional figures, the Pythagorean Theorem, and similarity in triangles, to name a few.

Prerequisite: Algebra I Part 1 or Linear Topics in Algebra (MS)

Integrated Geometry

This course develops one’s reasoning ability through studying patterns in shapes in two and three dimensions. Integrated Geometry goes beyond that in applying learned geometric skills to real life situations. Students will continue their study of algebra through the lens of geometry. An integrated approach offers an opportunity to focus on developing conceptual understanding and to help students see how the disciplines of math are intertwined. Course content will include: coordinates, transformations, measurement, area and volume formulas, congruence and similarity, logic, trigonometry, properties of symmetry, circles, linear functions, systems of equations, and solving quadratic equations using multiple methods.

Prerequisite: Algebra I (MS) or Integrated Algebra I (US)

Geometry

Traditionally a course in developing one’s reasoning ability through studying patterns in shapes in two and three dimensions, this course goes beyond that in applying learned geometric skills to real life situations. Students successfully completing Geometry gain an understanding of key properties of figures in the plane and in three dimensions. Students also have practice developing deductive reasoning skills and writing proofs, both formally and informally. Students are encouraged to form and verify conjectures about relationships that they see. Students will make use of both computer technology using Geometer’s Sketchpad, as well as a compass and straightedge to discover relationships. Course content will include: coordinates,
transformations, measurement, area and volume formulas, congruence and similarity, logic, trigonometry, properties of symmetry, and circles.

Prerequisite: Algebra I (MS)

Algebra II
The emphasis of this course is on preparing the student for success in future mathematics courses. Concepts and understandings developed in the Algebra I course are reviewed and extended. The material is presented and studied for application to real-world problems that motivate the ideas and provide opportunities for practicing the skills. Course content includes: formulas, equations, graphs, relations, functions, matrices, systems of equations, quadratics, exponential and logarithmic functions.

Prerequisite: Integrated Geometry or Geometry

Algebra II with Trigonometry
The emphasis of this course is on preparing the student for success in Pre-Calculus. Concepts and understandings developed in the Algebra I course are reviewed and extended. Concepts and understandings developed in the Algebra I course are reviewed and extended. The material is presented and studied for application to real-world problems that motivate the ideas and provide opportunities for practicing the skills. Course content includes: formulas, equations, graphs, relations, functions, matrices, systems of equations, quadratics, exponential, logarithmic, polynomial, rational, piece-wise defined functions with emphasis on connecting their graphs and their equations. The laws of sines and cosines, trigonometric, circular trigonometry, and the graphs of the trigonometric functions will also be studied.

Prerequisites: Integrated Geometry or Geometry

Honors Geometry and Honors Algebra II with Trigonometry
These courses will be similar in scope and sequence to their non-Honors counterparts. The main difference will be qualitative, not quantitative, which means that students will not simply do more of the same kinds of problems; rather, coursework will emphasize a more rigorous development of mathematics, and additional topics will be studied in more depth. Class and homework assignments will include independent and group projects that are designed to offer a richer selection of more challenging work. Students will be expected to assume more responsibility for their own learning; periodic reviews of performance will determine continuing Honors placement. The Honors Geometry course covers in depth all the geometry concepts that are covered on the PSAT, but we do not practice specifically for the test.

Prerequisites: successful completion of previous course in the sequence and recommendation of the student’s current instructor.

Functions, Statistics, & Trigonometry (FST)
This course examines the behavior and uses of functions, and intermediate trigonometry. Students will learn about rational, logarithmic, exponential, polynomial, rational, and piece-wise defined functions with emphasis on connecting their graphs and their equations. Each type of function will be used in practical problems as well as purely mathematical contexts. The laws of sines and cosines, trigonometric equations, circular trigonometry, and the graphs of the trigonometric functions will also be studied. This course, together with Algebra II, provides the student with the necessary foundation for continuing on to Pre-Calculus, if desired.

Prerequisite: Algebra II

Probability & Statistics
This Statistics class is a yearlong course covering many of the same topics as the AP Statistics course, but the pace is slower and the scope of the coverage is reduced. The course is broken into three parts: descriptive statistics, probability, and inference. Many in-class activities allow the students to get a feel for how the probability and inference work in real life.

Prerequisite: Functions, Statistics, & Trigonometry (FST) or Algebra II with Trigonometry

Pre-Calculus
This is an elective course for students who want to further their mathematics backgrounds and possibly continue with Calculus the following year. A full treatment of trigonometry as well as complete understanding of the concept of a function and study of algebraic and trigonometric functions are goals of the course. Emphasis is placed on course content as well as review and development of necessary algebraic and arithmetic skills and applications for real-world problems.
Honors Pre-Calculus
This course aims to prepare serious, interested students for Calculus during their junior or senior years at St. Luke's. There is more emphasis on a lecture method of teaching, with theoretical foundations emphasized. More material is studied than in the Pre-Calculus course and in more detail. Topics studied include: a thorough treatment of trigonometry, matrices, probability, conics, functions (polynomial, rational, exponential, logarithmic), and an introduction to limits.
Prerequisites: Honors Algebra II with Trigonometry and recommendation of the student’s current instructor.

Calculus
This course is a study of differential and integral calculus at an introductory level. Students will learn how limits, derivatives, and integrals can be used as tools to solve applied problems in a variety of real world situations, in areas such as life sciences, economics, and finance. They will use the graphing calculator extensively to explore, discover, and problem-solve. This course will serve as a foundation for future study of calculus at the college level, and for other areas of study such as sciences, the business world, and psychology, for which a general understanding of calculus concepts will be necessary.
Prerequisite: Pre-Calculus or Honors Pre-Calculus

AP Calculus AB
This course aims to provide the serious, interested student with the equivalent of a first-semester undergraduate calculus course. Definitions and theorems will be stated carefully and their understanding and use stressed. There will be some emphasis on formal proof techniques as well. The content of the course will be drawn from the College Board’s AP syllabus for Calculus AB, and generally will consist of the theory and applications of elementary functions, limits, the derivative, definite and indefinite integrals, and techniques of integration.
Prerequisites: Honors Pre-Calculus and recommendation of the student’s current instructor.

AP Calculus BC
This course reviews and extends the course content of the AB course to encompass all of the topics in the College Board’s syllabus for the BC course, which generally encompasses the content of a typical second semester undergraduate calculus course. These include further examples and applications of models involving differential equations, integration techniques, sequences and series, the calculus of parametric, vector and polar functions.
Prerequisites: Honors Pre-Calculus, or completion of pre-BC work involving topics from the AB syllabus during the previous academic year, or over the summer, and recommendation of the student’s current instructor.

Honors Multivariable Calculus
This course extends topics covered in calculus of real-valued functions of one real variable as developed in AP Calculus BC. Specific areas of study include functions of two or more variables, vectors and matrices, partial derivatives, double and triple integrals, and vector calculus in 2 and 3-space.
Prerequisites: completion of AP Calculus BC and recommendation of the student’s current instructor.
Note: this course may not be offered every year, based on enrollment.

AP Statistics
This course emphasizes data collection, summarization, analysis, and interpretation as the basis for decision-making under uncertainty. Students will use professional-level statistics software and a graphing calculator extensively. Topics include elementary probability theory, random variables, sampling distributions, the normal curve, central limit theorem, hypothesis testing, correlation, regression and model building. Emphasis will be placed on data collection, summarization, analysis, and interpretation as the basis for making uncertainty. The course is designed for students who will take the AP Statistics exam.
Evaluation will be based on tests, quizzes, homework, and projects.
Prerequisite: recommendation of the student’s current instructor.
Music
The Upper School Music program provides opportunities for students to gain insight and knowledge about Music as an academic subject, method of communication, and measure of social climate. Music itself is a language, and each performer has his or her own unique artistic voice. In addition to learning music and performing skills, students who participate in the Music program will develop self-esteem, a sense of belonging to an ensemble, and connectivity with their environment and the world around them. Successful Music students will take pleasure in the process of rehearsal leading up to performance and feel pride in a job well done. They will often have high expectations for themselves and be actively engaged in the learning process. Above all, as students of Music, they will develop their creativity, sensitivity, and affinity for music and the arts.

Chorus
This course is a mixed choir whose membership is open to any freshmen and sophomores who have a desire to sing in a performing ensemble. Potential members must first demonstrate an understanding and introductory knowledge of music theory and sight-reading. The curriculum will emphasize singing literature from a variety of historical periods and cultures. Students will develop their skills as singers in the area of tone quality, diction, articulation, expression, and breath control. Students will also practice sight-reading skills. Music theory will be taught as part of the curriculum. This choir participates in all concerts throughout the year and may also participate in competitive festivals at the Director’s discretion. There will be a fee for concert attire.

Chorale
This course is a mixed choir whose membership is open to juniors and seniors who have a desire to sing in a performing ensemble. Potential members must first demonstrate an understanding and working knowledge of music theory and sight-reading. The curriculum will emphasize singing literature from a variety of historical periods and cultures. Students will develop their skills as singers in the area of tone quality, diction, articulation, expression, and breath control. Students will also practice sight-reading skills. Music theory will be taught as part of the curriculum. This choir participates in all concerts throughout the year and may also participate in competitive festivals at the Director’s discretion. There will be a fee for concert attire.

Concert Band
The Concert Band provides a quality, performance-based musical experience for students who have the requisite proficiency. Admittance into Concert Band is at the discretion of the Director. The curriculum will emphasize literature from a variety of historical periods and cultures. Students will develop their skills in the areas of tone quality, articulation, expression, and comprehensive musicianship. Students intending to register for Concert Band must apply to the music instructor. There will be a fee for concert attire. Members of the Concert Band may audition to participate in the Jazz Band. The Jazz Band consists of students wishing to explore and perform various idioms of jazz. Jazz Band is an extension of Concert Band. Special emphasis is placed on learning jazz techniques including articulation, interpretation, sight-reading, and improvisation.

History of the Blues
Students will explore a chronological history of Blues music from its African roots to the present, including the following: Early Blues, Classic Blues, Delta Blues, Piedmont Blues, Memphis Blues, Texas Blues, Urban Blues, Jump Blues, Detroit Blues, Chicago blues, British Invasions, Blues Revival, and Blues Rock. Students will study historic Blues figures such as Ma Rainey, Bessie smith, Charley Patton, Son House, Robert Johnson, Blind Lemon Jefferson, Texas Alexander, John Lee Hooker, Muddy Waters, Howling Wolf, Buddy Guy, B.B. King, Eric Clapton, the Rolling Stones, and Stevie Ray Vaughn. Students will also examine how this art form influenced mainstream American culture and how the American culture influences the development of the blues.

Note: this course is offered every other year and will be offered again during the 2019-2020 school year.

History of Jazz
Students will explore a chronological history of Jazz music from its African roots to the present, including the following periods: New Orleans music traditions, swing, big band, bebop, cool and West Coast Jazz, Latin Jazz, Jazz-rock, free Jazz, and fusion. Students will study historic Jazz figures such as Louis Armstrong, Duke Ellington, Miles Davis, Charlie Parker, and Weather Report. They will also examine how this art form influenced and was influenced by mainstream American culture.

Note: this course is offered every other year and will be offered again during the 2019-2020 school year.
**Digital Music Production**

This course will give students an overview of various technical and musical applications used within the context of electronic music. Such areas as MIDI, synthesizers, sequencing software, digital audio, notation software, and other programs will be covered. Students will also be given instruction in basic theory, piano, and composition in order to better express their ideas through the use of these technologies. Students will be given creative activities such as songwriting, film scoring, and jingle writing to demonstrate their knowledge of software and musical concepts covered in class.

*Prerequisites: sufficient musical background and recommendation of the course’s instructor.*

**Music History and Literature (Online course)**

The course is a study of individual works selected from and representative of the musical traditions of the Western world. Students will study the development of musical styles and literatures from antiquity to the present day with emphasis on the parallels and influences of art, architecture, literature, and theatre on musical art. In addition, the adaptation and influences of non-Western traditions and styles on Western art music will be considered. Students will also discuss the foundations of music from different disciplinary perspectives.

*Note: this course may not be offered every year, based on enrollment.*

**Music Composition & Arranging**

This course is designed for students who seek the opportunity to create original music compositions. In addition to developing compositional abilities, experiences will include the development of skills needed to analyze, evaluate, and arrange music. Students will continue to explore music’s relationship with other disciplines and its impact on culture. A survey of current trends, with activities emphasizing creative musicianship and new technology in composition will also be explored.

*Prerequisites: sufficient musical background and recommendation of the course’s instructor.*

*Note: this course is offered every other year and will be offered again during the 2020-2021 school year. This course may not be offered every year, based on enrollment.*

**Advanced Music Theory & Appreciation**

This course is designed to provide a clear background for the study of college level music theory. It combines the study of advanced music theory with an overview of Western music history. It will focus on the fundamentals, species counterpoint, harmony and voice leading, tonal counterpoint, phrasing, and structure to help students understand the mechanics of how music works. In addition, it explores the history and development of Western music and non-Western music from ancient times to the present, placing composers and their famous works in their historical context. Students will learn the framework necessary to read, comprehend, and analyze music, and they will listen to well-known and influential works within the Western and non-Western music traditions. Students enrolled in this course may take the AP Music Theory exam, though additional work outside of class would be necessary.

*Prerequisite: recommendation of the course’s instructor.*

*Note: this course is offered every other year and will be offered again during the 2019-2020 school year.*

**Science**

Each science course at St. Luke's runs along two parallel paths, one leading to the scientific facts and understandings of our world, and the other which leads students to use scientific logic to analyze and describe new phenomena and to solve new problems. Scientific facts and understandings, whether they be the laws of motion described by Newton, the structure of atoms as explained by Rutherford and Bohr, or the enormous interrelated web of life explained by Darwin, are integral to developing basic scientific literacy. To gain this scientific literacy, students at St. Luke's explore the concepts that describe the workings of the world. However, to go beyond basic literacy, to become college-ready, St. Luke’s science students must also learn how these ideas became known, how they were tested, and how they were later changed or refined. As they pursue this college-ready level of understanding, students will regularly use the experimental method, with its hypotheses, observations, and analyses, to answer questions. Demonstrations and virtual laboratories may also be used to enhance the understanding of scientific principles.
Enrollment in all Honors or AP courses is dependent upon the current teacher’s recommendation and the minimum grade requirements. Students who do not meet the criteria may file an appeal through the Science Department. Please see the Upper School Science Department Chair for more details.

**Biology**

This course is designed to expose students to the major topical science concepts and issues of the modern world that they will encounter as adults. Inquiry-, discovery-, and project-based learning, coupled with the application of obtained knowledge, will define a new pedagogy to teaching science that eliminates the need for rote memorization. In short, students will focus their efforts on scientific practices in order to develop a mastery of the course material. Through the lens of five major units (Scientific Inquiry, Nutrition, Cellular Biology, Sickle Cell Anemia, and Ecosystem Dynamics), students will explore the confluence of chemical and cellular life, inheritance and evolution, and the dynamic and energetic interactions that make life possible. By the end of the year, students will have gained a new appreciation for the life in the world in which they live, and they will be able to apply the proper tools to make positive changes in the world.

**Honors Biology**

Honors Biology covers the same pedagogical practices as Biology; however, the material covered will have greater depth and breadth with a greater emphasis on the quantitative and technical processes of biology and higher-order thinking skills. The major units covered in this course include Scientific Inquiry, Chemistry of Life, Cellular Biology, Energetics, Inheritance, DNA, and Evolution. Students will learn information helpful to preparation for the SAT Subject Test, but direct preparation for the SAT Subject Test is not part of the curriculum. Additional preparation is suggested for those students wishing to take the examination in May.

*Prerequisite: recommendation of the student’s current instructor.*

**Earth Science**

This course is designed to interpret and understand the physical world. Students will investigate and study the interactions between the Earth’s four major spheres, including the geosphere, atmosphere, hydrosphere, and biosphere in order to explain the Earth’s formation, processes, history, landscapes, and how and why the Earth changes over time. The course will also explore how current human actions interact and affect Earth’s spheres leading to local and global changes. Topics may include, but are not limited to: the scientific method; mapping the Earth’s surface; minerals and rocks; plate tectonics, earthquakes, and volcanoes; geologic time; and meteorology. Students will participate in laboratory exercises, small group activities, web-based investigations, class discussions, projects, and research.

*Prerequisite: Biology*

*Note: this course may not be offered every year, based on enrollment.*

**Marine Science**

This course gives students an opportunity to explore the diverse array of marine ecosystems, processes, and organisms. With shorelines nearby, students can literally and figuratively get their feet wet as they collect live specimens, design field and lab experiments, and discover the variety of local marine life. Some features of this course include seasonal collections with the Maritime Aquarium, tracking marine mammals and reptiles using real-time web-based data, and chemical, ecological, and biological monitoring of the class marine aquarium. Students will have the opportunity to apply their understanding of the Scientific Method, strengthen their data-analysis and processing skills, learn aquaculture and field research techniques, and demonstrate scientific oral and written presentation skills. Marine Science is designed for students who are curious about what lurks beneath the surface, intrigued by the processes (and organisms) that shape the shores, and in awe of the oceans and seas.

*Prerequisite: Biology*

*Note: this course may not be offered every year, based on enrollment.*

**Chemistry**

This course introduces students to the basic structure of the atom and the nature of matter. Emphasis is placed on the general properties of matter, measurements and calculations, the periodic law, nomenclature, chemical reactions, formulas, equations, and stoichiometry. Additional topics include chemical bonding, quantum mechanics, gas laws, and acids and bases. Laboratory
exercises will stress the development of experimental skills and reinforce the chemical concepts taught in class. Clear written communication and data collection and analysis are integral components of the lab section of this course.

**Prerequisite:** Biology and completion of or concurrent enrollment in Algebra II.

**Honors Chemistry**

The goal of this course is to provide a broad survey of the major topics in general chemistry, but at an accelerated pace for the student who seeks a more rigorous treatment of the subject. Specifically, the course examines the structure of matter (i.e., atomic structure and chemical bonding) and the interactions of matter (i.e., chemical reactions and the condition of chemical equilibrium). Topics include: classification of matter, atomic and electronic structure, the mole concept and stoichiometry, chemical reactions, thermochemistry, states of matter and their properties, chemical equilibrium, acids and bases, electrochemistry, reaction spontaneity, and kinetics. Concepts and theory are stressed in lecture, application of content is done through demonstration and laboratory experiments. The course is mathematically rigorous and prospective students should be comfortable with using applied algebraic methods.

**Prerequisite:** Biology and completion of or concurrent enrollment in Honors Algebra II with Trigonometry, and recommendation of the student’s current instructor.

**Anatomy & Physiology**

This course is designed for students to explore the anatomy and physiology of the human body in an applied manner. Anatomy is the study of the location, appearances and relationships of body parts while physiology explains the chemical and functional processes throughout the body. Topics of study will begin with cellular structure and continue through the different systems of the body, the developmental aspects and dysfunctionality of each system, and the role and importance of the microbiome to human health. Through lectures, labs, activities, and dissection, students increase their knowledge of the anatomy of body and how the different systems work together. Anatomy and Physiology is recommended for those interested in pursuing a career in the health sciences.

**Prerequisite:** minimum grade of B+ in Biology.

*Note: this course may not be offered every year, based on enrollment.*

**Neuroscience**

This semester-long course is designed for students who are curious about what goes on inside our heads. Neuroscience is an interdisciplinary science that studies the most complex organ of the body: the brain. Students will study the specifics of how the brain controls what we do. This course will explore many of today’s most compelling neuroscience questions. Topics include, but are not limited to: neuroanatomy, neuroimaging techniques, learning and memory, sleep, and neurological diseases and disorders. Students will engage with the course material in laboratory exercises, group and individual projects, research, web simulations, and class discussion. By the end of the course, students will have a deep understanding of the brain and behavior, an appreciation for why we say neuroscience is a “new” and “growing” science, and an ability to read and comprehend basic scientific literature about neuroscientific topics.

**Prerequisite:** Chemistry, and recommendation of the student’s current instructor.

**Genetics**

Genetics is perhaps one of the fastest growing fields in science today. Its applications include, but are not limited to: prenatal testing, advances in gene therapy for certain diseases; and even exploring ancestry. This semester-long course will focus on molecular genetics, starting with the structure of DNA. Throughout the course, students will learn about chromosomes, protein synthesis, and how genes control the expression of traits in organisms. In addition, the topics of heredity, genetic variation, and mutations will allow students to see how traits are influenced by both genes and environmental factors.

**Prerequisite:** Chemistry, and recommendation of the student’s current instructor.

**Environmental Science**

Perhaps the single most important scientific issue confronting humans is understanding and maintaining a sustainable environment. Developing the knowledge and tools to confront these challenges will prepare and empower students to contribute to solutions in the future. This course begins with a focus on the complexity and functioning of the natural ecosystems that form our biosphere. With this foundation, students will explore the global impact of human population growth
on energy production and consumption, natural resource depletion, and agricultural and industrial pollution. In addition, we will consider how economics, public policy, and environmental ethics impact and shape our decisions. Field and lab-base activities and independent research will supplement class discussion, lecture and reading. We will also use a design thinking approach to develop and test conversation and sustainability.

**Prerequisite:** Chemistry or Physics and recommendation of the course’s instructor

**Note:** this course may not be offered every year, based on enrollment.

**Physics**

In this course, students will study the fundamental laws that govern the world around them. During the first semester, students will focus on Newtonian mechanics and learn about the fundamentals: forces, momentum, energy, and gravitation. During the second semester, students will apply these concepts to modern topics in physics: thermodynamics, fluids, sound, and optics. While the course uses mathematical expressions frequently as a guide to understanding, it places a heavy emphasis on true physics—concepts and critical thinking—rather than on mathematical problems. During regular lab experiments, students work in teams to test relationships between physical quantities, gather and analyze data, and write group and individual lab reports. The goal of this course is to sharpen students’ critical thinking and experimental skills while exposing them to the wide variety of topics that physics holds.

**Prerequisite:** completion of or concurrent registration in either Functions & Trigonometry or Pre-Calculus.

**Honors Physics**

Honors Physics provides an investigation of the physical world. Newtonian mechanics is the main focus, but topics in electrostatics, electric circuits, sound, and special relativity are also introduced. The course is mathematically rigorous, utilizing algebra, trigonometry and pre-calculus to analyze and interpret the laws governing the behavior of matter and energy. Weekly homework assignments and detailed laboratory investigations require independent work, analytical thinking, and technical communication skills. As this is an Honors level course, students will be required to apply mathematical problem-solving techniques, as well as develop proficiency in data-handling techniques using spreadsheets.

**Prerequisites:** Chemistry, completion of or concurrent enrollment in Honors Pre-Calculus, and recommendation of the student’s current instructor.

**Physics II: Projects in Electricity, Magnetism, Optics, and Fluids**

This project-based course focuses on topics that may have been only briefly introduced in Physics or Honors Physics, including electric circuits, magnetism, the manipulation of light, and fluid behavior. Though concepts will be introduced by lecture and discussion, students will spend the majority of their time building projects or conducting experiments. Projects may include construction of an audio speaker or microphone, a telescope, an electromagnetic motor, a solar-powered charging station, and a device to study liquid flow behavior. Grading will reflect the process of project completion, project communication via oral presentations, and simple quizzes. Broad course goals are to develop (a) an understanding of the physics concepts, deepened by project-based learning; (b) engineering skills through thoughtful planning and hands-on building; (c) collaboration skills through teamwork; (d) communication skills through preparation and delivery of professional presentations.

**Prerequisites:** Physics or Honors Physics

**Note:** this course may not be offered every year, based on enrollment.

**Honors Organic Chemistry**

This course deals with understanding the structure and reactivity of organic molecules—those containing carbon as their base atom. The course begins with a focus on describing the bonding, conformations, and stereochemistry of small organic molecules. Next, the mechanisms of the basic reactions of substitution, elimination, addition, and rearrangement are formulated from kinetic and thermodynamic data. Reactions of hydrocarbons, alkyl halides, and alcohols, as well as aromatic, carbonyl-containing, and amine functional groups are explored. Finally, we end the year with a look at the chemistry of simple biological molecules, namely the structure of proteins, carbohydrates, and lipids as well as an in depth look at carbohydrate metabolism in plant and animal species. An understanding of proper nomenclature will be developed throughout the year as needed. This is not a laboratory course.

**Prerequisites:** Chemistry and recommendation of the course’s instructor.
Honors Physical Chemistry: Thermodynamics 1st Semester
This course follows the historical development of thermodynamic principles examining the relationship between heat and temperature and energy and work. We begin with the behavior of gases; a study of the ideal gas is used to generate the laws of thermodynamics and the associated thermodynamic potentials. Thermodynamic principles are then extended to describe chemical systems at equilibrium.
Prerequisites: Chemistry, Physics, and Calculus, and recommendation of the course’s instructor.
Note: this course is offered every other year, and will be offered again during the 2020-2021 school year.

Honors Physical Chemistry: Waves & Quanta 2nd Semester
The quantum mechanical revolution of the early 20th century turned the established truths of physics upside down. This course principles and postulates of quantum mechanics using several simple systems as models, including the hydrogen atom, which serves as a vector to understand basic chemical bonding. Quantum mechanical outcomes can then be interpreted by Finally, we conclude with a study of kinetics and the rate of reactions that are not at equilibrium. This is not a laboratory course.
Prerequisites: Chemistry, Physics, and Calculus, and recommendation of the course’s instructor.
Note: this course is offered every other year, and will be offered again during the 2020-2021 school year.

AP Biology
The primary goal of AP Biology is to give an opportunity to talented students to pursue the study of biology at a college level, and potentially to earn college credit. This course will focus on biology content through the lens of big ideas and science practices. A student wishing to enroll in AP Biology should have: (1) a knowledge of the facts, principles and processes of biology; (2) an understanding of scientific inquiry with the ability to propose and conduct novel research experiments; and (3) an understanding that science is a human endeavor with social consequences. Upon completion of AP Biology, a student should feel confident as a scientist at the undergraduate level.
Prerequisites: Chemistry, and recommendation of the course’s instructor.
Note: in order to meet course requirements and/or the established AP criteria, this course may be scheduled before the regular school day begins approximately once a rotation. Please take note of this when planning.

AP Chemistry
AP Chemistry is designed to be the equivalent of the first two semester college courses in general chemistry in conjunction with the curriculum prescribed by the College Board. The first semester of study covers the fundamental structure and behavior of matter, including introduction to models of atomic structure, chemical bonding, and intermolecular forces, the concept of the mole and the mathematics of chemical reactions. The second semester is more rigorous, bringing about the study of chemical systems at equilibrium, the thermodynamics of spontaneous processes, and the rates of chemical reactions. Laboratory investigation is emphasized and is an integral part of the AP Chemistry program.
Prerequisites: Chemistry, completion of or concurrent enrollment in Pre-calculus, and recommendation of the course’s instructor.
Note: in order to meet course requirements and/or the established AP criteria, this course may be scheduled before the regular school day begins approximately once a rotation. Please take note of this when planning.

AP Physics C: Mechanics
AP Physics C is a college level course that covers the following topics: kinematics; Newton’s laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. The goal of AP Physics is not just the understanding of physical principles in nature. Students will achieve this understanding, but that is only the starting point of the learning process. The goal of AP Physics is mastery of these physical principles and the ability to apply the principles in new situations. Through problem solving, demonstrations, and computer simulations you will be guided through thoughtful discussions on new material, building your own understanding through hands on exploration and employing critical thinking skills. Homework and laboratory reports will continue this process as you will work individually and collectively towards a common goal of application and synthesis towards mastery. Exams will measure your success and provide insightful feedback on your journey. By course end, you should develop a deep appreciation for experimental and theoretical investigations. As this is a college level course, you will be required to apply techniques of differential and integral calculus as
needed, as well as develop proficiency in data handling techniques including, but not limited to, preparation of graphs by hand and using a computer, analysis of graphs, and assessment of laboratory precision and accuracy.

Prerequisites: Physics, and completion of or concurrent enrollment in AP BC Calculus.

STEM Scholars Seminar
This course serves as a vehicle for effective engagement in the scientific research process. Skills and topics will include, but are not limited to: conducting formal literature searches; literature review summary writing exercises; presentation of literature research on a topic of interest; attending research presentations of other STEM Scholars; discussion-based and written summative evaluations of peer work; and a capstone project of faculty-mentored novel research on a STEM project of interest. A formal presentation is required at the SLS Scholars Symposium in April, and the written summary in the style appropriate to peer-reviewed journals is due by the end of the course in May.

Prerequisite: acceptance into the STEM Scholars program.

Theatre
The theatre program at St. Luke’s School offers an eclectic mix of opportunities for both the serious student of drama and the student whose interest has just been piqued. Introductory acting classes offer students the opportunity to play typical improvisational games while simultaneously being exposed to techniques that heighten the actor’s spatial awareness, kinesthetic response, and impulsivity. Design classes help students gain technical skills in theatre production including an understanding of lighting, sound, and set design. More advanced classes and independent studies provide means for students to explore the skills they have learned in introductory classes and to execute those acting and design techniques in fully produced productions in our Black Box Theater. The St. Luke’s Theatre program aims to facilitate students to “step into themselves,” to awaken their artistic passions, and to provide the means to help students take in the world around them by “listening with the ear of their heart.”

At the core of the theatre program is a very vibrant, professional, exciting theatrical season. The St. Luke’s theatre program produces material that aims to affect social change and serve to enlighten, inspire, and entertain. Our productions have been honored by the Connecticut Halo Awards and have been invited to perform at the Edinburgh Fringe Festival.

Acting I
1st Semester
This beginning examination of acting includes group and individual improvisation, physical and vocal exercises, and scene work, leading toward relaxation, physical action, and believability on stage. Class work is designed to stimulate the imagination, build self-confidence and trust, and reach the emotional reservoir of the actor. Students will develop and workshop a “new work” that will be presented.

Acting II
2nd Semester
This course will introduce students to text analysis, scoring and the rehearsal process. Focus will be aimed at in-class presentation of scenes drawn from realistic dramatic literature. Students will develop a system of working that helps analyze a piece of dramatic text and to cull “actable” information from that text. Methods explored include: Sanislavski’s “Method,” Sanford Meisner Technique, Michael Chekhov’s Psychological Gesture, Roy Hart vocal exploration, Laban’s Quality of Movement, and David Mamet’s Practical Aesthetics.
Prerequisite: Acting I, or with recommendation of the course’s instructor

Advanced Acting: St. Luke’s Theatre Company
The St. Luke’s Theatre Company (SLTC) is by audition only for 4-12 students. It is for serious students of acting and theatre and has the creative power of the ensemble as its focus. The content varies each semester because it is geared to each specific group. The group will have occasional rehearsal outside of class time. While technique will be discussed and explored, the class is design to produce a culminating production in the Black Box Theatre each semester.
Prerequisites: completion of Acting I-II and/or participation in at least two Upper School afterschool theatre productions, an audition, and recommendation of the course’s instructor.
Theatre Design: Sets/Costume & Lights/Sound

1st or 2nd Semester

Theatre Design is a project-based course that serves as an introduction to theatre for designers. The class focuses on scenery and costumes in the first semester, and lighting and sound in the second semester. Students will complete a scale set model, produce costume renderings, design lighting through stage lighting simulation software (Capture), and produce a radio drama. Students will read, conceptualize, research, draw from life, present work to others outside of the class, and build a portfolio. The class also will design realized productions (one per semester) in cooperation with the Advanced Acting class. There is no prerequisite for the class, although experience in the Tech Theatre afterschool activity is helpful. Either semester can be taken independently of each other: sets/costumes in first semester, and lights/sound in second semester.

Visual Arts

The Visual Arts program provides opportunities for students to gain insight and knowledge about art as a functioning academic subject. Art is a language and each artist has a unique artistic voice. In-class assignments serve as starting points from which students begin to actualize individual creative capacities. The Arts program provides a hands-on, holistic approach that encourages students to realize that art is a thoughtful discipline. Consequently, students are involved with elements and principles of design; experimentation with materials and techniques; as well as analysis, interpretation and evaluation of visual images from diverse historical and cultural contexts. The Art Department hopes that creating artworks and appreciating artworks of others becomes a vital part, a touchstone in each student’s life.

Drawing I

1st Semester

Drawing is the foundation of all the arts. This course will introduce the student to many drawing techniques and will encourage creative expression. Technical skills will be taught and aesthetic sensibilities will be developed. Students will be challenged beyond the basic studio art course with in-depth problems involving line, value, perspective and composition. Students will work in graphite, pen and ink, washes, charcoal and pastel. Color theory will be reintroduced and studied in depth in preparation for the second semester in painting. Students will keep journals where ideas will be recorded for future work. They will be reviewed and critiqued periodically.

Drawing II

1st Semester

In this course students will improve drawing skills and expressive capabilities through a wide variety of in class and homework assignments. The focus of this course is for each student to find his/her own subject matter, viewpoint and stylistic approach, thereby creating a body of work suitable for any portfolio.

Prerequisite: Drawing I

Drawing III

1st Semester

This course goes beyond Drawing I and II by giving students the opportunity to work in depth on projects of their own selection, with the approval of the instructor. Each quarter will begin with a written statement of the chosen topic of study. A portfolio of finished, thematic work will be produced.

Prerequisite: Drawing II

Painting I

2nd Semester

Students will be taught how to compose and execute paintings using acrylic, tempera and watercolor. The course offers intensive work in painting from observation (still lives, the figure, landscapes and interior scenes) as well as from the imagination. Some projects will be designed to develop competence in rendering volume, perspective and color, while other projects will allow the student to develop original ideas of her/his own choices. Sketchbooks will be required to record visual and written ideas for future work. Critiques will be supplemented by viewing slides and a field trip to a museum.

Prerequisite: Drawing I
Painting II
This course begins with a study of the interaction of color as well as a study of approaches to structuring the composition. Students will work on a series of paintings around concepts such as sequence and narrative. The focus of this course is for each student to find his/her own subject matter, viewpoint, and stylistic approach and to create a personal body of work.
Prerequisite: Painting I

Painting III
This course goes beyond the Painting I and II by giving students the opportunity to work in-depth on projects of their own selection, with the approval of the instructor. Each quarter will begin with a written statement of the chosen topic of study. A portfolio of finished thematic work will be produced.
Prerequisite: Painting II

Photography I
This introductory semester-long course in Photography explores the fundamental processes of black and white photography with an emphasis on the technical comprehension of the quantity and quality of light and the communicative impact of focal depths, composition and design. Students use manual film cameras and process their film and photographic prints by hand. Students learn how to curate and critique their images, and develop their artistic skills in order to create visual narratives. Students have the ability to work with pinhole, 35mm and medium format film cameras. A 35mm manual camera is required for this course. We have a limited number of 35mm film cameras available, so borrowing a film camera from a friend or family member is encouraged.

Photography II: Black & White
This semester-long course is an opportunity for each student to continue to develop an individual artistic style while working on more advanced projects and topics. Alternative photographic processes as well as traditional subject matters are combined to give students a well-rounded experience as photographers. Students have the ability to work with pinhole, 35mm, medium and large format film cameras. A 35mm manual camera is required for this course. We have a limited number of 35mm film cameras available, so borrowing a film camera from a friend or family member is encouraged.
Prerequisite: Photography I

Photography II: Digital Photography
Students can explore the use of color and the digital format in this semester-based course. Students will learn how to utilize digital SLR and point-and-shoot cameras in order to create digital negatives with the same deliberate attention to detail as film cameras, how to utilize digital scanners, and learn about editing in post-production through the use of Adobe Photoshop. This course is an opportunity for students to continue to develop an individual artistic style while working on more advanced projects and topics with a variety of output options. Students have the ability to work with digital SLR and point-and-shoot cameras and scanners in order to create original works, as well as learn how to scan film negatives and prints digitally in order to edit traditional, analog images.
Prerequisite: Photography I

Photography III
This semester-based course goes beyond Photography I-II by giving students the chance to work on either assigned projects or self-designed projects, with the approval of the instructor. Students may work with either traditional, analog film or with color, digital cameras, but they must first have completed the Photography II course in the format in which they desire to work (Black & White, Digital Photography, or both). Often, this course is used to produce a Photography portfolio of finished, thematic work, but this is not a mandatory requirement. Students have the ability to work with pinhole, 35mm, medium and large format film cameras, as well as digital SLR and point-and-shoot cameras, as well as scanners.
Prerequisites: Photography II: Black & White or Photography II: Digital Photography

Photography IV
This semester-based course is for students who desire to further their skills and create a portfolio of rich, content-based and personally fulfilling artwork. Students may work with either traditional, analog film or with color, digital cameras. Students
have the ability to work with pinhole, 35mm, medium and large format film cameras, as well as digital SLR and point-and-shoot cameras, as well as scanners.

**Prerequisite: Photography III**

**Digital Imaging I**
This semester-based course introduces students to Adobe Photoshop. Students will learn how to use Photoshop in order to create new images and enhance pre-existing images, apply special effects/filters, and correct color and contrast. Students also will learn how to scan images, how to use different printing methods and materials, and how to best present their finished work through curation and critique.

**Digital Imaging II: Photoshop**
This semester-based course is a continuation of Digital Imaging I, where the students learned how to use Adobe Photoshop and a variety of digital hardware. In this course, students will apply their previous skills in order to create richer, more content-based and personally fulfilling artwork through the use of Adobe Photoshop.

**Prerequisite: Digital Imaging I**

**Digital Imaging II: Illustrator**
This semester-based course is a continuation of Digital Imaging I, where students learned how to use Adobe Photoshop and a variety of digital hardware. In this course, students will learn the basics of Adobe Illustrator, using the software in conjunction with Photoshop skills learning in Digital Imaging I. Students will learn the differences between the two software programs, utilizing each program for its own strengths, but with a primary focus on Adobe Illustrator.

**Prerequisite: Digital Imaging I**

**Digital Imaging III**
This semester-based course goes beyond Digital Imaging I-II by giving students the chance to work on either assigned projects or self-designed projects, with the approval of the instructor. Students may work exclusively with Adobe Photoshop or with Photoshop in conjunction with Adobe Illustrator, but they must first have completed the Digital Imaging II course in the format in which they desire to work (Photoshop, Illustrator, or both). Students will utilize this course in order to create rich, content-based and personally fulfilling artwork. Often, this course is used to produce a portfolio of finished, thematic work, but this is not a mandatory requirement.

**Prerequisite: Digital Imaging II: Photoshop or Digital Imaging II: Illustrator**

**Digital Imaging IV**
This semester-based course is for students who desire to further their skills and create a portfolio of rich, content-based and personally fulfilling artwork. Students may work exclusively with Adobe Photoshop or with Photoshop in conjunction with Adobe Illustrator, but they must first have completed the Digital Imaging II course in the format in which they desire to work (Photoshop, Illustrator, or both). Students will utilize this course in order to create rich, content-based and personally fulfilling artwork. Often, this course is used to produce a portfolio of finished, thematic work, but this is not a mandatory requirement.

**Prerequisite: Digital Imaging III**

**Ceramics I**
This course is designed to introduce students to the basics of ceramics and 3-D design. Roughly one semester will be devoted to ceramics during which students will be instructed in various hand-building and wheel-throwing techniques. Students will also learn trimming and glazing techniques and will use the electric kiln and raku kiln. The sculpture unit will include basic sculpture techniques such as reduction carving, found object and additive sculpture. The class will culminate with individual projects that will allow the students to realize their own vision as 3-D artists and will employ the lessons learned in the course.
This course goes beyond the material covered in Ceramics I. Students will continue to develop hand building and wheel throwing skills in creating vessels and small sculptures. There will be an emphasis on experimenting with glazes and surface decoration techniques. Students will keep a sketchbook and will create individually inspired work as well as in-class assignments.

**Prerequisite: Ceramics I**

**Visual Art: Portfolio Development**

Offered as an open-ended, student-focused alternative to the traditional AP Studio Art: Drawing course, this year-long class allows students to develop a significant body of work around an idea of their own determination. Form, content and style in the concentrations will be as unique as each individual. Sustained investigation of a particular artistic concern will be evident in each student’s portfolio. Creative work of modern and contemporary artists will be explored. Students will create as much artwork outside of class time as they accomplish in class time. Class critiques will be held on a weekly basis. The course culminates in solo shows at the end of the year. Each student’s work will be accompanied by an artist’s statement explaining the origin of the idea and the progression of its development over time.

**Prerequisites: Drawing II and Painting II**

**AP Studio Art: Drawing and AP Studio Art: 2-D Design**

The AP Studio Art course allows highly motivated, advanced art students to do college level work, resulting in a portfolio of artwork to be submitted to the College Board for evaluation in early May. The work of the year focuses on class and homework assignments designed to develop artworks of quality and breadth using various formal, technical and expressive means. In addition, each student selects an area of concentration to develop an in depth body of work demonstrating a personal artistic concern. Students select either AP Studio Art: Drawing for a drawing, painting and printmaking portfolio or AP Studio Art: 2-D Design for a photography or digital imaging portfolio.

**Prerequisites: Seniors must have a grade of A- or better and have the recommendation of the Art Department. Students interested in AP Studio Art: Drawing must have completed Drawing II and Painting II. Students interested in AP Studio Art: 2-D Design must have completed Photography II or Digital Imaging II.**

**AP Art History**

AP Art History explores the history of art from prehistoric art to the 20th century and prepares students for the AP Art History exam in May. It is designed to provide an understanding and knowledge of architecture, sculpture, painting, and other art forms within diverse historical and cultural contexts. In addition to the text, slides, videos, Internet sites and museum visits will be used to gain a better understanding of the material.

**Prerequisites: Students must have a grade of A- or better in their regular History and English courses, or a B+ in Honors or AP History and English courses. In addition, students must have recommendation of the course’s instructor.**

**Note: this course may not be offered every year, based on enrollment.**

**World Language**

The rationale behind St. Luke’s World Language program is two-fold. First is the belief that learning a second language is enjoyable. It expands a student’s ability to understand, to communicate, and to appreciate other world cultures. Second, and of increasing importance, is that knowledge of another language is necessary today in business and diplomacy and for understanding our global economy and other cultures. French, Spanish, and Mandarin Chinese are taught to provide our students with important skills to function successfully in both their personal and professional lives. The ability to communicate with people of other cultures and to share one’s own are the principal goals of offering these major world languages, spoken in over ninety countries and regions. Modern language courses immerse students in a virtually 100% target-language-use environment. Latin and Ancient Greek are offered to stress the importance, beauty, and specifics of learning language while providing insight into the customs, values, traditions, and lifestyles of ancient cultures. The study of all the above languages gives our students a decided advantage in college entrance and eventually in the competitive job market.

Motivated Upper School students are encouraged to take two different world languages simultaneously. In most cases, the
addition of a second world language takes the place of a free period in the student's schedule. Considering the benefits of studying multiple languages and the many connections to be made between languages, choosing to study more than one world language can dramatically enhance a student's overall academic experience.

Students earning a C- average or lower in a course are strongly encouraged to repeat a year or take a summer review course before continuing to the next level in the sequence.

World Language Learning Online (WLLO)

Upper School students who are self-motivated, manage time well, and have shown prior success in standard World Language classes may choose to participate in the World Language Learning Online (WLLO) program. With WLLO, students cover an entire year’s worth of introductory world language study at their own pace...anywhere...starting anytime.

WLLO is a combination of self-paced online lessons and up to 20 one-on-one sessions with a St. Luke’s World Language teacher. Students have the opportunity to learn French I, Latin I, Mandarin I, or Spanish I with WLLO. Though this experience does not count towards graduation requirements, once students finish a WLLO course (which can be completed in as little time as a couple of months, or up to an entire calendar year), they can “skip” into a standard Level II course at SLS if they wish to pursue further formal study. Student progress is assessed as pass/fail, with a passing grade starting at 80%, and WLLO will appear on the formal transcript.

Prerequisite: recommendations of the Upper School World Language Department Chair and Director of Studies.

Note: there is a fee for the WLLO experience. For more information, please Jon Shee, Upper School World Language Department Chair.

French I and Spanish I (Blended Learning courses)

These courses begin the three-year sequence required for graduation. Both courses are presented in a blended learning environment, which means that half of the course is done online and half is done face to face in the classroom. In this initial phase, emphasis is on communication. This includes growing a basic vocabulary, understanding sentence structure, and taking risks to express oneself in the target language as much as possible. All four language skills (speaking, aural comprehension, reading, and writing) are developed throughout the year. At the end of the first year, students will be able to ask and answer questions describing themselves, their families, friends, school, and activities while using the past, present, and future tenses. They will be able to have full, meaningful conversations in the target language and will have learned hundreds of words and dozens of grammatical points and structures.

French II and Spanish II, Honors French II and Honors Spanish II

At this level of study, students continue to enlarge their vocabulary and improve syntax to make broader communication possible. While writing practice increases to include short paragraph-length compositions and reading consists of lengthier selections from authentic printed matter and excerpts from literature, oral communication continues to be the primary objective. At the end of the second year, students will be able to ask and answer specific questions with greater detail and participate in conversations about the past, present, and near future. The intended student outcomes will be increased oral and aural abilities facilitated by more sophisticated verb work. This, combined with an ever-increasing vocabulary, will help students express opinions and emotions, recount events in greater detail, and carry on more varied conversations.

Note: the curricula of the Honors Level II courses are similar to those of Level II, but the Honors Level II courses move at an accelerated pace and have the prerequisite of a recommendation of the student’s current instructor.
French III and Spanish III, Honors French III and Honors Spanish III

At this level, more advanced grammatical structures are presented, allowing students greater oral expression, using supposition and theory facilitated by more expansive verb work. This, combined with the presentation of more advanced vocabulary, will help students become more adept at expressing opinions and emotions, recounting events in greater detail and carrying on more varied conversations and discussions. Written, oral, aural, and reading skills are further sharpened through advanced in-class activities and lab work.

Note: the curricula of the Honors Level III courses are similar to those of Level III, but the Honors Level III courses move at an accelerated pace and have the prerequisite of a recommendation of the student’s current instructor.

French IV and Honors French IV

These courses offer a multifaceted curriculum with a more sophisticated level of speaking, reading, and writing in French. Some key units are based on classic and modern literature and media pieces that students read, study, and discuss. Each year, various selections from poetry, theatre, novels, cinema, musicals, and short stories will be covered. Students will prepare and revise essays, presentations, and other projects based on the readings and discussions in class. The Honors sections will move more quickly and will challenge students with more complex tasks.

Prerequisite: recommendation of the student’s current instructor.

Spanish IV and Honors Spanish IV

These courses offer a multifaceted curriculum with a more sophisticated level of speaking, reading, and writing in Spanish. Each course is made up of thematic units based on classic and modern literature and media pieces that students read, study, and discuss. Students will prepare and revise numerous compositions based on the readings and discussions in class. The Honors sections will move more quickly and will challenge students with more complex tasks.

Prerequisite: recommendation of the student’s current instructor.

French V

This course is for advanced students who are deeply interested in the French language, culture, current events, film, music, and other elements of modern francophone life. The course is made up of varied units that focus on important elements of francophone culture and language. Grammar is no longer a principal focus of the curriculum, as students have already been exposed to the majority of grammatical components before entering this course. Some units covered in this class are based around great figures/moments of history and culture of the francophone world. Current (and perpetually relevant) issues such as immigration, education, politics, religion, oppression, freedom, self-expression, and revolution also are focus points. Many films are presented and studied to help expand on the diverse themes within the curriculum. Music (via the study of songs and musical theatre) is an integral part of the curriculum. Students will study articles from online news sources to learn about current events in the francophone world.

Prerequisites: demonstration of advanced oral proficiency in French and recommendation of the student’s current instructor.

Spanish V

This course is for advanced students who are deeply interested in Spanish language and culture. Students immerse themselves in real, contemporary language while learning to think and communicate across diverse topics. The class emphasizes the development of conversational skills, presentational written and oral expression, and the ability to interpret increasingly complex, authentic texts and media of various genres, cultural contexts, and time periods. Thematic units prepare students to be engaged global citizens in the Spanish-speaking world.

Prerequisites: demonstration of advanced oral proficiency in Spanish and recommendation of the student’s current instructor.

AP French Language and Culture and AP Spanish Language and Culture

Each of these courses gives a thorough, comprehensive review of all grammatical structures and prepares students for the College Board AP Exam in French or Spanish Language and Culture and its four components: listening, writing, speaking, and reading. In the process, students will read many forms of literature, write extensively, and record their voices to simulate the evaluation methods used by the College Board. These activities are related to six themes, including global challenges, science and technology, aesthetics and beauty, identities, families and communities, and contemporary life.
Prerequisite: recommendation of the student’s current instructor.

Latin Omnibus: levels I, II, Honors II (Blended Learning course)
Latin Omnibus (“for all”) is designed to cover the material traditionally taught throughout Latin I-II (at the regular and honors level). The entire experience is presented over a period of one to two years, depending on the pace of the student. This course is taught in a blended learning environment, which means that part of the course is done online and part is done face-to-face. Students will work through self-paced units that shift the classroom variable from time to mastery. Each unit will include language instruction paired with culture, mythology, and history. Students will be required to meet regularly with the teacher for individual meetings and instruction.

Latin III
Students in Latin III will complete their first foray into Latin grammar and dive into closer readings of authentic Latin literature. Possible readings include those from Vergil (Aeneid), Horace (Odes), Catullus, Augustus (Res Gestae), Suetonius (Lives of the Caesars), and Livy (Ab Urbe Condita). The class also will examine “non-literary” Latin—i.e., Latin writings of common Romans who were not part of the literary elite class. In particular, students would review graffiti (primarily from Pompeii) and epigraphy (namely funerary inscriptions) throughout the Roman world. In studying these “non-literary” components of Latin, students will gain tremendous knowledge of the more hidden sections of the Roman world– the lower and middle classes--which will complement their understanding of high-born Rome.

Latin Literature: Poetry and Honors Latin Literature: Poetry
Students will review the entirety of Latin grammar and thereafter will begin to read a variety of lengthier, unadapted selections of literature from poetry authors including Catullus, Horace, Ovid and Virgil. While reading these works, the students’ foundation of Latin grammar will be reinforced and, if need be, reviewed more thoroughly. Students will also explore the historical and cultural context of the readings, as well as the literary forms and intricate uses of the Latin language found within the passages. The Honors section will have an increased focus on Latin composition and literary analysis. Honors-level students will also apply their contextual knowledge to AP-style essay writing and the dissection of unseen passages.
Prerequisite: completion of Latin Omnibus (or the equivalent) and recommendation of the student’s current instructor.
Note: this course is offered every other year and will be offered again during the 2020-2021 school year.

Latin Literature: Prose and Honors Latin Literature: Prose
Students will review the entirety of Latin grammar and thereafter will begin to read a variety of lengthier, unadapted selections of literature from prose authors including Livy, Cicero, Caesar, and Pliny the Younger. While reading these works, the students’ foundation of Latin grammar will be reinforced and, if need be, reviewed more thoroughly. Students will also explore the historical and cultural context of the readings, as well as the literary forms and intricate uses of the Latin language found within the passages. The Honors section will have an increased focus on Latin composition and literary analysis. Honors-level students will also apply their contextual knowledge to AP-style essay writing and the dissection of unseen passages.
Prerequisite: completion of Latin Omnibus (or the equivalent) and recommendation of the student’s current instructor.
Note: this course is offered every other year and will be offered during the 2019-2020 school year.

Honors Ancient Greek (Blended Learning course)
This course is presented in a blended learning environment, with the majority of the course online and supplemented by check-in times with the instructor. This course is designed to move students quickly through the principles and grammar of the ancient Greek language. The scope of the curriculum will cover the grammatical structures and language patterns of classical Greek as used in Athens during the 5th century B.C.E., though some treatment of Homeric and Koine Greek may be covered as well. Students are expected to have attained familiarity with the linguistic patterns of classical Latin before taking this course, to allow the pace of instruction to be accelerated.
Prerequisite: recommendation of the course’s instructor.
Note: this course is offered every other year and will be offered during the 2019-2020 school year.
Mandarin Chinese I (Blended Learning course)
This course is presented in a blended learning environment, which means that half of the course is done online and half is done face to face in the classroom. From the beginning of this course, students will learn basic conversations in Mandarin Chinese. They will study greetings, introducing themselves, asking questions, counting, and talking about family, pets, food, drink and sports. Besides engaging in active conversations in Mandarin, students will learn Pinyin (a phonetic system that uses Roman alphabet letters), so that they can pronounce new words accurately. Students learn Chinese through simplified characters because these are used in mainland China. In the first year, the students will learn how to read about 200 characters. Students will practice writing Chinese every day after the first few weeks of instruction.

Mandarin Chinese II
Chinese II will build upon the material learned in Chinese I. The students will continue to expand their vocabulary, learn more complicated sentence patterns, learn how to describe their house, their daily routine, their clothing, etc. They will learn how to speak about events in the past or in the future. They will also learn approximately 200 more characters.

Mandarin Chinese III
Chinese III will build upon the material learned in Chinese I-II. Students will continue to expand their vocabulary and learn more complicated sentence patterns. They will learn useful contextual expressions and skills, like how to describe school life, how to ask for directions, how to manage a trip to the doctor, how to talk about vacations, etc. Grammar will continue to become more complex as multiple new tenses and structures are covered. Students will also learn approximately 300 new characters.

Mandarin Chinese IV / Honors Mandarin Chinese IV
These courses provide learners with advanced skills and knowledge that are required to speak to a wider audience, such as friends from different cultural backgrounds, potential employers and business people. Students will learn how to talk about academic studies, social problems, cultural differences, and current events and cultural customs in modern China. Students continue to learn more complicated sentence structures and about 300 additional Chinese characters. Assessments for Honors Mandarin Chinese IV will be significantly more challenging that those for Mandarin Chinese IV students.
Prerequisite: recommendation of the course’s instructor.
The Middle School Program of Studies

St. Luke’s Middle School recognizes the energy, playfulness, and uniqueness of the early adolescent, while believing these qualities are both compatible and essential to serious academic endeavor. The Middle School offers a developmentally tailored experience and a supportive environment that prepares students for the rigors of the Upper School program. Teachers emphasize process as a vehicle for intellectual development. An integrated course of study provides a strong foundation in key content areas while promoting active learning, critical thinking, problem solving, and the development of strong study skills. Teachers employ methods of instruction that respect different styles of learning and honor multiple intelligences.

At the core of the Middle School approach is the desire to provide students with a love and appreciation of the learning process. Emphasis is placed on the skills and attitudes required to become lifelong learners. Students are encouraged to be creative, open-minded, and flexible in their thought processes. Teachers are dedicated to creating a supportive and caring environment where students are expected to reflect on instruction, to think to learn, and above all, to learn to think. Furthermore, moral character and good citizenship are understood to be the cornerstones of adolescent development. Building a sense of happiness, commitment, competence, confidence, and self-esteem are equally important in our educational mission.

In addition to the core academic subjects, students take courses in art, music, drama, and physical education, which further contribute to the development of the whole child. Grade level class trips stimulate thinking, reinforce learning, build unity, and help to enhance community connections, further enriching the Middle School experience.

<table>
<thead>
<tr>
<th>Department</th>
<th>5th Grade</th>
<th>6th Grade</th>
<th>7th Grade</th>
<th>8th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>English 5</td>
<td>English 6</td>
<td>English 7</td>
<td>English 8</td>
</tr>
<tr>
<td><strong>History and Social Science</strong></td>
<td>Social Studies 5</td>
<td>History 6</td>
<td>History 7</td>
<td>History 8</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>Math 5</td>
<td>Math 6</td>
<td>Pre-Algebra or Algebra I</td>
<td>Linear Topics in Algebra, Algebra I, or Geometry MS</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Science 5</td>
<td>Earth Systems</td>
<td>Life Science</td>
<td>Physics &amp; Engineering</td>
</tr>
<tr>
<td><strong>World Language</strong></td>
<td>Latin 5</td>
<td>French 6 (half yr.) and Spanish 6 (half yr.)</td>
<td>French/Spanish/Latin 7 French/Spanish 7A</td>
<td>French/Spanish/Latin 8 French/Spanish 7A</td>
</tr>
<tr>
<td><strong>Visual Arts and Performing Arts</strong></td>
<td>Art 5 Music 5</td>
<td>Art 6 Music 6 (Band or Choir)</td>
<td>Art 7 Prep Band or Choir</td>
<td>Art 8, Prep Band, Choir, or Theatre 8</td>
</tr>
<tr>
<td><strong>Physical Education and Health</strong></td>
<td>Physical Education 5</td>
<td>Physical Education 6</td>
<td>Physical Education 7</td>
<td>Physical Education 8</td>
</tr>
</tbody>
</table>
Fifth Grade

The fifth grade program is based on a thematic approach, presenting curriculum in ways that are both integrated across the lines of individual subjects and meaningful to the students in the context of their own experience. Rather than emphasizing the acquisition of information per se, the program is designed to promote habits of mind that encourage true intellectual growth and the joy of learning, fostering curiosity, independent thinking, and a sense of empowerment and responsibility with regard to lifelong education. A solid grounding in basic skills is stressed along with the challenge of discovering exciting and meaningful connections among the different content areas. At the same time, the St. Luke’s culture of kindness, character, and respect is explicitly embedded in the learning experiences, as the students work collaboratively and find their identity as a grade and as integral members of the community.

Every fifth grade student has a “homeroom” teacher, who serves as an advisor to 12-14 students. This teacher is the student’s and the family’s first resource for handling school-related concerns. Communication and trust are emphasized in the homeroom environment in guiding the students as they adapt to the St. Luke’s community.

The fifth grade English program focuses on the acquisition and enhancement of foundational writing and reading comprehension skills. The students are encouraged to see themselves as members of a literary community of enthusiastic readers and writers. Reading is heavily emphasized, both in school and at home, and students are immersed in critical thinking and writing activities in the study of appropriately challenging literature. Vocabulary, spelling, and grammar are taught as adjuncts to improving the students’ writing and their reading comprehension. Growth in clarity and fluency are major objectives of the fifth grade writing curriculum, and students are guided in choosing to write about things that matter to them, across many different genres. The English curriculum has the flexibility to work with reading materials and writing topics and genres that honor the particular needs and enthusiasms of each class. We encourage our students to meaningfully embrace their roles as participants in their own learning journey, and to recognize their classmates as unique individuals with particular intellectual strengths and contributions to make.

In fifth grade Social Studies classes, themes in US History and Geography are central content areas on which much of the curriculum is based. The students are exposed to many of the skills they will need for success in the higher grades, especially critical thinking skills, like assessing bias and point of view in a source and understanding the different purposes of different kinds of sources. Within the content areas, the students carry out creative project work, both individually and cooperatively, as well as practicing the traditional academic skills of highlighting, note-taking, mapping, researching and reporting. Students are guided in becoming more discriminating and skillful users of web-based content in research and in building awareness of current events and topics. Geography skills are threaded throughout the curriculum, and history units are used to build an understanding of key historical concepts by connecting to the individual stories of people’s lives. The fifth grade Kiva Microloans Service Project connects to a major project-based learning experience, culminating in a presentation to families at the annual International Night dinner. A three-day trip to Mystic Seaport in April offers a deep dive into the life of a nineteenth century seaport, as well as providing an important bonding experience for the grade. To enrich the students’ interdisciplinary connection to curricular content, the units of study in Social Studies coordinate with the literature read in English classes and with “read-aloud” novels that are shared in Homeroom classes.

The math curriculum focuses on solidifying number facts, consolidating the students’ skills in calculation by developing efficient strategies, and challenging them with higher-level concepts and problem-solving skills. The curriculum builds a solid foundation of competence in multi-digit multiplication and division, fraction and decimal concepts and operations, and geometry, while further developing algebraic thinking utilizing patterns, variables, and equations.

The fifth grade science program provides a balance of hands-on activities and engaging content resources. Students develop scientific literacy by participating in and being exposed to labs and classroom content that challenge them to use processing, critical thinking, and scientific reasoning skills. Project-based learning is central to the science curriculum, requiring students to build their collaborative and time-management skills, and varied teaching methodologies and learning styles are utilized to create the optimal academic environment for all learners.
In addition, all fifth grade students participate in special subjects throughout the school year, including physical education, designLab, choir and instrumental music, art, and an introduction to Latin.

**Sixth Grade**

Similar in structure to the fifth grade, the sixth grade program employs a collaboration of teachers concerned with the social and academic development of every student. This teaching team will engage students in units of study that continue to build core skills and develop higher order thinking. The team will challenge students with projects, readings, and critical-thinking activities that will require them to work creatively and collaboratively.

Sixth grade English provides students with a toolkit of skills for reading comprehension, composition, vocabulary acquisition, participation in literary discussion, and test preparation. We explore a variety of literary forms, and analyze them using literary conventions and our own interpretations. Students are encouraged to develop their unique writing voice through frequent creative and analytical writing assignments. Emphasis is placed upon participation and collaboration, in discussions, performance activities, and writing workshops.

Sixth grade World Cultures encourages students to develop a greater appreciation and understanding of the beliefs and customs of cultures around the world, both past and present. Students practice public speaking and debate skills as they explore current events and theories. Geography, research and critical reading skills are taught and practiced. In order to connect more closely to their world, students study novels told from the perspective of children growing up in African and Middle Eastern cultures. Students also develop and carry out several service learning projects over the course of the year.

Sixth grade science is an activity-centered program providing students with the opportunity to learn science concepts through a student’s own experiences. The problems presented in each activity are inquiry structures, asking students to think about the purpose and meaning of the activity they are to perform. They are engaged at each step of the scientific method and are encouraged to ask questions and give suggestions while conducting experiments and evaluating their results. Investigations are done in small collaborative groups where students learn to share ideas, data and experiences. Inquiry-based units studied are environmental sciences, atmospheric studies, and astronomy.

The Math Foundations course is for students to master decimal, fraction, and integer operations as well as to utilize those skills in a variety of practical applications, including measurement and geometry. Proportional reasoning is stressed as students explore the concept of scale and percent in real-world applications. Students are also introduced to the use of variables and simple equations as a means of problem solving. An emphasis is placed on estimation, critical thinking, practical problem solving, and interdisciplinary connections.

Sixth grade students take one semester each of French and Spanish. This allows students to be exposed to multiple languages (including Latin in the fifth grade) before they choose which language they would like to pursue in the seventh grade. The sixth grade World Language program is highly interactive and gives students a solid introduction to both the languages and cultures of French- and Spanish-speaking regions and countries.

**designLab**

The mission of the designLab is to increase creative problem-solving abilities through engineering, computer science, and design thinking. In the Middle School, this is accomplished through the introduction of the engineering design process and curricula that incorporates collaboration, project-based learning, and the fundamentals of engineering and computer science.

**designLab 5**

The goal of this course is for all students to see themselves and makers and problem solvers. Through the introduction of the design engineering process, students will learn how to structure their approach to solving problems. Through collaborative work, students will learn how to better communicate their ideas through the process. Basic fabrication tools will be
incorporated into projects so that students can learn how they can enhance the problem-solving process, and an emphasis is placed on the development of best practices, especially as it relates to safety within the designLab.

designLab 6
The goal of this course is to engage students in the process of fabrication and prototyping so that they identify as designers and engineers. Technology education spans all core curricula and allows our students to make connections while using physical prototype and project based learning. We focus on brainstorming to develop problem-solving skills within each weekly challenge and encourage students to become resilient collaborators. Mini lessons in engineering and computer science become vehicles for students to build and improve upon their designs. With cutting edge fabrication tools in the designLab, students can increase their breadth of knowledge at the Middle School level. Students are encouraged to transfer their knowledge of core content to solve real world design challenges.

designLab 8
The goal of this elective is to take a deeper dive into the design engineering process. It offers a unique experience to students to practice and focus on innovation as well as design and engineering. Through the collaborative process, students build resilience and strengthen peer-to-peer connections. Students will practice taking their vision from concept to prototype with each unit of study to increase their problem-solving abilities. Example units include mixed reality tools, 3D printing, laser etching, wearable technology, woodworking materials, power tools, and prototyping with circuitry and physical computing. Through tinkering and tangible projects, students develop autonomy and utilize a larger variety of tools that are available in the designLab. Practice with these tools and processes provides a foundation of knowledge necessary to work in the designLab safely and effectively.

English
Middle School English classes feature frequent creative and expository writing assignments, oral reports, and readings that are “language-rich” and appropriate. In writing, students learn how to compose coherent and developed paragraphs and multi-paragraph essays. Also covered are grammatical concepts, vocabulary development, note taking, test-taking and classroom discussion skills.

English 6
The goal of sixth grade English is to provide students with a toolkit of skills for reading comprehension, composition, vocabulary acquisition, participation in literary discussion, and test preparation. Through the writing process, students develop both creative and analytical compositions and learn to support an argument using appropriate evidence. They also explore the creative possibilities of the language arts and focus on developing their unique writing voice. Emphasis is also placed on the study of grammar, and editing and revising habits. Students examine a variety of literary forms, including short stories, novels, plays, and poetry in order to gain a deeper appreciation of literature. Students also enjoy creative and collaborative activities that challenge them to stretch intellectually, including the performance of a play and creation of an original movie.

English 7
Language and writing is the focus of English 7. Students become sensitized to the role language plays in their lives through various activities including the study of vocabulary in context, rigorous work in composition and a conceptual approach to the study of English grammar that calls for critical thinking. In writing, attention is paid to creating successful complex sentences, transitions, and summaries. It should be noted, too, that the reading for close study includes challenging works of fiction and poetry chosen for their subtlety of expression and richness of theme; also, a high degree of participation is expected of students in presenting their writing and their understanding of ideas in the classroom. As a continuation of the public speaking curriculum that leads to English 8 Declamations, all seventh grade students learn the presentation form in the 100 Influential Characters Who Have Never Lived unit, which is presented to the Middle School community.

English 8
English 8 continues the focus on language established in English 7. Students develop and sharpen their analytical and critical thinking skills through language-intensive activities including essay writing, close readings of fiction, the study of vocabulary in context, and a conceptual approach to the study of English grammar. Students compose expository essays based on traditional
rhetorical models, including narration, compare and contrast, and persuasion/argument, in addition to personal response writings. Furthermore, students examine a variety of literary forms, including short stories, novels, plays, and poetry in order to gain a deeper appreciation of literature. Also, a high level of participation is encouraged through lively class discussion, oral reports, and in-class readings of text. In the second semester, all eighth grade students are required to present a Declamation (public speech) in front of peers and parents.

**History and Social Science**

The Middle School Social Science curriculum emphasizes the development of analytical and writing skills in a context of studying a variety of social, historical and political subjects. Students encounter a variety of forms of information – both objective and subjective – and are encouraged to relate that information to the world in which they live. Writing and research skills are developed in preparation for the Upper School curriculum.

*History 6: World Cultures*

At the start of World Cultures, sixth grade students examine their own culture, and also have the opportunity to view American culture from the outside. A study of mapping and sustainability helps students to better understand the language of geography as well as the extent to which humans are dependent upon our natural resources. Toward the end of the first semester, students will study the roots of early civilization, after which they will create their own ancient civilization. In the second semester, students complete a long-term research paper project on an indigenous culture. The year concludes with a study of contemporary issues in China and the Middle East, during which students first trace these issues to their geographic and historical roots, and then propose workable solutions for the future. The content of each sixth grade course is a vehicle for teaching important academic skills. In World Cultures, students learn how to locate information online and in print, as well as how to synthesize and express what they have learned in writing and in speech. Spatial skills are applied during students’ study of geography and mapping. And finally, examining events from multiple perspectives, analyzing evidence, and problem solving helps to nurture each student’s ability to think critically and purposefully.

*History 7: American Social History I*

In this course, we structure our curriculum around social issues in American History from the 1700s to the 1900s, specifically addressing the American Revolution and Declaration of Independence through the Civil War and the Suffrage Movement. In the process of investigating these epochs in history students discover the roots of our values, how we establish laws and a system of government, slavery and oppression, the convergence of cultures during westward expansion, the causes and justifications of war, and women’s roles in shaping America enabling students to look for thematic trends between the past and present. These recurring themes of identity, values, and culture resonate with students’ personal experiences and contemporary issues of social justice. Throughout the year, critical thinking skills are acquired via persuasive writing, design thinking, Project Based Learning, and research papers/projects. Students will also refine essential skills, such as active listening/response, Cornell note taking, responsible research and use of primary and secondary sources. Finally, students use design thinking and service learning opportunities around homelessness, food insecurity, and literacy, giving students agency to recognize themselves in a particular historical moment and emphasize the concept of citizenship.

*History 8: American Social History II*

This is a combined study of United States Government and historic epochs in the 20th century and social issues of the 21st centuries. In essence it is a survey course and continuation of the study of American history from the 7th grade. Eighth grade students will develop a foundation in the government of the United States specifically the workings of the three branches in relation to historic cultural movements that have deeply affected our society into present day. Course units include, but are not limited to: events and world impact of 9/11; issues of immigration and what it means to be an American citizen; our class trip to Washington, D.C. focusing on the function of our capital and the importance of memorials; the Progressive Era; America’s involvement in both World Wars; and the American Civil Rights. service learning, Project Based Learning, and design thinking are interwoven in the curriculum to engage students in meaningful learning with real-life applications. At the same time, students will build foundations for Upper School coursework through historical research, case studies, and regular current
events assignments. Emphasis will be placed on critical thinking skills, writing, speaking, debate, note-taking, and research skills.

**Mathematics**

The aim of the Middle School Mathematics curriculum at St. Luke’s is to establish a strong foundation in basic skills and concepts with an emphasis on problem solving and critical thinking. Subsequent courses are used to introduce Algebra and Geometry using creative activities that challenge and support the students to learn serious, substantive mathematics concepts while fostering confidence and enhancing their ability to be successful in future courses. Technology plays an integral part as the students explore relationships among numbers, variables, and real world applications.

*Math 6*

The aim of the Math 6 course is for students to master decimal, fraction, and integer operations as well as to utilize those skills in a variety of practical applications, including measurement and geometry. Proportional reasoning is stressed as students explore the concept of scale and percent in real-world applications. Students are introduced to the use of variables and simple equations as a means of problem solving. A continuing emphasis is placed on estimation, critical thinking, practical problem solving, and interdisciplinary connections.

*Pre-Algebra*

This course is designed to prepare students for the formal study of algebra and geometry. In pre-algebra, students master operations with integers, proportions, and percent. They study solving equations, simplifying expressions, and using exponents (including scientific notation). The skill of reading critically, both to introduce and reinforce mathematical ideas, is emphasized. Also included is a study of basic geometric concepts.

*Linear Topics in Algebra*

This is a course that will cover the first half of a traditional Algebra 1 class. It is part of a three-year sequence that will include Integrated Algebra and Integrated Geometry in the Upper School. It gives the students a solid understanding of the fundamentals of Algebra, including solving equations and inequalities, ratio, and proportion and percent. Students will learn to use the basic algebraic operations of monomials, properties of rational expressions, exponents, and roots. The emphasis will be on solving and using linear equations and inequalities, simple factoring, and graphing of linear functions.

*Algebra I*

In this course, problem solving, understanding the connection to the real world, and abstract thinking will be emphasized. Students will learn basic algebraic operations of monomials, properties of rational expressions, exponents, and roots; solving and graphing linear equations and inequalities; and quadratic functions. Other skills include factoring, multiplying binomials, basic operations with polynomials, coordinate geometry, use of formulas with symbols, and solving systems of equations. The use of technology, including graphing calculators, supports students’ learning.

*Geometry MS*

Geometry MS is a traditional course for developing one’s reasoning ability through studying patterns in two and three dimensions. Activities based on constructions will be explored by hand through the use of straightedge and compass, and using dynamic computer software. Students are encouraged to form and verify conjectures about relationships through formal proof. This course includes coordinates, transformations, measurement, area and volume, congruence and similarity, logic, trigonometry, properties of symmetry, and circles.

*Prerequisite: Algebra I*

*Please note: Students in Geometry MS must maintain a B+ test average (before test corrections) and successfully pass a placement test in order to be considered for Algebra II in ninth grade.*
Other

Eighth graders will add a twice-weekly elective to their schedules. The 2019-2020 offerings for eighth graders will be published later this spring, and students will rank their elective priorities at that time.

Performing Arts

St. Luke’s students have the opportunity to explore the world of music and theatre through the performing arts. All fifth graders take part in the music program, which includes choral and instrumental instruction. In sixth and seventh grades, students choose between choir and band for the entire year. In eighth grade, students are able to choose among choir, band, and theatre for one class period. All performing ensembles explore diverse and varied repertoire and participate in at least two concerts each year.

Music 5: Choir and Band
Fifth-grade students attend music class every other day for the entire year. The first semester focuses on choral performance. Students learn to read music notation and follow along in their music. They also work to sing in tune with clear diction, good tone quality, and proper breath support. In the second semester all students take instrumental lessons (brass, percussion, and woodwinds). During this time, students are also introduced to the electronic music lab to learn basic piano techniques. Throughout the year, students participate in active listening and performance of music from many different genres and cultures.

Music 6: Choir or Band
Sixth-grade students attend either choir or band daily throughout the entire year. Sixth-grade performing ensembles build on the basics learned in Fifth Grade Music. Students continue to develop their musicianship skills while expanding their knowledge of choral singing and instrumental music. Sixth Grade Band is offered to beginners as well as those who have previous instrumental experience. Throughout the year, students participate in active listening and performance of music from many different genres and cultures.

Music Grades 7-8: Prep Band 7-8 or 7-8 Choir
Music is required for all seventh-grade students and is an elective option for eighth-grade students. Classes meet daily during a letter block period for the entire year. Students at this level may choose Prep Band or 7-8 Choir. Basic musicianship, music literacy, music history, and music appreciation are all taught within the context of these performance groups. The 7-8 Choir program focuses on increasingly challenging repertoire, moving toward a blended and flexible choral sound. The Prep Band consists of students who have had at least one year of instruction on a woodwind, brass, or percussion instrument. Beginning instrumentalists may also participate at the director’s discretion. Every other year these performing ensembles participate in the Trills and Thrills Festival Competition at Lake Compounce. The next Lake Compounce competition will take place during the 2020-2021 school year.

Theatre 8
Through the investigation of theatre history, set design, and acting technique, students are invited to explore the world of the stage. Eighth graders enrolled in this elective will participate in at least one production on the St. Luke’s stage each year.

Physical Education
Middle School students participate in instructional periods every other day all year meeting the National Education Standards for Physical Education and Health. The Middle School Physical Education curriculum encourages cooperation and sportsmanship through the use of team sport activities. The Physical Education Department feels that it is extremely important that students develop their motor skills to further their physical development. Our program also aids in the students’ growth and development on an emotional and social level by including informal and formal competition.
Science
The Middle School Science program introduces students to the skills of the scientific method and engages them in activities and lessons that encourage an awareness of the scientific thought process. Students systematically investigate, analyze and experiment with many of the fundamental concepts that will lead to a greater understanding of the world around them, with the goal of developing an appreciation of science. The program provides a foundation of hands-on explorations that build curiosity and engagement with the world. The goal of the Middle School Science program is to build students’ academic aptitude by instilling a sense of accomplishment brought about by challenge and discovery, thereby empowering them not only to see the world clearly, but also to imagine what could be and how it might be achieved.

Science 5
Fifth grade science is centered on experiential learning adventures that provide a balance of hands-on activities, real world exploration, and engaging content resources. Students develop scientific literacy and are exposed to resources and ideas that challenge them to use processing, critical thinking, and scientific reasoning skills. Through projects and lab-based activities, students are immersed in the main content areas of the curriculum: The Great Paper Airplane Experiment, Lego Education’s Simple Machines, the technological evolution of the Maker Movement, and physical and environmental science are just a few examples of of a fifth grade student’s science experience.

Earth Systems
Sixth grade science is a hands-on, project-based program. Environmental science forms the basis for the year’s study, specifically focusing on wildlife conservation, field ecology, eco-cultural studies, and community service. Every investigation is structured to allow for multiple resolutions, challenging students to think about the purpose and meaning of the activity they are asked to perform. Students are engaged at every step of the process, encouraged to propose new guiding questions, make counter suggestions, and incorporate the scientific method while conducting experiments and evaluating their results. Presenting their work to the class is an important component of each investigation. Class projects are carried out individually or in small collaborative groups where students learn to share ideas, data, and experiences. Our topics of study include Meteorology, Ecology, Astronomy, Geology, and Oceanography.

Life Science
Life Science offers seventh grade students a practical approach to the study of living things by thinking critically about the classification and common characteristics of life. The course emphasizes a hands-on approach, focusing on the scientific inquiry process and thinking like a scientist. This inquiry-based approach challenges students to observe patterns and generalize relationships in acquiring a solid understanding of scientific ideas. Laboratory activities utilizing microscopes and other basic lab equipment are regularly scheduled. The objective of seventh grade science is for students to not only comprehend the scientific concepts, but also to analyze and synthesize information to make sense of the world around them. The course is divided into three sections: diversity of life, cells and heredity, and the human body.

Physics & Engineering
Eighth grade science is an inquiry-based course that stresses the scientific process, critical thinking, and fundamental concepts of physics through hands-on laboratory investigations and project-based activities. The students learn how to work both independently and collaboratively as they cultivate their scientific thinking skills. The course emphasizes the development of observation, experimentation and analytical skills applicable to successive laboratory courses in the Upper School. Eighth graders will acquire an understanding of topics including motion, forces, Newton’s Laws, energy, and Robotics. Each unit culminates with the students engineering a project that incorporates the concepts learned in class. Projects include the Chip Challenge Mail-In, the Great Egg Drop, Balsa Bridge Engineering Challenge, and the Robo-Ring Robotics Challenge.

Visual Arts
The aim of art classes is to provide a hands-on project-based setting for students to become familiar with the principles and elements of art as a discipline. Through visual problem-solving projects, students will discover the joy of individual creation as well as the universal cross-cultural aspect of visual expression. A wide range of two-dimensional and three-dimensional media will be explored, based on observation, memory and imagination.
Art 5
Art for fifth grade provides an opportunity for students to begin the practice of autonomy in art making that is a focus in Middle School art. Students are given project ideas every class period that they may choose to work on. At the beginning of the year, students work on a given project, and as the year goes on, they are introduced to more materials, until finally, they are invited to work on a given assignment or work independently on their own idea using the materials offered. A wide variety of materials are available at all times for students to choose from, including but not limited to: clay, papier-mâché, watercolor, tempera paint, charcoal, pastel, colored pencils, a variety of papers, string, yarn, ribbon, fabric, scissors, needles and thread, hot glue guns, tape, and boxes of recyclables. There is a bookshelf filled with how-to draw books, and stories about the lives of artists. A box of magazines is available for collage, and pictures are available for students to practice copywork. The opportunity to choose the skills and materials each student needs in pursuit of an artistic vision creates a palpable excitement and an environment that encourages risk-taking and self-discovery.

Art 6
Sixth grade students continue to focus on autonomy in artmaking, but add an accent on interdisciplinary and group work. When they are finished with their classwork, they work on projects that interest them and choose from a wide variety of materials to use in their artworks. Building three-dimensional creations is a popular interest, as is drawing and painting. Working together to build ceramic totem poles is just one example of teamwork that the students always look forward to in this course.

Art 7
Seventh grade art students continue to pursue their own interests in Art, combined with class assignments designed to challenge their thinking and ways of seeing. There is a focus on the relationship between symbolic, realistic and abstract representation. Assignments range from students being free to choose from a wide variety of materials and approaches to make artworks about given themes (such as contemporary issues) to students using careful looking to draw an object. Seventh grade students spend more time making formal and informal verbal or written reflections on their own and their classmates’ work.

Art 8
All eighth grade students are encouraged to take Art 8 as an elective. The objective of this course is to develop students’ awareness of the visual world and the multiplicity of solutions to visual problems. Since everyone is born with enormous creative potential, it is the goal of this foundation course to tap into students’ innate creativity. Through the process of learning new skills and techniques in various media, students will become familiar with the ongoing flow of creativity in art history and the current art world. Emphasis will be placed on elements and principles of design, and students will be encouraged to think analytically and respond holistically. The first semester will offer problems in 2-D including drawing, pen and ink, charcoal, pastel, painting, and a brief introduction to photography and drawing with iPads. Second semester will focus on problems in 3-D such as clay sculptures, wire figures, mask-making, mobiles, and a collaborative group project.

World Language
The World Language curriculum in the Middle School exposes students to three modern and classical languages offered at St. Luke’s (French, Latin, and Spanish) while encouraging fun, active engagement in the classroom. As gaining proficiency in another language is a process that is valuable and enriching in a multicultural world, the Middle School World Language program is vital in helping students take the first steps towards reaching this goal. All students take Latin in fifth grade and French and Spanish in sixth grade. Before starting their seventh grade year, students must pick a language to study on a daily basis. Students generally continue the study of the same language in seventh and eighth grades.

Students earning any mark lower than a C- in a course are strongly encouraged to begin with Level I upon entrance into the Upper School or take a summer review course before continuing to the next level in the sequence.

Latin 5
This second-semester course introduces fifth graders to Latin and familiarizes them with basic speech patterns, vocabulary, and
word formations. They also learn various aspects of Ancient Roman culture, including numerals, food, clothing, and mythology. The course also helps students realize and recognize the influence of Roman culture and Latin on our everyday lives. Students gain further insights into English through its relationship with Latin. Studying Latin in the fifth grade allows students to become more comfortable with learning and using a new language before they take French and Spanish during their sixth grade year.

**French 6 and Spanish 6**
In sixth grade, students study French for one semester and Spanish for the other. Both programs are taught through an innovative picture-based method called QTalk. Students assimilate language through images and are able to speak in full sentences almost immediately. They are also introduced to cultural elements, geographical points of interest, and traditions of the French-speaking and Spanish-speaking worlds. Students in the sixth grade whose performance is in the top third of their class and who have shown a noteworthy, serious, personal dedication to excelling in the target language will be recommended to Level I MS in seventh grade. Heritage speakers will be evaluated and placed in the appropriate section based on language ability.

**French 7 and Spanish 7**
The purpose of this course is to formally begin the study of French or Spanish. Students meet daily for the entire year. The objectives of the course are to help students develop a good accent, to build a basic vocabulary, to understand basic linguistic structures, to read simple paragraphs and to learn about and appreciate the culture of the countries where the target language is spoken. Great emphasis is placed on oral work. This course comprises the first half of a full Level I curriculum at the Middle School level.

**French 8 and Spanish 8**
This course is the second half of a full Level I curriculum at the Middle School level. When successfully completed, the students will have learned the basics of the language and will have the proper foundation for continued study. The objectives of this year are to increase vocabulary and build greater spoken ability. Students learn more advanced grammar and can read and appreciate more sophisticated material. After this course, students should be prepared to enter the Upper School World Language sequence, most commonly at Level II. Those who have done particularly well may be recommended for the Honors section. Students earning any mark lower than a C- in these courses are strongly encouraged to begin with Level 1 upon entrance into the Upper School or take a summer review course before continuing to the next level in the sequence.

**French 7A and Spanish 7A**
Those students whose advanced language abilities are recognized in the sixth grade will be recommended for Level 7A (course availability based on enrollment). This course will move at a more rapid pace and will cover more material than that of Level 7. Upon successful completion of this course and teacher recommendation, students will be ready to begin Level 8A in the 8th grade.

**French 8A and Spanish 8A**
This course is for Middle School students who have successfully completed a full Level 7A curriculum. By the end of the year, students in Level 8A will have completed the equivalent of an advanced, accelerated Level I curriculum and will be ready for French or Spanish II Honors in the Upper School. Students who receive lower than a B in this course for the year or are otherwise not recommended by their teacher will enroll in Level II in the Upper School.

**Latin 7**
Latin 7 is the first full year course of Latin study in the Middle School for seventh graders. In the course, classical Latin grammar is presented, including verb conjugations, noun and adjective declensions, and grammatical constructions. Students also learn English derivatives of the Latin words that they study, thereby enhancing their English vocabulary. Grammar, syntax, and vocabulary are focal points of the course. In addition, Roman culture is discussed, and class projects will help bring the language alive.
Latin 8

Latin 8 continues the Latin 7 curriculum in the Middle School. Classical Latin grammar becomes more advanced and students learn more about verb conjugations, noun declensions, and other grammatical concepts. The study of Latin grammar, syntax, and vocabulary is more complex, thereby further helping students’ comprehension of the English language. Students also continue to learn more about Roman history and culture. Students who successfully complete this course are prepared to enter Latin II in the Upper School. Students earning any mark lower than a C- in this course are strongly encouraged to begin with Level I upon entrance into the Upper School or take a summer review course before continuing to the next level in the sequence.