## PLYMOUTH AREA SCHOOL DISTRICT

## PLYMOUTH High SCHOOL



## CURRICULUM GUIDE 2017-2018

PLAN TODAY...SUCCEED TOMORROW!<br>Updated 2-2-17

## TABLE OF CONTENTS

Introduction ..... 3
Agriscience Technology ..... 9
Art ..... 11
Business Education ..... 12
English. ..... 15
Family and Consumer Science ..... 19
Family-Personal Area ..... 19
General Studies Area ..... 20
Culinary Arts and Applied Sciences ..... 20
Interdisciplinary Studies ..... 22
Mathematics ..... 23
Music ..... 27
Physical Education and Health ..... 29
Project Lead the Way ..... 31
Science ..... 32
Social Studies ..... 35
Technology Education ..... 38
Construction Technology ..... 38
Graphic Communications Technology ..... 39
Manufacturing Technology ..... 39
Project Lead the Way ..... 40
Transportation Technology ..... 41
World Language ..... 42
Work-Based Education Opportunities ..... 44
Youth Apprenticeship ..... 45

## INTRODUCTION

Plymouth High School's Curriculum Guide contains information for both students and parents about course offerings. This information will assist students in making decisions about next year's courses.

Course selection should be guided by information collected from several sources-parents, advisors, and printed materials. Each year students and parents should review and re-evaluate a four-year course plan, making sure that graduation requirements, as specified by school board policy, are being completed. The curriculum guide includes descriptions of class offerings, recommendations, instructions and alternative ways of earning credit. Please read the information carefully.

The Plymouth School District does not discriminate against pupils on the basis of sex, race, national origin, ancestry, creed, pregnancy, marital or parental status, sexual orientation, or physical, mental, emotional, or learning disability, or handicap in its education programs or activities. Federal law prohibits discrimination in employment on the basis of age, race, color, national origin, sex, religion, or handicap.

## GRADUATION REQUIREMENTS

| Grade 9 | English I | Citizenship <br> and <br> Area Studies | Math <br> $(1.0$ credit) | Physical Education I <br> First Aid and Health | Physical Science |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 10 | English II | US History | Math <br> $(1.0$ credit) <br> Geometry 0.5credit | Physical Education II | Biology |
| Grade 11 | English <br> $(1.0$ credit) | Social Studies(1.0cr) <br> Personal Finances, <br> Economics or <br> JA Economics | Math <br> $(1.0$ credit $)$ | Physical Education <br> $(0.5$ credit $)$ | Physical Science <br> or <br> Chemistry |
| Grade 12 | English <br> (1.0 credit) | Social Studies <br> Personal Finances, <br> Economics or <br> JA Economics <br> (if requirement not met) |  | Physical Education <br> (if requirement not met) | Science Elective <br> (if requirement not met) |

## TOTAL CREDITS REQUIRED-26

| English | 4.0 |
| :--- | :--- |
| Social Studies | 3.0 |
| Mathematics | 3.0 (.5 credit of geometry) |
| Science | 3.0 (1 credit of biology \&1 credit physical science or chemistry) |
| Physical Education | 1.5 (over $\mathbf{3}$ years; PE I and II required) |
| Health/First Aid/CPR | 0.5 |
| Personal Finance | 0.5 |
| Carer Portfolio \& WI Civics Test Completion by Senior Year |  |

## ACADEMIC LETTER

The Academic Letter recognizes students with outstanding scholastic performance. Students qualify for this prestigious award by maintaining a 3.85 GPA for any two consecutive semesters.

## ACCELERATED COURSES

Accelerated and advanced courses are substantially faster paced and cover rigorous curriculum in both depth and breadth that necessitates students perform independently and self-advocate to achieve the highest level of learning. Accelerated classes are restricted to the academic core area subjects and to students having a cumulative GPA of 3.5 or higher. Students seeking enrollment in this program without the necessary GPA may seek placement through the Request for Special Permissions to Enroll in Accelerated Courses.

## ALTERNATIVE EDUCATION

The Alternative Education Program offers courses for credit to students who are enrolled in the Alternative Education program. The Alternative Education Program is designed for students who are credit deficient or considered at-risk of not graduating. There are multiple programs available such as GEDO2, Independent Study, and online classes.

## DROPPING A CLASS AFTER THE FIRST FIVE DAYS

If a student would like to drop a class after the first five days of a semester, he/she must fill out a request to drop a class form. All required signatures must be obtained before a student will be removed from class. Student will receive an " $F$ " (failure) grade for the class on his/her transcript (exceptions will be determined by administration). Dropping any yearlong course in the first semester will result in a "W" for second semester.

## FINAL EXAM POLICY

It is our belief that all students should experience a culminating activity or semester exam. It is our belief that each department is capable of best determining the type, time, and assessment of the culminating activity based on differentiated student learning needs. It is the intent of this policy to provide educationally appropriate culminating learning experiences for students differentiated by student choices and ability. Refer to the orange guide for policy details.

## GLOBAL EDUCATION ACHIEVEMENT CERTIFICATE

The Global Education Achievement Certificate is awarded to students who have shown interest and dedication to global competency during their studies at PHS. Students will receive a certificate and a notation on their diploma upon graduation after completing requirements related to coursework, Cultural Literacy, Cultural Activities, and Community Service.

## G indicates courses that may apply to GEAC

## GRADE POINTS

Grades for all subjects plus class rigor are used in computing Laude status. The academic weighting is as follows:

| Grade | Point value |
| :---: | :---: |
| A | 4.00 |
| A- | 3.67 |
| B+ | 3.33 |
| B | 3.00 |
| B- | 2.67 |
| C+ | 2.33 |
| C | 2.00 |
| C- | 1.67 |
| D+ | 1.33 |
| D | 1.00 |
| D- | 0.67 |
| F | 0.00 |

Calculating GPA involves the total grade points divided by the number of credits earned.

## HONOR ROLL REQUIREMENTS

## High Honors: A GPA of 3.75 to 4.00

Honors: A GPA of 3.40 to 3.749

## INCOMPLETES

Incompletes will be changed to F's if students do not fulfill learning requirements.

## INDEPENDENT STUDY

Independent Study is available to Juniors and Seniors and is designed to promote the development of self-directed learning for enrichment and depth. Independent study contracts can be used by students unable to fit a class into their schedule; however, an Independent Study cannot take the place of a required class. Students develop a contract with a staff member of their choice. All independent study programs must receive office approval. Students must carry 6 credits in addition to the Independent Study. Independent Study forms must be completed before the $5^{\text {th }}$ day of the semester.

## INDIVIDUAL EDUCATION PROGRAMMING

Programming for students with disabilities is based on each student's individual education plan (IEP). In addition to courses listed in this curriculum guide, students with disabilities may participate in specialized courses related to academic standards, careers, transition, and/or service learning. For additional information, students and parents are encouraged to contact the student's case manager.

## PLYMOUTH ONLINE SCHOOL

Plymouth Online School offers full credit courses from an online instructor in both basic skills and advanced course work.
While a local education guide supports the student through the online learning process, academic support is available through content experts within the district. All classes meet or exceed the State of Wisconsin Standards and Benchmarks for Curriculum. Courses are available to students 24/7. Enrollments are on a continuous basis. Completion timelines are individualized to the needs of the student. Typically, students enroll in both the traditional school and online school. Contact PHS Online School Coordinator to enroll.

## SCHEDULE CHANGES

Our Master Schedule is constructed, and faculty hired, based on the number of original student course requests. Therefore, this policy is created to give students, families, and faculty in our school an opportunity to make timely, efficient and intelligent decisions about students adding and dropping classes.
Students may request error or non-error changes in schedules with parental permission before the beginning of first semester and/or second semester. Dates will be designated annually for schedule changing deadlines.

## TEACHER REQUEST

While Plymouth High School supports parental requests, no request will be considered prior to random generation of schedules. A written request must be made to the high school principal with reason(s) for request. Request should be made when registering for next year's classes and request made by last Friday in May. Situations affecting the request(s) include class balance and overload, order of request, teacher not teaching that class/level, ease of change, yearly request completed, and teacher/student history.

## WORK-BASED EDUCATION OPPORTUNITIES

In order to improve academic performance and postsecondary outcomes, PHS students have opportunity to participate in developmentally appropriate work-based learning experiences that build upon their academic and career interests. These experiences allow students to apply what they have learned in school and deepen their understanding within an area of interest in an effort to inform their secondary and post-secondary plans. Through these programs students develop skills, habits, and attitudes conducive to job success and personal growth. See full listing of work-based education opportunities on page 44.

## YOUTH APPRENTICESHIP PROGRAM

Youth Apprenticeships offer students the opportunity to explore future careers while they are still in high school and get paid for their time working at area employers. Youth Apprenticeship offers one- and two-year programs in a variety of fields. The program offers an opportunity for students to simultaneously be enrolled in academic classes to meet high schools' graduation requirements and a youth apprenticeship-related instruction class. There is no fee for the class. Students in the program are also employed by a participating employer under the supervision of a skilled mentor. This program is available to qualified juniors and seniors.

* See page 45 for full listing.


## YOUTH OPTIONS PROGRAM

If students in their junior and senior years are interested in enrolling in a course not offered at the high school level, students may elect to enroll in a similar course at a university or technical college. If a student completes all requirements, the course can count for both college and high school credit. Sign-up deadline for Fall classes is March 1 and for Spring classes is October. 1.

## CAREER CLUSTERS

Career Clusters identify pathways from high school to post secondary education, apprenticeship programs, and the workplace so students can recognize the relationship between what they learn in school and what they can do in the future. The career clusters aid students in planning their four year high school career based on an area of interest that they have for a future occupation. The definition of the each of the sixteen career clusters can be seen below.

Agriculture, Food \& Natural Resources: The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.
Architecture \& Construction: Careers in designing, planning, managing, building and maintaining the built environment.
Arts, A/V Technology \& Communications: Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.
Business, Management \& Administration: Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.
Education \& Training: Planning, managing and providing education and training services, and related learning support services.
Finance: Planning, services for financial and investment planning, banking, insurance, and business financial management.
Government \& Public Administration: Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.
Health Science: Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development
Hospitality \& Tourism: Hospitality \& Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.
Human Services: Preparing individuals for employment in career pathways that relate to families and human needs.
Information Technology: Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.
Law, Public Safety, Corrections \& Security: Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.
Manufacturing: Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.
Marketing: Planning, managing, and performing marketing activities to reach organizational objectives.
Science, Technology, Engineering \& Mathematics: Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.
Transportation, Distribution \& Logistics: Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

## LAUDE SYSTEM

The Laude system will be used at Plymouth High School as our recognition of graduates for both high academic standing and rigorous course selections. Class GPA shall be maintained starting with the first semester of ninth grade and continuing through second semester of $12^{\text {th }}$ grade. Only full-time students shall qualify for Laude status. Semester grades shall be used to calculate grade point average (GPA) for Laude calculation and recognition. Only high school level academic subjects approved by the Board, or its designee, shall be included in computing semester grades. Official Laude calculation will be completed after final semester grades are earned.

The Laude system at Plymouth High School will consist of three levels of recognition for academic grades earned and rigorous courses selected. From most rigorous decreasing, the levels are Summa Cum Laude, Magna Cum Laude, and Cum Laude. Class rank will be determined by the Laude calculation when needed for external purposes (i.e. scholarship requests).

Laude calculations and eligible courses will be updated and described annually in the student handbook for Plymouth High School.

## CALCULATION INFORMATION

Students with a 3.4 GPA or better are eligible for Summa Cum Laude, Magna Cum Laude, or Cum
Laude recognition. Only PHS's approved list of advanced level courses (in addition to College/Technical College Youth Options and "advanced standing" courses) will be considered advanced coursed for the purpose of the Laude recognition process.

Step 1: Count \# of Laude points (1 semester = 5 points and 1 year $=1$ point)
Step 2: Multiply your G.P.A. by the number of Laude points. (example: $3.44 \times 13.5=46.4$ cum laude)
Step 3: Use the ranges below to determine your Laude status.

|  |  |
| :---: | :---: | :---: |
| G.P.A. | $\times$Summa Cum Laude: 80-Above <br> \# of Laude points$=$Magna Cum Laude: 56-79.9 <br> Cum Laude: 30.6-55.9 |
| * Subject to change each year depending upon number of Laude courses |  |

LAUDE COURSE OFFERINGS © This symbol indicates Laude courses within the Curriculum Guide

[^0]Advanced Culinary Arts I: Grades 11-12
Advanced Culinary Arts II: 1 year, Grades 12
Accelerated Biology: 1 year, Grades 9-10
Accelerated Chemistry: 1 year, Grades 10-12
Accelerated Physics: 1 year, Grades 11-12
AP Advanced Biology (Oshkosh): 1 year, Grade 12
Advanced Chemistry (Lakeland): 1 year, Grades 11-12
Anatomy \& Physiology: 1 year, Grades 11-12
Advanced Food Science 1 year, Grades 11-12
Botany (LTC): 1year, Grades 10-12
Accelerated Geometry: 1 year, Grades 9-10
Accelerated Algebra 2: 1 year, Grades 10-11
Accelerated Pre-Calculus (Lakeland): 1year, Grades 11-12
Accelerated Calculus and Analytic Geometry (Lakeland): 1 year, Grade 12
College Technical Mathematics 1A (LTC): 1 semester, Grades 11-12
College Technical Mathematics 1B (LTC): 1 semester, Grades 11-12
Accelerated English 1: 1 year, Grade 9
Accelerated English 2: 1 year, Grade 10
Accelerated American Literature and Composition: 1 year, Grade 11
British Literature (Lakeland): 1 semester; Grade 12
Advanced Composition (Lakeland): 1 year, Grade 12
Introduction to Education: 1 semester, Grade 11-12
Wind Ensemble: 1 year; Grade 11-12
Advanced Mixed Vocal Music: 1 year; Grade 11-12
Spanish 3: 1 year, Grade 10-12
Spanish 4: 1 year, Grade 11-12
Spanish 5: 1 year, Grade 12
German 3: 1 year, Grade 11-12
German 4: 1 year, Grade 12
Accounting 1: (LTC) 1 year, Grade 10-12
Accounting 2: (LTC) 1 year, Grade 11-12
Accounting 3: (LTC) 1 year, Grade 12
Business Law: (LTC) 1 semester, Grade 10-12
Computer Applications: (LTC) 1 semester, Grade 9-12
Principles of Marketing: (LTC) 1 semester, Grade 10-12
Youth Apprenticeship (YA): 1 year, Grade 11-12
(NOTE: Students earning 3 college credits through LTC Youth Apprenticeship should receive 1 semester laude credit at the high school level.) ** Any course not listed above that earns college credit or AP credit may be considered with prior approval by the principal.

## AGRISCIENCE TECHNOLOGY

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sem | 0.5 | Plants, Animals, Food \& More | 101 | x | x | x | x |  |
| Year | 1.0 | CBotany TC | 106 |  | x | x | x |  |
| Sem | 0.5 | Animal Science 1: Companion Animal | 107 | x | x | x | x |  |
| Sem | 0.5 | Animal Science 2: Production Animals | 1071 |  | x | x | x | x |
| Year | 1.0 | Animal Science 3: Advanced | 1072 |  |  | x | x | x |
| Sem | 0.5 | Greenhouse Management 1: Sustainable Food Prod. | 109 |  | x | x | x | x |
| Sem | 0.5 | Greenhouse Management 2: Ornamental Horticulture | 1091 |  | x | x | x | x |
| Sem | 0.5 | Landscaping | 1092 |  | x | x | x |  |
| Sem | 0.5 | Principles of Small Engine Repair | 115 |  | x | x | x |  |
| Sem | 0.5 | Agricultural Careers \& Leadership | 116 |  | x | x | x |  |
| Year | 1.0 | Natural Resources and Sustainability | 118 |  | x | x | x | x |
| Sem | 0.5 | Farm to Fork | 119 |  | x | x | x | x |
| Year | 1.0 | © Environmental Sustainability | 448 |  | x | x | x | x |

101 Plants, Animals, Food \& More 1 Sem $\quad 9-12 \quad 0.5$
Did you know that every day you come in contact with or use hundreds of agricultural products from the food you eat to the clothes you wear? This introductory course is designed to create an awareness, provide initial experiences, and develop an understanding of all areas in agriculture, food, and natural resources. Students will be introduced to a range of agricultural opportunities through labs, projects, and hands-on activities in both the high school classrooms and the Food Science and Agriculture Center.

## 106 © Botany TC <br> 1 yr <br> 10-12 <br> 1.0

Plants are a vital link required to sustain life on earth. Humans are dependent upon plants for food, fiber, fuel, and many other purposes. In addition Wisconsin's Green Industry provides over 43,000 jobs statewide. This course is designed to provide students with the opportunity to learn about plants grown locally and worldwide. Topics will include horticultural careers, hydroponics, plant taxonomy, anatomy and physiology, plant processes, environmental factors, plant propagation, and garden design. This is a hands-on class with laboratory activities in both the high school classrooms and the Food Science and Agriculture Center.
Botany can be counted as a 1 credit science elective for Plymouth High School graduation.
Students earning a B or better in this course will be granted 3 transcribed credits for Horticulture Introduction at Lakeshore Technical College. There is no fee for these credits.

## 107 Animal Science 1: Companion Animals $\quad 1$ Sem $\quad 9-12 \quad 0.5$

If you could have a small animal/horse or currently are a pet owner, this course is for you. Examine animal welfare, nutrition, behaviors, management, healthcare, safe handling procedures, products, and careers. In addition we will explore the future role of companion animals in human society. Special emphasis will be given to major pet industry species: canines, felines, equine and other smalls of interest.

## 1071 Animal Science 2: Production Animals 1 Sem $\quad 10-12 \quad 0.5$

What is for dinner tonight? Today's livestock industry needs to produce more food faster in order to meet the demand of our global society. Explore the livestock industry through the practical analysis of nutrition, facilities management, behaviors, safe handling procedures, management, animal products, healthcare, and careers. Practice real-life agricultural management skills, apply industry knowledge, and research $21^{\text {st }}$ Century production techniques.
*Prerequisite: Plants, Animals, Food \& More

## 1072 Animal Science 3: Advanced $\quad 1$ yr $\begin{array}{llll}11-12 & 1.0\end{array}$

Dive deeper into animal science through research and hands-on experiences. Areas of emphasis will include anatomy, physiology, breeding programs, genetics, and conformation. Students will also be exposed to the animal medical world through animal health evaluations, factors that affect animal health, treatments, procedures, and careers. Learning experiences include the classroom, Animal Learning Center, guest presenters, and field trips.

## 109 Greenhouse Production and Management 1: Sustainable Food Production 1 Sem $\quad 10-12 \quad 0.5$

As populations continue to expand, the importance of food production in a condensed, climate-controlled environment increases. Understanding the integrated principles needed for the successful management of a sustainable food production greenhouse is necessary. Students will study the biology of food production systems by exploring a variety of hydroponic systems and raised beds while growing and harvesting food that will be used in their very own school lunch program. Classroom and laboratory content will be enhanced through the use of the Food Science and Agriculture Center, using appropriate equipment and technology in alignment with many core subject area concepts. *Prerequisite: Plants, Animals, Food \& More (This class is run in the Fall Semester)

1091 Greenhouse Production and Management 2: Ornamental Horticulture $\quad 1$ Sem $\quad 10-12 \quad 0.5$
Commercial plant production is a driving factor in the multibillion-dollar greenhouse and nursery industries, and there is an increasing need for skilled personnel trained in sound business practices and horticultural growing methods. Through working in the Food Science \& Agriculture Center, students will learn and practice ornamental plant science, landscape architecture, greenhouse set-up and maintenance, and general horticulture business practices. Students will apply their knowledge by planning and producing ornamental flowers and plants to sell to the community each spring.
*Prerequisite: Plants, Animals, Food \& More (This class is run in the Spring Semester)
1092 Landscaping $\quad 1$ Sem 10-12 0.5
In this course, you will gain practical experiences in design and maintenance of various landscape situations. Areas of study may include landscape drawing and design, safety, career exploration, plant identification, tools, pests and diseases, job estimating and bidding, environmental planning, and interpersonal skills. Throughout this course you will have the opportunity to learn about nurseries in our area and experience many hands-on opportunities to landscape.

## 115 Principles of Small Engine Repair 1 Sem $10-12 \quad 0.5$

Small engines are all around you. They are used to mow your grass, fell trees, prune hedges, glide across water, zip down the snowmobile trail, and drive off the beaten path. Discover the history and theories of why these engines are powerful. Dissect components, take specific measurements, and make recommendations for repair. Safely operate and maintain equipment owned by the department.

## 116 Agricultural Careers \& Leadership 1 Sem 10-12 0.5

Thousands of animals, plants, food science, natural resources and technology-related jobs are waiting for you. If you want to learn more about agriculture careers and increase your leadership skills, this class is for you. In this fun, active class, you will practice leadership and speaking skills and experience guest speakers, field trips, and job shadow opportunities.
*Prerequisite: Plants, Animals, Food \& More

## 118 Natural Resources and Sustainability 1 yr $\quad 10-12 \quad 1.0$

Explore the interrelationships between ecosystems and humans through studying land, water, and air. Concepts include current issues associated with laws/regulations, habitats, forestry, weather, conservation, preservation, and natural resources.

119 Farm to Fork 1 Sem 10-12 0.5
Students will learn about a variety of healthy, locally-grown crops. Topics may include creating healthy soil, growing healthy food, sustainability, delivering food to our Culinary Arts and food service programs, and agriculture-related career exploration. Community speakers and field trips will add to the curriculum. Expect a fun, active class that teaches you leadership, public speaking, where your food comes from, how to eat healthy, and an understanding of Farm to Fork Sustainable Agriculture.
*Prerequisite: Plants, Animals, Food \& More

## 448 © Environmental Sustainability $\quad 1 \mathrm{yr} \quad 10-12 \quad 1.0$

The growing market for jobs in biological engineering is playing a central role in energy and agricultural sustainability solutions. The Biological Engineering course develops students' thinking skills and prepares them for emerging careers through topics such as genetic engineering, bio-fuels, and bio-manufacturing.
Prerequisite: Biology or Acc. Biology
ART

| Course |  |  |  |  |  |  |  |  |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| Sem | 0.5 | Art Fundamentals | 311 | x | x | x | x |  |
| Sem | 0.5 | Drawing and Painting 1 | 312 | x | x | x | x |  |
| Sem | 0.5 | Drawing and Painting 2 | 313 |  | x | x | x |  |
| Sem | 0.5 | Printmaking | 314 |  | x | x | x | x |
| Sem | 0.5 | Sculpture | 315 | x | x | x | x |  |
| Sem | 0.5 | Ceramics | 316 | x | x | x | x | x |

## 311 Art Fundamentals

1 sem 9-12 0.5
This introductory course provides a general background in two-dimensional and three-dimensional art. This is an appropriate course for those uncertain of their art skills, but have a genuine interest in exploring art as a form of creative expression. Drawing, painting, printmaking, sculpture and design will be explored.
*Prerequisite: None

## 312 Drawing \& Painting I

1 sem 9-12 0.5
This course will provide students with the opportunity to learn about design principles through drawing and painting. Students will explore and start to develop a personal style while experimenting with various media such as pencil, charcoal, colored pencil, pastel, watercolor and acrylic.
*Prerequisite: Art Fundamentals

## 313 Drawing \& Painting II 1 sem $10-12 \quad 0.5$

This course offers an in-depth approach to techniques and processes related to drawing and painting. Students will conceptualize ideas for complex compositions based on the elements and principles of design. Advanced media, subject matter and techniques will be explored. Composition, personal expression and the development of a personal style will be stressed.
*Prerequisite: Art Fundamentals and Drawing \& Painting 1(with no lower than a B in Draw \& Painting 1)

## 314 Printmaking <br> 1 sem 10-12 0.5

This course will offer students the opportunity to express themselves by using their designs and drawings as multiple prints on paper. The techniques of relief, monotype, woodcut, softcut, collography and embossing will be explored. The history of printmaking as well as the study of past and present printmakers will also be an integral aspect of the course.
*Prerequisite: Art Fundamentals and Drawing \& Painting 1

## 315 Sculpture

1 sem 9-12 0.5
Students will explore, in-depth, the creative possibilities of assemblage, papier mache, plaster and found materials while experimenting with techniques and processes unique to each medium.
*Prerequisite: Art Fundamentals

## 316 Ceramics

1 sem 9-12 0.5
Students will explore the creative possibilities of clay. Hand building will be the emphasis while exploring various ceramic techniques, developing a personal style and creating a unique, cohesive body of work.
*Prerequisite: Art Fundamentals or Teacher Consent

## BUSINESS EDUCATION

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sem | 0.5 | Information Processing 1 | 2111 | x | x | x | x |  |
| Sem | 0.5 | CComputer Applications 1 \& 2 | 2115 | x | x | x | x |  |
| Year | 1.0 | CAccounting 1 TC | 243 |  | x | x | x |  |
| Year | 1.0 | ©Accounting 2 TC | 245 |  |  | x | x |  |
| Year | 1.0 | ©Accounting 3 | 246 |  |  |  | x | x |
| Sem | 0.5 | ©Business Law TC | 249 |  | x | x | x | x |
| Sem | 0.5 | Management and Leadership | 250 |  | x | x | x |  |
| Sem | 0.5 | Principles of Business | 251 | x | x | x | x |  |
| Sem | 0.5 | The Global Marketplace G | 252 | x | x | x | x |  |
| Sem | 0.5 | ©Principles of Marketing TC | 253 |  | x | x | x |  |
| Sem | 0.5 | Personal Finances | 2350 |  |  | x | x |  |

## 2111 Information Processing $1 \quad 1$ sem. 9-12 0.5

In this course students will learn how to use tools that are available to them for word processing, publishing, and spreadsheet applications including Microsoft Office software and Web-based tools. Students will review different tools used for information processing and examine how businesses integrate people and technology to facilitate the processing of data into useful information for communication.

## *2115 ©Computer Applications $\mathbf{1 \& 2} \quad 1$ sem. 9-12 0.5

Computer Applications 1: This course provides students who have a background in keyboarding concepts an opportunity to apply their skills on the computer. Students will be allowed to choose from a variety of software packages. These include: Microsoft Word, Excel, Access, PowerPoint, and Publisher. Students will have the opportunity to test for Microsoft Office Specialist (MOS) Industry Certification with no fee.
Computer Applications 2: This course provides students an opportunity to complete work on software packages not completed in Computer Apps 1
Career options: These software packages are commonly used in business and at colleges today. Therefore, this course is recommended for college-bound students as well as those entering the work force.
*Students earning a B or better in this course will be granted the following advanced standing credits at LTC based on the software units they complete during the semester (2 units are required in a semester). There is no fee for these credits.
Completed Word - 2 credits for LTC Word 2013 Level 1\&2
Completed Excel - 2 credits for LTC Excel 2013 Level 1\&2
Completed PowerPoint - 2 credits for LTC PowerPoint 2013 Level $1 \& 2$
Completed Access - 1 credit for LTC Access 2013 Level 1

## 243 ©Accounting 1 TC

1 yr. 10-12 1.0
This course provides an understanding of the basic elements and concepts of double entry accounting systems. Activities include: the accounting equation, the accounting cycle, entering transactions in journals, posting to ledgers, end-of-period statements, banking activities, and payroll. Students will complete a business simulation as the "accountant" for a business and have computer experience with automated accounting projects.
Students earning a B or better in this course will be granted 3 transcripted credits for Office Accounting at Lakeshore Technical College. There is no fee for these credits.
Career options: Recommended for any college-bound student entering a business-related major or for those seeking employment in business.

Provides in-depth knowledge of accounting procedures utilized in solving business problems and making financial decisions. Students will learn how computers and accounting software help manage, store, calculate, post, retrieve, analyze, and print accounting information as well as prepare financial reports. Students will become familiar with the use of business papers, forms, and reports involved in keeping financial records and develop skills to analyze and interpret information common to partnerships and corporations.
Prerequisite: Accounting 1
Students earning a B or better in this course will be granted 4 transcripted credits for Accounting 1 at Lakeshore Technical College. There is no fee for these credits. Career options: financial adviser, banking

## 246 ©Accounting 3

1 yr . 121.0
This course includes an emphasis on analyzing financial data in order to recommend a course of action. An automated accounting software simulation will be completed, and cost and managerial accounting will be introduced.
Prerequisite: Accounting 2
Career options: certified public accountant, auditor

## 249 © Business Law TC

1 sem. 10-12 0.5
This course is designed to acquaint students with basic legal principles. Students will gain a better understanding of their rights and responsibilities as applied in everyday matters. Included in the course of study is criminal terms and procedures, contracts, lawsuits, special laws for minors, consumer rights, employer and employee rights and duties, wills, inheritance and other related business topics. Students will analyze case studies, intensively research legal cases using the web and debate legal issues.

Students earning a B or better in this course will be granted 3 transcripted credits for Business Law 1 at Lakeshore Technical College. There is no fee for these credits.

## 250 Management and Leadership 1 sem. 10-12

This course prepares students to meet the challenges of leadership in today's complex global business environment. Students learn to apply the business management principles of planning, organizing, staffing, leading and controlling. The course is project based. Through simulations and case studies students will be able to apply the information and knowledge that they acquire.
Principles of Business recommended prior to taking this course.

## 251 Principles of Business

1 sem. 9-12 0.5
Principles of Business, a project-based business course, develops student understanding and skills in such areas as economics, entrepreneurship, business management, marketing, human resource management, finance, and the understanding the global economy. Through the use of projects, students acquire an understanding and appreciation of the business world. Current technology will be used to acquire information and to complete the projects. Throughout the course, students are presented problem-solving situations for which they must apply academic and critical-thinking skills.

## 252 The Global Marketplace G 1 sem. 9-12 0.5

In The Global Marketplace, a project-based business course, students expand their understanding that businesses are influenced by worldwide factors. International business commands center stage in today's global economy. Consumer spending, government policies, economic conditions, legal issues, and global competition are addressed through practical, current applications to everyday societal and business life. Throughout the course, students will be presented with current economic problems for which they are asked to determine possible solutions.

## 253 ©Principles of Marketing TC $\quad 1$ sem $\begin{array}{llll}10-12 & 0.5\end{array}$

This class is a project-based business course that develops student understanding and skills in the functional areas of marketing: promotion, selling merchandising, customer service and business fundamentals. Students will acquire an understanding and appreciation of each of the marketing functions and their ethical and legal issues.

Students earning a B or better in this course will be granted 3 transcripted credits for Principles of Marketing at Lakeshore Technical College. There is no fee for these credits.

```
2350 Personal Finances 1 sem. 11-12 0.5 REQUIRED FOR GRADUATION
```

The objective of this course is to help students develop their ability to make personal financial decisions and become wise earners, spenders, and savers. This course will help students identify personal financial goals, develop strategies for career choices, organize and manage money, review consumer purchasing and protection, consider banking options, learn to manage credit, explore buy vs. lease for housing and automotive needs, consider investment choices for savings and retirement, plan a tax strategy, and cover insurance options. Many assessments will involve hands-on experiences including research, media and computer simulations.
(Classes that also fill this requirement are 929 JA Ecomonics \& Personal Finance, 950 AP Microeconomics, or 951 AP Macroeconomics)

Youth Apprenticeships available to interested students.<br>Business Finance YA<br>Please see page 45 for more information on the PHS Youth Apprenticeship Program

## ENGLISH

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | English 1 | 501 | x |  |  |  |  |
| Year | 1.0 | CAccelerated English 1 | 511 | x |  |  |  |  |
| Year | 1.0 | English 2 | 502 |  | x |  |  |  |
| Year | 1.0 | ©Accelerated English 2 | 512 |  | x |  |  |  |
| Year | 0.5 | Applied Communications (Auto Tech.) | $506(464)$ |  |  |  | x |  |
| Year | 2.0 | Composition and Natural Sciences | $540(840)$ |  |  | x | x | x |
| Sem | 0.5 | Creative Writing | 542 |  |  | x | x | x |
| Sem | 0.5 | ©Advanced Composition 2 TC (Lakeland) | 543 |  |  |  | x |  |
| Year | 1.0 | English Hi-Lights 1 | 547 | x | x | x | x | x |
| Year | 1.0 | English Hi-Lights 2 | 548 |  | x | x | x |  |
| Year | 1.0 | Literature and Composition | 560 |  |  | x | x |  |
| Year | 1.0 | CAccelerated American Literature \& Composition | 581 |  |  | x |  | x |
| Sem | 0.5 | Composition \& Cultural Analysis | 605 |  |  | x | x |  |
| Sem | 0.5 | ©British Literature TC (Lakeland) G | 611 |  |  |  | x |  |
| Sem | 0.5 | Contemporary Literature \& Composition | 620 |  |  |  | x | x |
| Sem | 0.5 | Public Speaking | 630 |  |  | x | x |  |
| Sem | 0.5 | Drama 1 | 635 |  |  | x | x |  |
| Sem | 0.5 | Drama 2 \& 3 | 636 |  |  | x | x |  |
| Sem | 0.5 | Mechanics of Composition | 643 |  |  | x |  | x |
| Sem | 0.5 | Theatre Design and Technology | 9603 |  |  | x | x |  |

## NOTE: Check with instructor or counselor for verification of college prep credit for English classes.

## 501 English 1

1 yr. 91.0
This required course in the freshman year is a combination of grammar, composition, speaking, and literature (novels, short stories, poetry, and drama). Failure of any semester will require the student to repeat that semester.

## 511 ©Accelerated English 1 <br> 1 yr. 91.0

This is the accelerated class of freshman English. It is devoted to a combination of grammar, composition, literature, and speaking at an advanced pace/level. Accelerated and Advanced courses are substantially faster paced, include highly challenging texts, and cover rigorous curriculum in both depth and breadth that necessitates students perform independently and self-advocate to achieve the highest level of learning.

## 502 English 2

1 yr. $10 \quad 1.0$
This required course in the sophomore year is divided into basic sections. One semester is devoted to communication skills with emphasis on various informative speeches, paragraph and theme writing, and grammar. The other semester is concerned with reading various forms of literature. Writing is also emphasized. Failure in any semester will require the student to repeat that semester.

## 512 ©Accelerated English 2

1 yr. $10 \quad 1.0$
This class is the accelerated version of 502. Included are composition, speech, and literature. Accelerated and Advanced courses are substantially faster paced, include highly challenging texts, and cover rigorous curriculum in both depth and breadth that necessitates students perform independently and self-advocate to achieve the highest level of learning.

506/464 Applied Communications/Auto Tech 1 yr. 120.5
Seniors in auto tech (464) will receive 0.5 English credit for the year. Communications skills will be taught using materials for those highly interested in auto technology. The class centers around four major projects that largely focus on clearly conveying specialized automobile knowledge to the average person. Learning takes place as part of the two periods of the auto tech class.
Pre-requisite: 462 Basic Auto Maintenance Students must take both 464 and 506.

540 (840) Composition and Natural Sciences 1 yr. 11-12 2.0
Central question: How can I make a positive difference in our environment? How can I reduce my negative impact on Earth?
Study this lab science and composition course while improving communication skills in writing, speech, reading, and technology.
Prepare for the complex and technical field of the natural sciences. Topics will include space science, earth history, weather, climate change and the human impact on our earth. Questioning, communication, and hands-on learning will be emphasized. Students will refine their editing and writing skills through workshops with peers and instructors and analyze primarily nonfiction articles and research.
Students will design their own inquiry project, testing and creating a final impact project to benefit a community. This is an integrated
course with 840 Natural Sciences. Students must sign up for both classes.
1 Lab Science credit and 1 English credit
Prerequisites: English 1 and II, Biology
Co-taught by Science and English teachers. Full-year block course.

## 542 Creative Writing $\quad 1$ sem $11-12 \quad 0.5$

Creative Writing is a course for seniors with a passion for all kinds of writing. The course is intended for those who write as a creative outlet and wish to write for pleasure and /or profit in the future. Students in this course will develop writing and language skills for creative expression in literary forms including short stories, personal narratives, and poems.

543 ©Advanced Composition 2 (Lakeland) Sem. 120.5
This rigorous composition class is recommended for college-bound students. This advanced composition course for college credit prepares students to become highly skilled writers. Students will develop well-crafted, powerful thesis driven essays through constant revision.Accelerated and Advanced courses are substantially faster paced, include highly challenging texts, and cover rigorous curriculum in both depth and breadth that necessitates students perform independently and self-advocate to achieve the highest level of learning.

## Pre-requisite: Requires 3.5 English GPA

## 547 English Hi-Lights 1

1 yr. 9-12 1.0
This class focuses on building writing and desktop publishing skills to prepare students for Hi-Lights II, the workshop-style class that creates Li-Lights, the Plymouth High School student newspaper. In addition to gaining experience in writing news, feature, opinion, review, and sports stories, students will learn elements of page layout and design, photography basics, business management skills, graphic design skills and editing techniques.
Career options: Journalism/Broadcast Journalism, Publishing

## 548 English Hi-Lights $2 \quad 1$ yr. $10-12 \quad 1.0$

After successful completion of English Hi-Lights I, students may be admitted to English Hi-Lights II, in which the newspaper, Hi-Lights, is published. In a student-led, teamwork based work environment, students will continue to develop the skills which they acquired in $\mathrm{H}-\mathrm{L}$ I. The course offers leadership opportunities in the form of editor and team leader roles.

Prerequisite: English Hi-Lights I
Career options: Photo Journalism, Magazine Publishing

## 560 Literature and Composition $\quad 1 \mathrm{yr}$. $11-12 \quad 1.0$

This course, recommended for students on the post-secondary path, explores a unifying theme from colonialism through the twentieth century. A wide selection of authors such as Benjamin Franklin, Nathaniel Hawthorne, Mark Twain, and F. Scott Fitzgerald, to name a few, will be read throughout the course. Composition will focus on idea development, organization, sentence fluency, word choice, and mechanics.
Prerequiste: English 1 and English 2

## 581 ©Accelerated American Lit \& Comp 1 yr. 111.0

This junior level class is designed to provide the most difficult and challenging English program for selected college bound participants. In literature, the class reads and studies the various literary forms, discussing authors, historical periods, themes, etc. Themes include comparison/contrast, character sketches, character analysis, personal narratives, creative writing, etc. Oral work includes role playing, oral interpretation, oral reports, etc. Composition includes grammar review, expository, descriptive, persuasive types of writing, and writing a term paper. Accelerated and Advanced courses are substantially faster paced, include highly challenging texts, and cover rigorous curriculum in both depth and breadth that necessitates students perform independently and self-advocate to achieve the highest level of learning.

## 605 Composition \& Cultural Analysis 1 sem. 11-12 0.5

Students will study the importance of mass media in modern life at the local, national, and global levels. By recognizing the impact of mass media messages, students will prepare for their roles as informed and engaged citizens. They will use media literacy and communication skills to become writers, speakers, and media producers who address content issues and the impact of mass communication while becoming knowledgeable consumers of mass media information.

611 ©British Literature TC (Lakeland) G $\quad 1$ sem. $12 \quad 0.5$
This class is recommended for college-bound students. This course introduces the works of British literature from the Anglo-Saxon period through the Restoration period and looks both at authors and the historical contexts of their works. Students may receive college as well as high school credit for this course. (3.50 English GPA required or teacher approval). Accelerated and Advanced courses are substantially faster paced, include highly challenging texts, and cover rigorous curriculum in both depth and breadth that necessitates students perform independently and self-advocate to achieve the highest level of learning.

Pre-requisite: British Literature now requires 3.5 English GPA

## 620 Contemporary Literature \& Composition 1 sem. $12 \quad 0.5$

This course, designed for the college-bound student, examines contemporary themes in society through novels, short stories, and films. Loss of innocence, individual rights and responsibilities, the Black movement, the women's movement, the role of science fiction, and the new frontiers in society are just some of the ideas explored. Students have some choices about the movement and direction of the class. Novels and/or movies are included in the class.

## 630 Public Speaking <br> 1 sem. 11-12 0.5

The course goal is to provide a wide range of experiences in order to develop effective communication skills appropriate to a range of situations, purposes, audiences, forms, and styles. Skills to be examined include verbal and non-verbal communication, persuasive communication, group discussion, public speaking, and language control.

## 635 Drama 1 <br> 1 sem. 11-12 0.5

The goal of this class is to provide students with an opportunity to express themselves in a performance environment, to practice interpretive movement for stage and presentation, to practice vocal interpretation for stage and life situations, and to practice interpretation of literary characters, scenes, and plays.
Students will also have an opportunity to explore the elements of theatre, production design, and theatre history.

## 636 Drama 2 \& 3

1 sem. 11-12 0.5
The Drama II/III class is an Advanced Acting class that offers students a more accelerated pace than that of the Drama I class. The class has been created to offer the serious student of drama an opportunity to study and develop his or her acting and/or theatre production skills. Students will concentrate on further developing their vocal, movement, and acting skills, while also analyzing plays, developing characters, and working on scenes. The elements of theatre, production design, and theatre history will continue to be studied in greater detail. The group will prepare and produce at least two performances for the public. Because the performance components of the course are different each semester, students may take Drama II during their junior year, and then return to take Drama III during their senior year. Both groups of students work together during the same class period.

## PLEASE NOTE: Students with previous drama experience may bypass the Drama 1 course and start with the Drama II course, but prior approval from the instructor is required.

Students may use only one semester of a Drama Class for a $1 / 2$ credit English graduation requirement; however, not all upper level institutions recognize the drama classes as accredited English credits. Taking additional Drama classes is equivalent to taking additional elective courses.

## 643 Mechanics of Composition <br> 1 sem. 110.5

This is a junior level English course that focuses on building student writing skills to prepare them for the rigorous writing expected after high school. A student enrolled in this course feels that his/her writing skills need further development. The class focuses on the basics of writing within the context of a students' future career and /or schooling goals. Students should be prepared to spend the majority of their time writing.

The Theatre Design and Technology course will be facilitated by a Drama Certified Teacher and collaboratively taught by theatre professionals who specialize in the areas of lighting, sound, sets, props, makeup, and costume design and construction. The course will be offered to juniors and seniors during the second semester so that enrolled students will have the opportunity to engage in hands-on activities related to the annual spring musical production and other theatrical productions held on the stage and/or in the PHS Amphitheatre. Students who enroll in the Theatre Design and Technology class should be prepared to participate in and attend evening and weekend rehearsals for PHS performances. This is an elective credit, not an English credit.

## FAMILY AND CONSUMER SCIENCE

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sem | 0.5 | Culinary Arts 1 (Basic Chef Skills) | 129 | x | x | x | x |  |
| Sem | 0.5 | Culinary Arts 2 (Pastry Chef/Bake Shop) | 1290 | x | x | x | x |  |
| Sem | 0.5 | Culinary Arts 3 (Catering \& Careers) | 1291 |  | x | x | x | x |
| Sem | 0.5 | Culinary Arts 4 (World/Internat'l Food Exploration) G | 1292 |  | x | x | x | x |
| Year | 1.0 | ©Advanced Culinary Arts I (ProStart year 1) | 1293 |  |  | x | x | x |
| Year | 1.0 | ©Advanced Culinary Arts II (ProStart year II) | 1294 |  |  |  | x | x |
| Year | 1.0 | Food Science | 130 |  | x | x | x | x |
| Year | 1.0 | ©Advanced Food Science | 131 |  |  | x | x |  |
| Sem | 0.5 | Human Growth | 137 |  | x | x | x |  |
| Sem | 0.5 | Youth Services | 138 |  |  | x | x |  |



## Family-Personal Area

## 137 Human Growth

1 sem. 10-12 0.5
Students will examine all aspects of human growth and the factors that influence the development of children. The main units of study include: physical, intellectual and social-emotional development of children (infants, toddlers, \& preschoolers), nurture vs. nature, exceptional children, fetal development, pregnancy, and birthing process. Activities include: guest speakers, projects, field trips, and multi-media learning.
Career options: education, child care

## General Studies Area

## 138 Youth Services

1 sem. 11-12 0.5
This class will study working with people of all ages, ranging from child care to the elderly, and will include volunteer work in the community. It will emphasize skills for applying and entering the job market, and would be valuable for those interested in social work, nursing, health care or any jobs working with people.
Career options: education, health care, volunteerism

## Culinary Arts and Applied Sciences

Culinary Arts courses apply industry standards and a professional focus in all areas. Students will obtain the skills and knowledge necessary for higher-level employment in the Restaurant and Food Service Industry, and/or receive advanced placement in post high school culinary art and hospitality programs. (Courses will continue to satisfy student's curiosity and interest for personal skills and application.)
We are connected with the National Restaurant Association Education Foundation's ProStart Program.
The ProStart Program is a two-year industry based program that prepares students for careers in the restaurant and foodservice industry. Students gain valuable restaurant and foodservice skills through their academic and workplace experiences.
Whether students are looking to enter the job market or are making plans for college, the ProStart Program is a great first step. Students are hired for internships by qualified foodservice operations. There they receive firsthand training from worksite mentors. Back in the classroom, lessons and activities come alive as students make real world connections.
Requirements for the complete program include:
*2 year High School Curriculum (Culinary Arts, \& Hospitality I \& II \& Pre-requisite courses)
*400 mentored work hours with completed Competencies
*Passing Year 1 and Year 2 National Restaurant Exams
Opportunities include: ServSafe Certification, Scholarships, College Credits, and LTC Customer Service Certification

129 Culinary Arts 1 (Basic Chef Skills Course) 1 sem. 9-12 .5
Concentrates on nutrition, eating habits, consumer awareness, safety and sanitation, and preparation methods as applied to various components of a meal. Units covered include safety and sanitation, knife skills, kitchen basics, vegetables and fruits, salads and dressings, sandwiches, soups, grains, dairy products, and eggs. This course will emphasize both professional and personal application.

1290 Culinary Arts 2 (Pastry Chef/Bake Shop) 1 sem 9-12 . 5
This course focuses on baking fundamentals that cover essential information and skills needed for professional and personal career application. Units covered include safety and sanitation, using recipes and equipment, bakeshop ingredients, quick breads, yeast breads, pies/pastries, cookies, and cakes.

1291 Culinary Arts 3 (Catering \& Careers) 1 sem 10-12 . 5
This course will focus on food production and food related careers with hands-on application. The units include: catering, plate presentation, herbs and spices, professional chef, personal chef, research chef, and hospitality manager. Prerequisites: Culinary Arts $1 \& 2$

## 1292 Culinary Arts 4 G

1 sem. 10-12 .5
(World/International Food Exploration)
Areas of study would include regional cuisine of the U.S., International cuisine, and related professional career application.
Prerequisite: Culinary Arts $1 \& 2$

## 1293 ©Advanced Culinary Arts I $\quad 1 \mathrm{yr}$ 11-12 1.0

## (ProStart year I)

This course is open to any student with a culinary interest. The ProStart curriculum links classroom learning with on the job training through the NRAEF (National Restaurant Association Educational Foundation) program. Units covered include customer relations, preparing and serving safe food, preventing accidents and injuries, kitchen basics, food service equipment, nutrition, breakfast foods and sandwiches, working with people, salads and garnishes, business math, fruits and vegetables, and controlling food service cost. Students can also become ServSafe certified. NRAEF skills test completes year I program.
Prerequisite: Culinary Arts $1 \& 2 \& 3$ or 4 (Requires 3 Semesters of Culinary Arts)

## 1294 ©Advanced Culinary Arts II

1 yr. 121.0

## (ProStart year II)

Units covered include history of foodservice, potatoes and grains, lodging industry overview, art of science, desserts and baked goods, marketing and the menu, purchasing and inventory control, meat, poultry, seafood, standard accounting practices, stocks, soups, sauces, tourism and the retail industry, and communicating with customers. NRAEF skills test completes year II program.
Prerequisite: 1293
Upon successful completion of ProStart I and ProStart II students will be prepared for higher-level career opportunities or advanced placement in post high school programs in Culinary Arts and Hospitality. New this year, students successfully completing this course have the option to earn 2 LTC credits (LTC course: Product Identification and Purchasing).

## 130 Food Science <br> 1 yr. 10-12 1.0

This year-long food science course relates scientific principles to food science and safety. It provides hands-on activities for students to observe the application of science used in the development, preservation, and production of our food products. Current information about food science careers and options for careers within the food industry will be integrated into the course. This course contains both food experiments and food lab activities.
Prerequisites: 1 Science course and Culinary Arts 1 or 2
Food Science can be counted as a 1 credit science elective for Plymouth High School graduation.

## 131 Advanced Food Science $\quad 1 \mathrm{yr} \quad 11-12 \quad 1.0$

This year-long food science course is a continuation of Food Science. Additional units may include microbiology, vitamins, minerals, fermentation, preservation and packaging with an emphasis on food safety. It provides hands-on activities for students to observe the application of science used in the development, preservation and production of food products.
*Prerequisite: Food Science - (Exceptions may be granted upon instructor approval)
Advanced Food Science can be counted as a 1 credit science elective for Plymouth High School graduation.

## Youth Apprenticeships available to interested students. Culinary Arts YA <br> Hospitality \& Tourism YA <br> Please see page 45 for more information on the PHS Youth Apprenticeship Programs.

## INTERDISCIPLINARY STUDIES

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite/Co-req |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | Quit Qui Oc | 436 |  | x | x | x |  |
| Year | $1.0 *$ | Intro Computer Programming | $765 \mathrm{~A} / 765 \mathrm{~B}$ |  | x | x | x |  |
| Sem | 0.5 | Global Studies | 9600 |  |  | x | x |  |
| Sem | 0.5 | CIntro to Education | 9602 |  |  | x | x |  |
| Sem | 0.5 | Theatre Design and Technology | 9603 |  |  | x | x |  |

## *Semester 1- 0.5 elective credits, Semester 2- 0.5 math credits <br> **Co-requisite: Must sign up for both 765A and 765B

## 436 Quit Qui Oc <br> 1 yr. 10-12 1.0

Quit Qui Oc is a product-based class. The students will produce a 187 page full color yearbook for 600 customers. The students will learn photography basics, Photoshop, the on line yearbook program (Jostens Yearbook Avenue), and layout design. Students will be required to meet every deadline strictly. All work is time sensitive because of the publishing demands from Jostens to ensure the yearbook is delivered on time. The staff is responsible for raising the cost of the publishing of the yearbook $(\$ 44,000)$ through yearbook sales, senior baby ad sales and business ad sales. The staff is also responsible for the delivery of the yearbooks.

765A/765B Introduction to Computer Programming $\quad 1$ yr. 10-12 1.0
This course is recommended for students who are interested in technology and how a computer runs. Students will use a variety of software to create computer programs ranging from games to apps. A study of the computer along with its parts, history, and effect on society will be included.
Pre-requisite: Algebra I or Algebra I Extended
Note: This is a yearlong course. Students are required to sign up for both 765A (semester1) and 765B (semester 2) and will receive 0.5 elective credits upon successful completion of semester 1 and 0.5 math credits upon successful completion of semester 2.

9600 Global Studies $\quad \mathbf{G} \quad$ Sem. $11-12 \quad 0.5$
This Social Studies elective class introduces students to a wider knowledge of the world. The units will provide students with a framework for analyzing and understanding historical and contemporary global issues and for evaluating the role of the individual and the United States in an interdependent world. Through a variety of topics, the students will develop critical thinking, analytical, and problem solving skills focused on expanding their global perspective. The Global Studies course will be taught by teachers from varying subjects. Students will earn Social Studies elective credit.

## 9602 © Introduction to Education 1 Sem. 11-12 . 05

This course provides an introductory experience and a broad perspective of teaching as a profession. Students will study contemporary issues and examine the challenges and rewards of working in education through a hands-on practical classroom experience. Concepts explored will include a historical perspective on education in America, gender differences, multicultural education and diversity, legislation, lesson planning, planning for instruction, and classroom management. Students will discover their own thinking styles and learn about multiple intelligences and learning differences. Students will become familiar with fundamental practices of teaching, and vocabularies and theories surrounding education.

9603 Theatre Design and Technology 1 sem. 11-12 or Instructor Consent 0.5
The Theatre Design and Technology course will be facilitated by a Drama Certified Teacher and collaboratively taught by theatre professionals who specialize in the areas of lighting, sound, sets, props, makeup, and costume design and construction. The course will be offered to juniors and seniors during the second semester so that enrolled students will have the opportunity to engage in hands-on activities related to the annual spring musical production and other theatrical productions held on the stage and/or in the PHS Amphitheatre. Students who enroll in the Theatre Design and Technology class should be prepared to participate in and attend evening and weekend rehearsals for PHS performances. This is an elective credit, not an English credit.

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre- <br> requisite/Co- <br> requisite |
| :--- | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | Algebra 1 | 723 | x |  |  |  |  |
| Year | 1.0 | Algebra 1 Extended | 723 E | x |  |  |  |  |
| Year | 0.5 | Algebra 1 Extended Practice | 723 EP | x |  |  |  |  |
| Year | 1.0 | ©Accelerated Geometry | 731 | x | x |  |  | x |
| Year | 1.0 | Geometry | 733 |  | x | x | x |  |
| Year | 1.0 | Applied Geometry | 734 |  | x | x | x | x |
| Year | 1.0 | ©Accelerated Algebra 2 | 751 |  | x | x | x | x |
| Year | 1.0 | Algebra 2 | 753 |  | x | x | x | x |
| Year | 0.5 | Algebra 2 Extended Practice | 753 EP |  | x | x | x |  |
| Year | $1.0^{*}$ | Intro Computer Programming | $765 \mathrm{~A} / 765 \mathrm{~B}$ |  | x | x | x | $\mathrm{x} / * *$ |
| Year | 1.0 | ©Accelerated Pre-Calculus (Lakeland University) | 781 |  |  | x | x | x |
| Year | 1.0 | Pre-Calculus | 783 |  |  | x | x | x |
| Sem. | 0.5 | © College Technical Mathematics 1A (LTC) | 784 |  |  | x | x | x |
| Sem. | 0.5 | © College Technical Mathematics 1B (LTC) | 785 |  |  | x | x | x |
| Year | 1.0 | ©Acc. Calculus \& Analytic Geometry (Lakeland) | 791 |  |  | x | x | x |

## *Semester 1- 0.5 elective credits, Semester 2- 0.5 math credits

**Co-requisite: Must sign up for both 765A and 765B


## 723 Algebra 1 <br> 1 year grade: $9 \quad 1.0$ credits

Algebra 1 is a course designed as a first math course for all students entering high school who have reached levels of proficiency in their basic arithmetic skills. The main emphasis of this course is to develop and enhance algebraic thinking. Topics will include working with and manipulating variables and variable expressions, representing and solving for solutions to linear equations and functions, linear inequalities, quadratic equations and functions, and systems of equations.
A Scientific Calculator with a fraction key is required.

## 723E Algebra 1 Extended* 1 year grade: $9 \quad 1.0$ credits

Algebra 1 Extended is a course designed for students who may benefit from extended instructional time and practice. Algebra 1 Extended is comprised of the same topics as 723 Algebra 1. The combination of 723E Algebra 1 Extended and 723EP Algebra 1 Extended Practice will provide 1.5 periods of daily math instruction and practice.
*Students electing to enroll in 723E Algebra 1 Extended must also be enrolled in 723EP Algebra 1 Extended Practice. Students successfully completing $723 E$ \& $723 E P$ will earn 1.5 math credits.
A Scientific Calculator with a fraction key is required.

## 723EP Algebra 1 Extended Practice** 1 year grade: $9 \quad 0.5$ credits

Algebra 1 Extended Practice is the extension of and is taken consecutively with 723E Algebra 1 Extended. The combination of 723E Algebra 1 Extended and 723EP Algebra 1 Extended Practice will provide 1.5 periods of daily math instruction and practice.
**Students electing to enroll in 723EP Algebra 1 Extended Practice must also be enrolled in 723E Algebra 1 Extended.
Students successsfully completing 723E \& 723EP will earn 1.5 math credits.

## 731 ©Accelerated Geometry

1 year grade: 9-10 $\quad 1.0$ credits
Accelerated Geometry is a course designed for mathematically accelerated students. Accelerated Geometry course is comprised of the same topics as the 733 Geometry course. Accelerated courses are substantially faster paced, require heightened expectations of student performance, include highly challenging extensions, and cover more comprehensive curriculum that necessitates students perform independently and self-advocate to achieve the highest level of learning.
A Scientific Calculator with a fraction key is required.
Prerequisite: Credit in 723 Algebra 1 plus qualify under the accelerated studies program.

## 733 Geometry 1 year grade: $10-12 \quad 1.0$ credits

Geometry is a course designed for all high school students. In this course emphasis is on units involving reasoning, points-lines-planes, angles, triangles, trigonometry, quadrilaterals, polygons, circles, area \& perimeter/circumference, and three dimensional shapes.
Reasoning skills are developed through formal and informal proofs. (This course is recognized by colleges and universities.)
A Scientific Calculator with a fraction key is required.
Prerequisite: Credit in 723 Algebra 1 or 723E Algebra 1 Extended

## 734 Applied Geometry 1 year grade: 10-12 1.0 credit

Applied Geometry is designed for the student interested in exploring topics in geometry with an emphasis on projects, hands on learning, and application. Course topics include: points-lines-planes, angles, triangles, trigonometry, quadrilaterals, polygons, circles, area \& perimeter/circumference, and three dimensional shapes.
A Scientific Calculator with a fraction key is required.
Prerequisite: Credit in 723 Algebra 1 or 723E Algebra 1 Extended

## 751 ©Accelerated Algebra 2

1 year grade: 10-12 $\quad 1.0$ credits
This course is designed for mathematically accelerated students that have completed 723 Algebra 1 (completion of 731 Accelerated Geometry or 733 Geometry is also recommended). Accelerated Algebra2 with Trigonometry course is comprised of the same topics as the 753 Algebra 2 course. Accelerated courses are substantially faster paced, require heightened expectations of student performance, include highly challenging extensions, and cover more comprehensive curriculum that necessitates students perform independently and self-advocate to achieve the highest level of learning.
A Scientific Calculator with a fraction key is required.
Prerequisite: Credit in 723 Algebra 1 plus qualify under the accelerated studies program.

## 753 Algebra 2 <br> 1 year grade: 10-12 1.0 credit

This course is designed as an Advanced Algebra course for all students who have completed 723 Algebra 1 (completion of 731
Accelerated Geometry or 733 Geometry is also recommended). Students explore and model a variety of functions and their inverses to gain knowledge of many areas required in the pursuit of post-secondary education. Areas of focus include linear, quadratic, exponential and trigonometric functions. Additional topics include circles, sequences and series, and probability theory.
A scientific calculator with a fraction key is required.
Prerequisite: Credit in 723 Algebra 1 or $723 E$ Algebra 1 Extended
Credit in 731 Accelerated Geometry, 733 Geometry, or 733E Geometry Extended is recommended

753EP Algebra 2 Extended Practice** 1 year grade: 10-12 0.5 Elective credits
Algebra 2 Extended Practice is the extension of and is taken consecutively with 753 Algebra 2. The combination of 753 Algebra 2 and 753EP Algebra 2 Extended Practice will provide 1.5 periods of daily math instruction and practice.
**Students electing to enroll in 753EP Algebra 2 Extended Practice must also be enrolled in 753 Algebra 2.

## Students successfully completing 753 \& 753EP will earn 1 math credit and 0.5 elective credit.

765 Introduction to Computer Programming $\quad 1$ yr. 10-12 1.0
This course is recommended for students who are interested in technology and how a computer runs. Students will use a variety of software to create computer programs ranging from games to apps. A study of the computer along with its parts, history, and effect on society will be included.
Pre-requisite: Algebra I or Algebra I Extended
Note: This is a yearlong course. Students are required to sign up for both 765A (semester1) and 765B (semester 2) and will receive 0.5 elective credits upon successful completion of semester 1 and 0.5 math credits upon successful completion of semester 2 .

## 781 © Accelerated Pre-Calculus (Lakeland University) 1 year grade: 11-12 $\quad 1.0$ credits

Accelerated Pre-Calculus is a course designed for mathematically accelerated students that have successfully completed 751 Accelerated Algebra 2 or 753 Algebra 2. This course is intended for college bound students desiring to increase their knowledge of upper level mathematical concepts. Accelerated Pre-Calculus (Lakeland University) course is comprised of the same topics as the 783 Pre-Calculus course. Accelerated courses are substantially faster paced, require heightened expectations of student performance, include highly challenging extensions, and cover more comprehensive curriculum that necessitates students perform independently and self-advocate to achieve the highest level of learning.

## A Graphing Calculator is recommended. (Recommend TI-84)

Prerequisite: Credit in 751 Accelerated Algebra 2 or 753 Algebra 2 plus qualify under the accelerated studies program.
Note: Students may take this class for three college credits through a program offered by Lakeland University. Students who wish to participate in this program must have earned a minimum grade of B- in 751 Acc. Algebra 2 or 753 Algebra 2, then successfully complete the course. The course fee is currently $\$ 270$ (non-refundable). The credits are transferable to most colleges and universities; however, students should seek advice of their counselor about specific schools. Lakeland registration is available online and fees must be paid to Lakeland University before Oct. 1.

## 783 Pre-Calculus

1 year grade: 11-12 1.0 credits
Pre-Calculus is a course designed for college bound students desiring to increase their knowledge of upper level mathematical concepts. This Course incorporates concepts from Geometry, Algebra 2, and an extensive amount of Trigonometry. Students explore a variety of introductory Calculus topics such as limits and graphs of Pre-Calculus level functions.
Prerequisite: Credit in 751 Accelerated Algebra 2 or 753 Algebra 2

## 784 © College Technical Mathematics 1A (LTC)

1 semester grade: 11-12 0.5 credits
College Technical Mathematics 1A is a course designed for technical college bound students and those interested in applied technical extensions of algebra and geometry. It is intended for students who have completed geometry (731 Acc. Geometry, 733 Geometry, or 734 Applied Geometry). This course follows the course outcomes required by Lakeshore Technical College. Topics include: solving linear equations, graphing, percent, proportions, measurement systems, computational geometry, and right triangle trigonometry.
Emphasis will be on the application of skills to technical problems.
A scientific calculator with a fraction key is required.
Prerequisite: Credit in 731 Acc. Geometry, 733 Geometry, or 734 Applied Geometry

## (College Technical Mathematics, 1A continued)

Note: 3-credits offered through Lakeshore Technical College (LTC) may be available to students completing 784 College Technical Mathematics 1A. To earn LTC credits, students must earn a minimum grade of C. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1.

## 785 © College Technical Mathematics 1B (LTC)

1 semester grade: 11-12 0.5 credits
College Technical Mathematics 1B is the extension course to College Technical Mathematics 1A. It is a course designed for technical college bound students and those interested in applied technical extensions of algebra and geometry. This course follows the course outcomes required by Lakeshore Technical College. Topics include: polynomial expressions, rational equations, systems of equations, and oblique triangle trigonometry. Emphasis will be on the application of skills to technical problems.
A scientific calculator with a fraction key is required.
Prerequisite: Credit in 784 College Technical Mathematics 1B.

Note: 2-credits offered through Lakeshore Technical College (LTC) may be available to students completing 784 College Technical Mathematics 1B. To earn LTC credits, students must earn a minimum grade of C. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1.

## 791 © Accelerated Calculus and Analytic Geometry (Lakeland University) $\quad 1$ year grade: 11-12 1.0 credits

This course is designed for mathematically accelerated students that have successfully completed
781 Accelerated Pre-Calculus (Lakeland University) or 783 Pre-Calculus. It is intended for college bound students desiring to increase their knowledge of upper level mathematical concepts. Topics explore units involving limits, derivatives, integration methods, etc. Accelerated courses are substantially faster paced, require heightened expectations of student performance, include highly challenging extensions, and cover more comprehensive curriculum that necessitates students perform independently and self-advocate to achieve the highest level of learning.
A Graphing Calculator is recommended. (Recommend TI-84)
Prerequisite: Credit in 781 Accelerated Pre-Calculus or 783 Pre-Calculus plus qualify under the accelerated studies program.

Note: Students may take this class for four college credits through a program offered by Lakeland University. Students who wish to participate in this program must have earned a minimum grade of B- in 781 Acc. Pre-Calculus or 783 Pre-Calculus, then successfully complete the course. The course fee is currently $\$ 360$ (non-refundable). The credits are transferable to most colleges and universities; however, students should seek advice from their counselor about specific schools. Lakeland registration is available on-line and fees must be paid to Lakeland University before Oct. 1 .

MUSIC

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | Instrumental Music I-Concert Band | 322 | x |  |  |  |  |
| Year | 1.0 | Instrumental Music II-Symphonic Band | 342 |  | x | x | x |  |
| Year | 1.0 | ©Instrumental Music III-Wind Ensemble | 343 |  | x | x | x |  |
| Year | 0.5 | Instrumental Music-Jazz Ensemble | 344 |  | x | x | x |  |
| Year | 1.0 | Intro to Vocal Music Section A (Soprano-Alto) | 351 | x | x |  |  |  |
| Year | 1.0 | Intro to Vocal Music Section B (Tenor-Bass) | 352 | x | x |  |  |  |
| Year | 1.0 | Advanced Treble Vocal Music (Soprano-Alto) | 353 |  | x | x | x | x |
| Year | 1.0 | ©Advanced Mixed Vocal Music (Plymouth <br> Concert Choir) | 362 |  |  | x | x | x |

## 322 Instrumental Music I-Concert Band 1 yr. 91.0

An intermediate band experience, primarily a training group for Instrumental Music II \& III. Students will perform on instruments in large and small ensembles, create music through improvisation and composition, analyze music and learn components of music theory and history, and evaluate performances. Lessons once a week required.
Activities: concerts, marching band, pep band, solo and ensemble festival. Literature studied and performed is class B and C.
Prerequisites: Middle School Band or approval of High School Band Instructor \& Some limits on instruments may be required.
342 Instrumental Music II-Symphonic Band 1 yr. 10-12 1.0
An advanced band experience. Students will perform on instruments in large and small ensembles, create music through improvisation and composition, analyze music and learn components of music theory and history, and evaluate performances. Activities include concerts, marching band, pep band, solo and ensemble festival. Lessons once a week required. Literature studied and performed is class B \& A.
Prerequisites: Instrumental Music I- Concert Band or approval of High School Band Instructor

## 343 © Instrumental Music III-Wind Ensemble 1 yr. 10-12 1.0

Our most advanced band experience. Students will perform on instruments in large and small ensembles, create music through improvisation and composition, analyze music and learn components of music theory and history, and evaluate performances. Activities: concerts, marching band, pep band, solo ensemble festival. Literature studied and performed is class A \& beyond. Lessons once a week required.

344 Instrumental Music-Jazz Ensemble 1 yr. 10-12 0.5
An opportunity to study and perform America's native art form. Big Band arrangements and improvisation will be studied and performed. Activities: concerts and Solo and Ensemble Festival. Audition required.

351 Introduction to Vocal Music - Section A (Soprano-Alto) 1 yr. 9-10 1.0
Students in this training choir will sing a variety of high quality repertoire with an emphasis on the fundamentals of singing, music literacy and choral music. This ensemble is for treble voices generally in their first year of high school. As part of this course, each student will complete a weekly small group lesson with the instructor. This ensemble will give public concerts regularly throughout the year. No previous experience singing is required.

352 Introduction to Vocal Music - Section B (Tenor- Bass) 1 yr. 9-10 1.0
Students in this training choir will sing a variety of high quality repertoire with an emphasis on the fundamentals of singing, musical literacy and choral music. This ensemble is for bass and tenor voices generally in their first two years of high school choral music. As part of this course, each student will complete a weekly small group lesson with the instructor. This ensemble will give public concerts regularly throughout the year. No previous experience singing is required.

353 Advanced Treble Vocal Music - (Soprano-Alto) 1 yr. 10-12 1.0
Students in this advanced choir will perform a variety of high quality repertoire with an emphasis on singing technique, music literacy, and independent musicianship. This ensemble requires the instructor's consent and is generally for sophomores through senior women that have completed the introductory choir. As part of this course, each student will complete a weekly individual lesson with the instructor. This ensemble will give public concerts regularly throughout the year, and will feature complex SSAA harmonic splits. Prerequisite: Placement test required.

362 ©Advanced Mixed Vocal Music (All Voice Ranges) 1 yr. 11-12 1.0
Students in this advanced choir will perform a variety of high quality repertoire with an emphasis on singing technique, music literacy and independent musicianship. This ensemble requires the instructor's consent and is generally for juniors and seniors that have completed the introductory choir. However all sophomore through senior students may audition. As part of this course, each student will complete a weekly individual lesson with the instructor. This ensemble will give public concerts regularly throughout the year and will feature complex SATB and even SSATTB harmonic splits.
Prerequisite: 1 year of choir and placement test required.

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sem | 0.5 | Physical Education 1 | 145 | x |  |  |  |  |
| Sem | 0.5 | Physical Education 2 | 146 |  | x |  |  |  |
| Sem | 0.5 | Team \& Individual Sports | 147 |  |  | x | x |  |
| Sem | 0.5 | Lifetime Activity | 148 |  |  | x | x |  |
| Sem | 0.5 | Lifeguard Training | 152 |  | $(\mathrm{x})$ | x | x |  |
| Sem | 0.5 | Weight Training | 154 |  | $(\mathrm{x})$ | x | x |  |
| Sem | 0.5 | Aerobic Physical Education | 157 |  |  | x | x |  |
| Sem | 0.5 | Sports PE Equivalent | 158 |  |  |  |  |  |
| Sem | 0.5 | First Aid/Health/CPR | 185 | x |  |  |  |  |

NOTE: Students must take a minimum of 1.5 credits over 3 years, including PE 1 \& 2 .

## 145-146 Physical Education 1-2 <br> 1 sem. 9-10 0.5

These are required courses for all freshman and sophomore students, designed to provide a variety of activities that will promote health and wellness for the students. Activities include: physical fitness testing, cardiovascular training, swimming, volleyball, weight training, softball, badminton, golf, ultimate Frisbee, tennis, soccer, and goal setting.

## 147 Team \& Individual Sports 1 sem. 11-12 0.5

This is an elective course that can be taken as a junior or senior in order to meet the 0.5 credit requirement. The course provides a wide variety of activities, including: swimming, basketball, badminton, tennis, volleyball, softball and recreational games.

## 148 Lifetime Activity

1 sem. 11-12 0.5
This is an elective course that can be taken as a junior or senior in order to meet the 0.5 credit requirement. The course provides a wide variety of activities, including: Adventure Education (high and low ropes), Outdoor Education, Lifetime Activities (indoor and outdoor), Cultural Games, Dance, Home Fitness and Aquatics. This program emphases are on: life-long activities in physical fitness and its importance to overall wellness, their cognitive ability and social interaction. This course allows students to get involved and see a variety of activities they can participate in the rest of their lives. Students will need to have appropriate attire to engage in activities in these environments: gym/fitness center/wrestling room, pool and outside for all types of weather.

## 152 Lifeguard Training

1 sem. 10-12 0.5
Lifeguard Training will be offered $1^{\text {st }}$ semester only. Students must be at least 15 years of age. The class will be taught in 10 units, with an additional pre-test session. Students must pass pre-test requirements which include: swimming 500 yards continuously, retrieving a 10 pound object from 7 feet of water and treading water for 2 minutes using only legs. The class will be limited to 15 students.

## NOTE: Students must take a minimum of 1.5 credits over 3 years.

Sophomores taking lifeguard training must be enrolled in Physical Education II.

## 154 Weight Training 1 sem. (10) 11-12 0.5

During this course the students will develop their own weight training program specific to their particular needs. Emphasis will be placed on knowledge about the human anatomy and physiology.
Prerequisite: Grade of B or better in previous weight training class to retake weight training.
NOTE: Students must take a minimum of 1.5 credits over 3 years
Sophomores taking weight training must be enrolled in Physical Education II

157 Aerobic P.E.
1 sem. 11-12 0.5
This class is designed to increase a student's general level of fitness. All grades would be on a scale tied directly to improvement in cardio-respiratory fitness level.

## 158 Sports PE Equivalent

The Plymouth School District in accordance with state statute 118.33 (l)(e) will allow individual students to earn $1 / 2$ credit of Physical Education by exempting one semester of a PE course in exchange for participation and completion of a full season of a WIAA sport. In order to be eligible individual students must meet the below criteria:
*Students will make application for this option as part of the course selection and registration process for the subsequent school year. *Students will be allowed to substitute only the final $1 / 2$ credit of Physical Education of the required three.
*Students must participate in and complete a full season of a WIAA sport during the intended year in which the PE substitution is to take place.
*Students must have participated in and completed two full seasons of a WIAA sport in the years preceding the substitution.
*Students will be allowed to substitute a sport for PE only when the student uses the opportunity to select an approved Cum Laude course (see policy 345.11)
*The Principal or designee will review for approval all applications. Students will be notified about the status of their applications prior to the semester in which the substitution was to take place.

## 185 First Aid/Health/CPR 1 sem. $9 \quad 0.5$

This class is designed to help our students understand how the decisions they make now will affect the quality of their lives. Topics covered are healthy choices and behaviors, emotional health, stress management, nutrition and body composition, lifestyle diseases, reproductive system, conception, STD's, Alcohol, Tobacco, and Drugs of Abuse.

## PROJECT LEAD THE WAY FORGING THE INNOVATION GENERATION

Project Lead the Way is all about teaching and learning. The hands-on, project and problem-based PLTW approach adds rigor to traditional technical programs and relevance to traditional academics. Milwaukee School of Engineering (MSOE) allows high school students who successfully complete the course to earn undergraduate credit in the following courses. To receive undergraduate credit, students must receive a classroom grade of a B or higher, receive a $70 \%$ or higher score on the final comprehensive exam and complete the course portfolio. After course completion, students may fill out an application for credit.

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | ©Introduction to Engineering Design (IED) | 445 | x | x | x | x |  |
| Year | 1.0 | ©Principles of Engineering (POE) | 446 |  | x | x | x | x |
| Year | 1.0 | ©Digital Electronics (DE) not offered 2017-18 | 447 |  | x | x | x |  |
| Year | 1.0 | ©Environmental Sustainability (PLTW) | 448 |  | x | x | x | x |
| Year | 1.0 | ©Computer Integrated Manufacturing (CIM) | 449 |  | x | x | x | x |
| Year | 1.0 | © Engineering Design and Development | 459 |  |  |  | x | x |

445 ©Introduction to Engineering Design (IED) 1 yr 9-12 1.0
Introduction to Engineering Design teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using solid modeling computer design software.

## 446 ©Principles of Engineering (POE) $\quad 1$ yr 10-12 1.0

Principles of Engineering helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of theological change.
Prerequisite: IED (Introduction to Engineering Design)

447 (C)Digital Electronics (DE) not offered 2017-18
This course introduces students to applied digital logic, a key element of careers in engineering and engineering technology. This course explores the smart circuits found in watches, calculators, video games, and computers. Students use industry-standard computer software in testing and analyzing digital circuitry. They design circuits to solve problems, and use appropriate components such as discrete logic devices or programmable logic devices to build their designs. Students use mathematics and science in solving real-world engineering problems. This course covers several topics, including: Analog and digital fundamentals, Number systems and binary addition, Logic gates and functions, Bolean algebra and circuit design, Decoders, multiplexers and de-multiplexers, Flip-flops, Counters, Registers and other Sequential Circuits.
Prerequisite: IED (Introduction to Engineering Design) \& Algebra 1

## 448 © Environmental Sustainability $\quad 1 \mathrm{yr} \quad 10-12 \quad 1.0$

A PTLW course. Student investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, students' research and design potential solutions to these true-to-life challenges.
Prerequisite: Biology or Acc. Biology

449 ©CIM Computer Integrated Manufacturing $1 \mathrm{yr} \quad 10-12 \quad 1.0$
This course applies principles of robotics and automation to Computer Aided Design (CAD). The course builds on computer solid modeling skills developed in Introduction to Engineering Design, and Design and Drawing for Production. Students use computer Numerical Control (CNC) equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing, and design analysis are included.
Prerequisite: IED (Introduction to Engineering Design) required: (Manufacturing Technology recommended)
459 © Engineering Design and Development $\quad 1 \mathrm{yr} \quad 12 \quad 1.0$
The knowledge and skills students acquire throughout PLTW Engineering come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, completing EDD ready to take on any post-secondary program or career.
Prerequistes: IED + additional PLTW class \& an Advanced Math or Advance Science Course or (2 additional PTLW Classes)

## SCIENCE

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | ©Botany TC | 106 |  | x | x | x |  |
| Year | 1.0 | Food Science | 130 |  | x | x | x | x |
| Year | 1.0 | ©Advanced Food Science | 131 |  |  | x | x | x |
| Year | 1.0 | ©Principles of Engineering (POE) (PLTW) | 446 |  | x | x | x | x |
| Year | 1.0 | ©Environmental Sustainability (PLTW) | 448 |  | x | x | x | x |
| Year | 1.0 | Physical Science | 833 | x | x | x | x |  |
| Year | 2.0 | Natural Science and Composition | $840(540)$ |  |  | x | x |  |
| Year | 1.0 | ©Accelerated Biology | 841 |  | x | x | x |  |
| Year | 1.0 | Biology | 843 |  | x | x | x |  |
| Year | 1.0 | ©Accelerated Chemistry | 851 |  | x | x | x |  |
| Year | 1.0 | Chemistry | 853 |  | x | x | x |  |
| Year | 1.0 | ©Accelerated Physics | 861 |  |  | x | x | x |
| Year | 1.0 | Physics | 863 |  |  | x | x |  |
| Year | 1.0 | ©Anatomy \& Physiology | 8730 |  |  | x | x | x |
| Year | 1.0 | ©Advanced Chemistry (Lakeland) | 883 |  |  | x | x |  |
| Year | 1.0 | © AP Advanced Biology (UW Oshkosh) | 884 |  |  |  | x | x |

## PHS SCIENCE COURSE SEQUENCE



Note: After successful completion of Physical Science, student may take two or more science classes simultaneously.

## PHS GRADUATION REQUIREMENT:

To graduate from PHS, a student must pass 2 credits of science. One credit must be from the physical science realm (physical science, chemistry/accelerated chemistry) and one credit must be from the life science realm (biology/accelerated biology)

## COLLEGE ADMISSIONS:

Almost all four-year colleges and universities require that a student pass a minimum of 3 credits of science in order to enroll in their institutions.

* Meet Physical Science Component of Graduation Requirement
** Meets Life Science Component of Graduation Requirement

Plants are a vital link required to sustain life on earth. Humans are dependent upon plants for food, fiber, fuel, and many other purposes. In addition Wisconsin's Green Industry provides over 43,000 jobs statewide. This course is designed to provide students with the opportunity to learn about plants grown locally and worldwide. Topics will include horticultural careers, hydroponics, plant taxonomy, anatomy and physiology, plant processes, environmental factors, plant propagation, and garden design. This is a hands-on class with laboratory activities in both the high school classrooms and the Food Science and Agriculture Center.

Students earning a B or better in this course will be granted 3 transcribed credits for Horticulture Introduction at Lakeshore Technical College. There is no fee for these credits.

## 130 Food Science 1 yr. $10-121.0$

This food science course relates scientific principles to food science and safety. It provides hands-on activities for students to observe the application of science used in the development, preservation, and production of our food products. Current information about food science careers and options for careers within the food industry will be integrated into the course. This course contains both food experiments and food lab activities.
Prerequisites: 1 Science course and Culinary Arts 1 or 2
Food Science can be counted as a 1 credit science elective for Plymouth High School graduation.

## 131 Advanced Food Science $\quad 1$ yr $11-12 \quad 1.0$

This year-long food science course is a continuation of Food Science. Additional units may include microbiology, vitamins, minerals, fermentation, preservation and packaging with an emphasis on food safety. It provides hands-on activities for students to observe the application of science used in the development, preservation and production of food products.
*Prerequisite: Food Science - Exception: May be granted upon instructor approval
Advanced Food Science can be counted as a 1 credit science elective for Plymouth High School graduation.
446 ©Principles of Engineering (POE) $\quad 1$ yr. $10-12 \quad 1.0$
Principles of Engineering helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes helps students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of theological change. A PLTW course.
Prerequisite: Introduction to Engineering Design

## 448 © Environmental Sustainability $\quad 1 \mathrm{yr} \quad 10-12 \quad 1.0$

A PTLW course. Student investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, students research and design potential solutions to these true-to-life challenges.
Prerequisite: Biology or Acc. Biology

## 833 Physical Science

1 yr . $\quad 9-12 \quad 1.0$
The objective of this course is to introduce students to the process of problem solving through scientific investigation. The course will include principles of physics and chemistry in units such as: Science Skills, Motion/Laws of Motion, Forces and Energy, Classification of Matter, Atomic Structure and the Periodic Table, and Chemical Reactions. This is a rigorous science class with a strong laboratory emphasis and a mathematical analysis of experimental data. Meets PHS graduation requirement.

840 (540) Natural Sciences and Composition 1 yr. 11-12 2.0
Central question: How can I make a positive difference in our environment? How can I reduce my negative impact on Earth?
Study this lab science and composition course while improving communication skills in writing, speech, reading, and technology.
Prepare for the complex and technical field of the natural sciences. Topics will include space science, earth history, weather, climate change and the human impact on our earth. Questioning, communication, and hands-on learning will be emphasized. Students will refine their editing and writing skills through workshops with peers and instructors and analyze primarily nonfiction articles and research.
Students will design their own inquiry project, testing and creating a final impact project to benefit a community. This is an integrated
course with 540(840) Composition. Students must sign up for both classes.
1 Lab Science credit and 1 English credit
Prerequisites: English 1 and II, Biology
Co-taught by Science and English teachers. Full-year block course.
841 ©Accelerated Biology
1 yr. 10-12 1.0
843 Biology
1 yr . 10-12 1.0

These essential science courses are key to meeting science standard requirements. These courses cover the science of living organisms. Key concepts include cells and how they work, cellular energy and chemistry, DNA and genetics, the human body, and plants and animals in the environment.
Prerequisites: None Required for graduation from PHS
851 ©Accelerated Chemistry
1 yr. 10-12 1.0
853 Chemistry
1 yr. 10-12 1.0

Chemistry is the study of matter. These courses take a detailed look at matter. The building blocks of matter (atoms and molecules) and the states of matter are studied. Chemical equations and reactions are explored, as well as solutions including acids and bases. These classroom topics are supported by a significant laboratory component. A solid math background is recommended for these courses.
Prerequisite: Algebra and concurrent enrollment or completion of Biology. Meets PHS graduation requirement.
861 ©Accelerated Physics
1 yr. 11-12 1.0
863 Physics
1 yr. 11-12 1.0

Physics is the most fundamental and all-inclusive of the sciences. Its basic role and application covers many fields: mechanics, heat, light, electricity, nuclear energy, magnetism. Through our study of these fields it is a goal to develop concepts, ideas and relevance discussions, problem solving techniques, lecture, and laboratory experiments.
Prerequisite: A grade of C or better in the following courses: geometry, algebra II or chemistry is recommended.

## 8730 ©Anatomy and Physiology 1 yr. 11-12 1.0

This is an advanced science class designed for students with high science ability, interest, and motivation. The course involves a detailed and intensive study of human biology from three perspectives-anatomy (structures), physiology (functions), and pathology (disease). The class involves lectures, discussions, readings, and student research outside of class. Labs and dissections are included, but are NOT a primary focus and should NOT be a primary reason to take this class. Students planning to enter any of the health careers such as medicine, nursing, physical therapy, dentistry, sports medicine, etc., would benefit from this class. Students who take this course will have Advanced Standing at LTC in any program of study that requires introductory Anatomy \& Physiology.
Prerequisite: Chemistry or Concurrent Enrollment

## 883 ©Advanced Chemistry (Lakeland) 1 year $11-121.0$

This year long course is a detailed study of freshmen, college level chemistry topics. Chemical reactions, molecular shapes, the periodic table, states of matter and solutions are the main topics of the course. This course is designed and highly recommended for students planning further study in the science, engineering, or health fields; however, any interested student is encouraged to enroll. A strong background in algebra is highly recommended for the course. This class may be taken for college credit through Lakeland College. Prerequisites: 2 years of mathematics and satisfactory completion of chemistry or accelerated chemistry.

884 © AP Advanced Biology (UW Oshkosh) 1 year $12 \quad 1.0$
The course will include advanced studies in organic compounds, cell theory, energy systems, biotechnology, genetics, and microbiology. The format will include lectures, lab activities, and required readings. This class may be taken for college credit through UW Oshkosh. College credit may also be earned by passing the AP Biology exam.
Prerequisites: 1) Chemistry; 2) Students enrolled for college credit must meet at least one of the following criteria: 3.25 GPA, Top $25 \%$ of class, ACT score of 23 or better.

## SOCIAL STUDIES

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sem | 0.5 | Citizenship | 901 | x |  |  |  |  |
| Sem | 0.5 | Area Studies | 906 | x |  |  |  |  |
| Year | 1.0 | CAP US History | 921 |  | x | x | x |  |
| Year | 1.0 | United States History | 923 |  | x |  |  |  |
| Sem | 0.5 | Ancient World History G Not offered 2017-18 | 925 |  |  | x | x |  |
| Sem | 0.5 | World Affairs Today G | 927 |  |  | x | x |  |
| Sem | 0.5 | American Issues | 928 |  |  | x | x |  |
| Sem | 0.5 | JA Economics/Personal Finance(Junior Achievement) <br> G | 929 |  |  | x | x |  |
| Sem | 0.5 | Psychology | 932 |  |  | x | x |  |
| Sem | 0.5 | ©Psychology (Lakeland) | 933 |  |  | x | x |  |
| Sem | 0.5 | People and Places | 947 |  |  | x | x |  |
| Sem | 0.5 | America in Motion | 948 |  |  | x | x |  |
| Sem | 0.5 | American Minority Studies: Race, Ethnicity and <br> Sex/Gender | 949 |  |  | x | x |  |
| Sem | 0.5 | ©AP Microeconomics (Lakeland) | 950 |  |  | x | x |  |
| Sem | 0.5 | ©AP Macroeconomics (Lakeland) | 951 |  |  | x | x |  |
| Sem | 0.5 | Global Studies G | 9600 |  |  | x | x |  |
| $\boldsymbol{y y}$ Citizen |  |  |  |  |  |  |  |  |

## 901 Citizenship

1 sem. 90.5
The main objective is not only to impart knowledge of facts of civics and citizenship but to stress attitudes of patriotism, civic mindedness, loyalty, respect for law, participation, and a desire to be a good citizen. This REQUIRED COURSE deals largely with state, local and national governments and includes a study of basic economy, job education, and career study.

## 906 Area Studies

1 sem. $9 \quad 0.5$
This REQUIRED COURSE is an overview of physical geography with greater attention given to the study of cultural geography. Cultural areas covered include Africa south of the Sahara, the Middle East, Far Eastern Asia and Japan, and discussion of current events in the news.

## 921 ©AP United States History 1 yr. 10-12 1.0

AP US History is comparable to a first-year college survey course. This is a rigorous, reading-intensive course. It will cover US History in detail, beginning with colonization and ending near the end of the $19^{\text {th }}$ century. Second semester will cover US History from late 1800 s to 2001 . This course will closely follow the College Board (AP) outline, but will also make connections between historical events and current trends and issues. This class will fulfill the sophomore level, US History requirement. Juniors and seniors who have taken a US History course as a sophomore may take this class. In addition to earning high school credit; all students will have the option of earning college credit by taking and earning a qualifying score on the Advanced Placement (AP) test. The AP test will be given in early May at PHS. This course meets the PHS US History graduation requirement.
Prerequisite: 3.5 cum GPA or consent of instructor

## 923 United States History

$1 \mathrm{yr} .10 \quad 1.0$
This REQUIRED COURSE traces the development of our nation through the following epochs: Westward Expansion, the rise of Industrialism, World Wars of the 20th Century, and the modern world of 1950-present.

925 Ancient World History G $\quad 1$ sem. 11-12 $0.5 \quad$ Course not offered in 2017-18
This course analyzes the rise and fall of civilizations from the ancient Egyptians to the Renaissance. Included in the curriculum are studies of the ancient Middle East, Asia, Greek and Roman Empires, as well as Medieval history.

927 World Affairs Today G
1 sem. 11-12 0.5
This course will examine and discuss many historical and current situations around the world. Students will examine the political, economic, and social importance of each situation. Students will get an introduction into the structure and importance in governing on a national and global scale. This course will also place students into mock governing situations in which students are decision makers for national or global issues.

## 928 American Issues

1 sem. 11-12 0.5
This course will introduce ideas concerning different rationales and sociological perspectives about American Issues and the decisions people make. The study of American Issues will examine and analyze human relationships, both individual and group, and their causes and consequences. It will involve study of current social and political issues facing the nation and how groups and individuals are affected by and may influence these vital issues.

929 JA Economics/Personal Finance (Junior Achievement) G 1 sem. 11-12 0.5
JA Economics introduces students to Micro and Macroeconomics by having students explore the basic characteristics of the U.S. economic system and how economic principles influence business and government decisions. The program also introduces students to the importance of making wise financial decisions. Personal finance topics include basic elements of financial planning, such as budgeting, saving, investing, and smart credit options. It also introduces students to career opportunities, consumer issues, and helps reinforce important academic and leadership skills including: research and data analysis, problem-solving and critical thinking.

## This class fulfills the Personal Finance Class graduation requirement.

## 932 Psychology 1 sem. 11-12 0.5

This course offers a basic understanding of the field of psychology, with the intent to sensitize the learner to a number of areas within the field. These areas include: personality theories, coping and adjusting, learning and conditioning, stress and conflict resolution, behavior disorders, perception, intelligence, development and thinking. Upon completion of the course, the students will have gained insight into themselves as well as enhancing their understanding of the complexity of human behavior.

## 933 ©Psychology (Lakeland) 1 sem. 11-12 0.5

This course will be following the requirements for an Introductory Psychology course as outlined by the Psychology Department at Lakeland College. The course will introduce the student to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students will be exposed to the psychological facts, principles, and phenomena associated with each of the major sub fields within psychology. They will also learn about the methods psychologists use to explore the processes involved in normal and abnormal perceptions, thought, feelings, and actions. A goal of the class will be to make sure students understand how psychology applies in the real world. This class will be open to juniors and seniors who have a GPA of 3.25 or higher.
Prerequisite: Students enrolled for college credit must meet at least one of the following criteria: 3.25 GPA, Top $25 \%$ of class, ACT score of 24 or better.

## 947 People and Places 1 sem. 11-12 0.5

This course is designed for students to take a virtual, "semester abroad". The course sequence and content will give students a look into the culture, languages, environment, and history of selected locations. The class design will allow students to dig into different global regions and determine what unites and divides individuals around the world.
Prerequisite: Successful completion of Area Studies

## 948 America in Motion 1 sem. 11-12 0.5

This course will examine how transportation and agriculture have shaped and changed American society. Students will learn about how the evolution of machines has changed how we travel, produce goods, and relate to one another. Assessments for this class include projects, debates, and collaborative research.

## 949 American Minority Studies: Race, Ethnicity and Sex/Gender 1 sem. 11-12 0.5

This course is a social, political and historical overview of the issues, conflicts and successes of racial, ethnic and gender minorities in America. The course will focus on the past and present experiences minorities go through in the United States, how the US government responded and acted, along with how the public has viewed minority issues throughout US History.

## 950 ©AP Microeconomics (Lakeland) 1 sem.11-12 0.5

This class fulfills the Personal Finance graduation requirement. Economics is the study of production, consumption, and distribution of goods and services as they relate to the individual and to the U.S. economy. This course specifically focuses on microeconomics, and closely follows the Advanced Placement (AP) course description. Primary emphasis is placed on how firms and individuals make economic decisions. Students will study various market structures, labor markets, wage and income distribution, government involvement, and externalities. In addition to earning high school credit students may receive college credit either through Lakeland University, or by passing the AP Exam. Prerequisite: This course open to juniors and seniors who have a 3.25 GPA or higher.

951 ©AP Macroeconomics (Lakeland)
1 sem.11-12 0.5
This class fulfills the Personal Finance Class graduation requirement. Economics is the study of production, consumption, and distribution of goods and services as they relate to the individual and to the U.S economy. This course specifically focuses on macroeconomics, and closely follows the Advanced Placement (AP) course description. Particular emphasis is placed on the study of national income and price determination, economic performance measures, fiscal and monetary policy, and international economics. In addition to earning high school credit, students may receive college credit either through Lakeland University or by passing the AP exam.

Pre-requisite: This course will be open to juniors and seniors who have a GPA of 3.25 or higher. Microeconomics (semester 1) is not a required prerequisite. However, students who have not taken Microeconomics will be required to complete a unit on basic economic principles prior to the start of semester 2.

## 9600 Global Studies $\quad \boldsymbol{G} \quad$ Sem. $\quad 11-12 \quad 0.5$

This Social Studies elective class introduces students to a wider knowledge of the world. The units will provide students with a framework for analyzing and understanding historical and contemporary global issues and for evaluating the role of the individual and the United States in an interdependent world. Through a variety of topics, the students will develop critical thinking, analytical, and problem solving skills focused on expanding their global perspective. The Global Studies course will be taught by teachers from varying subjects. Students will earn Social Studies elective credit.

## TECHNOLOGY EDUCATION

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sem | 0.5 | Wood Processes | 421 | x | x | x | x |  |
| Sem | 0.5 | Elements Of Construction | 422 |  | x | x | x | x |
| Sem | 0.5 | Furniture Making | 423 |  | x | x | x | x |
| Year | 1.0 | Building Construction | 424 |  |  | x | x | x |
| Sem | 0.5 | Graphics I | 431 | x | x | x | x |  |
| Sem | 0.5 | Graphics II | 432 |  | x | x | x | x |
| Sem | 0.5 | ©Technical Drawing TC | 433 |  | x | x | x |  |
| Sem | 0.5 | CMetal Welding I \& Plasma Cutting TC | 435 |  | x | x | x |  |
| Sem | 0.5 | Advanced Metal Welding \& Fabrication | 437 |  | x | x | x |  |
| Sem | 0.5 | Manufacturing Technology I | 441 | x | x | x | x |  |
| Sem | 0.5 | Manufacturing Technology II | 442 | x | x | x | x |  |
| Sem | 0.5 | CNC Programming | 443 |  | x | x | x | x |
| Year | 1.0 | CIntroduction to Engineering Design (PLTW) | 445 | x | x | x | x |  |
| Year | 1.0 | CPrinciples of Engineering (PLTW) | 446 |  | x | x | x |  |
| Year | 1.0 | ©Digital Electronics (PLTW) not offered 2017-18 | 447 |  | x | x | x |  |
| Year | 1.0 | ©Environmental Sustainability (PLTW) | 448 |  | x | x | x | x |
| Year | 1.0 | ©Computer Integrated Manufacturing | 449 |  | x | x | x | x |
| (CIM)(PLTW) |  | 459 |  |  | x |  |  |  |
| Year | 1.0 | © Engineering Design and Development | 461 | x | x | x | x |  |
| Sem | 0.5 | Exploring Transportation | 462 |  | x | x | x |  |
| Sem | 0.5 | Basic Auto | $464(506)$ |  |  |  | x | x |
| Year | 1.5 | Automotive Technology (Applied Comm.) |  |  | x |  |  |  |

## Construction Technology

## 421 Wood Processes

1 sem. 9-12 0.5
The class involves learning how to use woodworking tools and machines in a safe manner. By making a required project students learn the processes used to produce a product. The students are responsible for the cost of the project.
Career options: furniture maker, finish carpenter.

## 422 Elements of Construction 1 sem. $10-12 \quad 0.5$

This class is designed for the student who is interested in construction. Basic fundamentals in the areas of cabinetry, masonry and rough carpentry are covered. A project is constructed in the cabinetry portion of the class.

## Prerequisite: Wood Processes

Career options: mason, rough carpenter.

## 423 Furniture Making

1 sem. 10-12 0.5
This class is designed for the student who is interested in designing and constructing wooden furniture. Design, plan making and construction methods will be covered. Students will build a piece of furniture of their choice. Student will be responsible for the total cost involved.

## Prerequisites: Wood Processes

Career options: Furniture making, cabinet maker

## 424 Building Construction <br> 1 yr. 11-12 1.0

This course covers carpentry basics. Each student will show competency through hands on experiences in an area before moving on to the next. Some areas covered are basic framing, window installation, roofing, siding, basic home wiring, basic plumbing, insulation, drywalling, hanging of doors, etc. Class is limited to 18 students with highest grade point received in Elements of Construction course. Exceptions with instructor approval.
Prerequisites: Woods Processes, Elements of Construction.
Career options: any related to building construction.

## Graphic Communications Technology

## 431 Graphics I 1 sem. 9-12 0.5

An introductory course exploring screen printing processes, computer graphics, basic photographic processes, design creation for advertising, product design, mechanical drafting, printed mass communications and problem solving. Many hands on lab activities.

## 432 Graphics II 1 sem. $10-12 \quad 0.5$

With today's expanding technology, students need to be knowledgeable as to the technology they will be involved with today and after they graduate. This course will provide technology knowledge in computers, printing, silk screening, drafting, photography, lasers, fiber optics, video, and computer design.
Prerequisite: 431 or instructor approval.
Career options: photographer, engineer, graphic designer, marketing
433 © Technical Drawing TC 1 sem. 10-12 0.5
An introductory technical drawing course which may be taken for exploratory purposes, prerequisite for advanced courses, or for the beginning of a career in architecture, mechanical design, interior design, or tool \& die. The course will take a step-by-step approach to learning CAD, starting with a few basic tools, letting the students create and edit a simple drawing. The course will begin by focusing on 2-D drawing and editing tools, object on layers, text, and basic dimensions. Once the student has mastered the basic skills, they will move on to explore efficiency tools, complex objects, advanced plotting, enhancing productivity with simple customization. Students will also be introduced to drafting using 3-D commands. Content will include a study of how objects are technically described in industry from sketching, measurement, manual tools, to computers.

## Manufacturing Technology

435 ©Metal Welding I \& Plasma Cutting TC 1 sem. $10-12 \quad 0.5$
Introduction to Welding and Plasma Cutting gives students hands-on welding experience through extended practice with welding and cutting systems using various materials. This course introduces the learner to the world of welding. The course includes general shop safety, introduction to the oxy/fuel cutting process, plasma cutting, basic cutting and finishing equipment, SMAW (Shielded Metal Arc Welding), GMAW (Gas Metal ArcWelding), and GTAW (Gas Tungsten Arc Welding) equipment and processes.

437 Advanced Metal Welding and Fabrication 1 sem. 10-12 0.5
Advanced metal welding gives students hands-on welding experience through extended practice. This course allows students to enhance their welding skill set with a continued focus on safety and more in-depth look at welding skills including practice certification tests, print reading, layout work and fixturing. Prerequisite: Metal Welding I \& Plasma Cutting TC (435) or instructor approval

## 441 Manufacturing Technology I $\quad 1$ sem. $9-12 \quad 0.5$

Introductory course allows students to explore the manufacturing industry and learn how manufacturing affects our everyday lives. Students will work on various manufacturing projects including manual machining, welding, and 3D modeling. The course will also incorporate lessons on basic safety, quality assurance, print reading and production processes.

## 442 Manufacturing Technology II $\quad 1$ sem. 9-12 0.5

This course allows students to enhance their manufacturing skill set with a continued focus on safety and more indepth look at manufacturing skill sets including machining, welding, and other areas of manufacturing (such as 3D modeling, print reading, advanced machining, layout work and fixturing). Students will work on problemsolving activities and mass production activities both individually and in group settings (Prerequisite: Manufacturing Technology I)

## 443 CNC Programming Sem. $10-12 \quad 0.5$

Computer Numeric Controlled (CNC) programming is an introductory course for those interested in CNC operations and CNC programming. The course will teach students about machine set up, machine run functions,
and ultimately, how to develop and run CNC machine programs that shape and cut precision parts used in many industries. Students will apply principles of Computer Aided Design (CAD) and MasterCam (CAM) when designing and setting up tool paths for CNC milling and turning operations.

## Project Lead The Way - <br> Forging the Innovation Generation

Project Lead the Way is all about teaching and learning. The hands-on project and problem-based PLTW approach adds rigor to traditional technical programs and relevance to traditional academics. See www.pltw.org

## 445 © Introduction to Engineering Design $\quad 1$ yr $\quad 9-12 \quad 1.0$

Introduction to Engineering Design teaches problem solving skills using a design development process. Students will learn to transform form and function design concepts and problems into actual products using advanced design software and technology. Students dig deep into engineering design process, applying math, science, and engineering standards to hands on projects. Student will have the opportunity to explore career opportunities in design engineering and will learn about the skills and education needed for an engineering career. PLTW course.

## 446 ©Principles of Engineering $\quad 1 \mathrm{yr} \quad 10-12 \quad 1.0$

Principles of Engineering helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of theological change. PLTW course.
Prerequisite: IED (Introduction to Engineering Design)

447 © Digital Electronics not offered 2017-18
This course introduces students to applied digital logic, a key element of careers in engineering and engineering technology. This course explores the smart circuits found in watches, calculators, video games, and computers. Students use industry-standard computer software in testing and analyzing digital circuitry. They design circuits to solve problems, and use appropriate components such as discrete logic devices or programmable logic devices to build their designs. Students use mathematics and science in solving real-world engineering problems. This course covers several topics, including: Analog and digital fundamentals, Number systems and binary addition, Logic gates and functions, Bolean algebra and circuit design, Decoders, multiplexers and de-multiplexers, Flip-flops, Counters, Registers and other Sequential Circuits. PLTW course
Prerequisite: IED (Introduction to Engineering Design)

448 © Environmental Sustainability $\quad 1 \mathrm{yr} \quad 10-12 \quad 1.0$
A PTLW course. Student investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, students' research and design potential solutions to these true-to-life challenges.
Prerequisite: Biology or Acc. Biology

449 ©Computer Integrated Manufacturing (CIM) 1 yr. 10-12 1.0
Computer Integrated Manufacturing (CIM) applies and develops secondary-level knowledge and skills in mathematics, science, and technology.
CIM teaches students about manufacturing processes, product design, robotics, and automation. Students will learn fundamental concepts of robotics used in automated manufacturing, 3D modeling, programming, CNC machine setup and program run.
Students will also learn about the history of manufacturing and will receive integrated instruction on important manufacturing business concepts including technology application, finance, ethics, and engineering design.

[^1]459 © Engineering Design and Development $\quad 1 \mathrm{yr} \quad 12 \quad 1.0$
The knowledge and skills students acquire throughout PLTW Engineering come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, completing EDD ready to take on any post-secondary program or career.
Prerequisite: IED + additional PLTW class \& an Advanced Math or Advance Science Course or (2 additional PTLW Classes)

## Transportation Technology

## 461 Exploring Transportation <br> 1 sem. 9-12 0.5

This course introduces the student to the very large transportation field, with units in technology systems, creative problem solving, air, space, marine, and land transportation. If time is available, small gas engines are studied. Occupational career opportunities will be covered in each of the transportation units.

462 Basic Auto Maintenance
1 sem. 10-12 0.5
The course is designed to introduce the fundamentals of automobile ownership and general maintenance. Students should be able to bring an automobile in the shop for lab activities. Students with little or no previous mechanical experience are welcome in this course. Career options: Automotive retailer, automotive salesperson.

## 464 Automotive Technology 1 yr. 121.5

This course is designed for the student who is interested in an occupation in the automotive field or a related area. Auto tech is designed for job entry level preparation. Quality service procedures and professional attitude are stressed. Advanced service technologies in tuneup and testing, emission and computer controls, steering and suspension, brakes, engine repair, transmission, electrical and fuel systems will be studied. Genuine interest in vocational automotive co-op (460) is recommended. Note: This is an integrated course with English 506, Automotive Communication, and students must sign up for both classes.
Prerequisite: B grade in Basic Auto
Career options: automotive technician, diesel technician.

Youth Apprenticeships available to interested students.

Communication \& Audio/Video Technology YA<br>Engineering \& Technology YA<br>Manufacturing YA<br>Mechanics \& Repair YA

Please see page 45 for more information on the PHS Youth Apprenticeship Programs.

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1.0 | Spanish 1 | 661 | x | x | x | x |  |
| Year | 1.0 | Spanish 2 | 662 | x | x | x | x | x |
| Year | 1.0 | ©Spanish 3 | 663 |  | x | x | x | x |
| Year | 1.0 | ©Spanish 4 | 664 |  |  | x | x | x |
| Year | 1.0 | ©Spanish 5 Lakeland | 665 |  |  |  | x | x |
| Year | 1.0 | German 1 | 671 | x | x | x | x |  |
| Year | 1.0 | German 2 | 672 |  | x | x | x | x |
| Year | 1.0 | ©German 3 | 673 |  |  | x | x |  |
| Year | 1.0 | ©German 4 | 674 |  |  |  | x | x |
| Year | 1.0 | Facilitated World Language | 676 |  | x | x | x | x |

## G Global Education Achievement Certificate can apply to all of the World Language Classes

People today are connecting across cultural, political, and economic borders. To meet the challenges of ever-increasing global connections and to be a front-runner in a global economy, students must be aware of different perspectives reflected in both the language and behaviors of other people. They must possess language skills and an understanding of other cultures. Each of our languages will be taught with communication and culture being the focus of instruction.

## 661 Spanish 1

1 yr. 9-12 1.0
This is an introductory level language course that reviews and introduces basic vocabulary and concepts. Students will begin to develop writing, reading, and speaking skills in the language. The instructional approach will include multiple intelligences, partner and group activities as well as independent work. Spanish-speaking cultures will be explored through music, literature and teacher presentations. Students choosing to elect Spanish should be self-disciplined and motivated to learn another language. The probability of success is significantly higher if the student has earned a C or above in their native language.

## 662 Spanish 2 <br> 1 yr. 9-12 1.0

Students will continue to develop reading, writing, speaking and comprehension skills. Present, past, and future tenses will be introduced and utilized. To ensure success in this elective area a " C " or above in Spanish 1 is recommended.
Pre-requisite: Spanish 1 or Teacher Approval

## 663 ©Spanish 3

1 yr. 10-12 1.0
Spanish 3 students will continue to develop the four skills (writing, reading, speaking, listening). A strong emphasis will be on spoken Spanish as the class will be conducted primarily in Spanish. The perfect and progressive tenses as well as the conditional tense will be introduced. The subjunctive mood will be emphasized. Students will be reading authentic Spanish Literature. The department strongly recommends the student earn a letter grade of "A" or "B" in Spanish 2 or display a high level of self motivation and self discipline to ensure success at this advanced level.
Pre-requisite: Spanish 2
664 ©Spanish 4
1 yr. 11-12 1.0
Students should be self-motivated and self-disciplined and be able to take ownership of their learning. Advanced grammatical constructions such as imperfect subjunctive and passive voice are explored through Spanish film, poetry, short stories, and novels. Journal writing and short compositions provide an outlet for creative expression in the target language. Spanish 4 should prepare students for higher learning and interaction with native speakers.
Pre-requisite: Spanish 3

## 665 ©Spanish 5

1 yr. 121.0
This course is designed for students who have completed Spanish 1-4. Students must understand spoken Spanish at a high level. This course will be conducted in Spanish. Students will learn through varied forms of literature. Students will be expected to speak and discuss in Spanish on a daily basis. Presentations of current events and discussions of various topics will be student led throughout the course. Students will write many original compositions. This course will prepare students for college level Spanish. Retroactive credits can be earned by taking the placement test in their university of choice.
Pre-requisite: Spanish 4

## 671 German 1

1 yr . 9-12 1.0
Students will be exposed to the foundations, structure and pronunciation of the language. The approach to the study of German will be mainly conversational with emphasis on reading and writing. In addition, information concerning German life and cultural heritage is introduced through the textbook. Students will acquire oral mastery of basic structural patterns and vocabulary, enough to enable them to discuss subject matter of the course in simple German. These goals will be supplemented through the use of CDs and videos.

## 672 German 2

1 yr. 10-12 1.0
This course is a continued development of listening, reading, writing and speaking proficiency. Previous knowledge is reinforced through conversational practice. Although the student still needs to imitate, repeat and work with pattern drill, he/she will have opportunities to practice speech production in large and small groups. Vocabulary is expanded, as is grammar. Student will be able to speak/write in the past tense. CDs, videos and films supplement the textbook. To ensure success in this elective area a "C" or above in German I is recommended.
Pre-requisite: German 1

## 673 ©German 3 <br> 1 yr. 11-12 1.0

The primary objective is still the development of the student's ability to communicate in spoken and written German. Previously introduced grammar topics are reinforced and many new concepts are introduced. By the end of the year, the student will have learned to handle many everyday situations in a German-speaking environment. Writing and speaking projects are undertaken with a much greater understanding and accuracy. Student will continue to use a textbook on a regular basis, though many supplementary reading and listening materials will be used. Students are encouraged to use as much German as possible in the classroom. To ensure success in this elective area a "C" or above in German II is recommended.
Pre-requisite: German 2

## 674 © German 4

1 yr. 121.0
A more detailed study of the German language is made with emphasis on comprehension and conversation. Grammar is reviewed as it applies to content and speaking skills are much improved. Reports are given, journals are kept, short essays and research papers are written. A more in-depth study of German history and culture through literature is a primary focus. This course is conducted almost entirely in German. To ensure success in this elective area a "C" or above in German III is recommended.

## 676 Facilitated World Language 1 yr. 1.0

This course will work specifically with critical languages. A facilitated language course allows motivated students to study organized curriculum independently. The facilitator will cover independent language learning strategies, will guide the students through curriculum, and will find appropriate supplemental materials. Conversation coaches from nearby colleges will help the students develop oral proficiency. Current Languages Offered: Arabic, Japanese, and Russian.
Student guidelines:

- Student must be responsible and self-motivated
- Student must be approved by previous language teacher

Prerequisite: Enrolled in Spanish 2, German 2 or higher, minimum grade of B each semester of first year language course and/or language teacher approval

| Course <br> Length | Credit | Name of Course | Course <br> Number | 9 | 10 | 11 | 12 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| sem | $\mathbf{0 . 5 - 1 . 0}$ | Work Experience Credit | WC |  |  | $\mathbf{x}$ | $\mathbf{x}$ | Pre-approval |
| sem | No <br> Credit | Work Release | WR |  |  | $\mathbf{x}$ | $\mathbf{x}$ | Pre-approval |
| qtr | 0.5 | Co-op | CO-OP |  |  | $\mathbf{x}$ | $\mathbf{x}$ | Pre-approval |
| year | $\mathbf{2 . 0}$ | Youth Apprenticeship | YA |  |  | x | $\mathbf{x}$ | $*$ |

## Work Experience Credit $\quad 1$ sem. $11-12 \quad 0.5$ to 1.0

This program provides work experience to 11th and 12th grade students in various occupations and is intended to provide basic employability skills with on-the-job, paid training for high school credit. Students must provide verification of a minimum of 90 hours ( 0.5 credit) or 180 hours ( 1.0 credit) worked. This program is available to students who are credit deficient and a contract must be signed by the student, parents, employer, school counselor, and principal prior to acceptance in the program.

## Work Release (no credit) 1 sem. 11-12

This program provides the opportunity for students to be released from a portion of the normal school day for employment. This program is intended to allow students who are on track for graduation to obtain employment as they prepare for the future. A contract must be signed by the student, parents, employer, school counselor, and principal prior to acceptance in the program.

## Co-Op 1 qtr. 11-12 0.5

This program offers students 90 hour experiences over a nine-week period of time (one quarter). The experience provides a deep understanding of the processes and departments within a manufacturing facility. Students will see a variety of career possibilities while gaining awareness of what skills and knowledge are needed for which jobs within the manufacturing world. It is possible that the co-op experience could lead to a Youth Apprenticeship placement, scholarship, or full-time employment. During the quarter the students are not participating in the co-op, they will be assigned to a study hall.

Youth Apprenticeship Program 1 yr. 11-12 2.0
Youth apprenticeships offer students the opportunity to explore future careers while they are still in high school and get paid for the time working at area employers. Youth Apprenticeship offers one- and twoyear programs in a variety of fields. The program offers an opportunity for students to simultaneously be enrolled in academic classes to meet high schools' graduation requirements and a youth apprenticeshiprelated instruction class. There is no fee for the class. Students in the program are also employed by a participating employer under the supervision of a skilled mentor. This program is available to qualified juniors and seniors.
*See page 45 for full listing.

## YOUTH APPRENTICESHIP PROGRAMS

| Course <br> Length | Credit | Name of Course | Course <br> Number | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | Pre-requisite |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 2.0 | ©YA Architecture \& Construction | YA AC |  |  | x | x | x |
| Year | 2.0 | ©YA Agriculture Food \& Natural Resources | YA AF |  |  | x | x | x |
| Year | 2.0 | ©YA Business - Finance | YA BF |  |  | x | x | x |
| Year | 2.0 | ©YA Communication \& Audio/Video Technology | YA CT |  |  | x | x | x |
| Year | 2.0 | ©YA Culinary Arts | YA CA |  |  | x | x | x |
| Year | 2.0 | ©YA Information Technology | YA IT |  |  | x | x | x |
| Year | 2.0 | ©YA Health Care Science | YA HCS |  |  | x | x | x |
| Year | 2.0 | ©YA Hospitality \& Tourism | YA HT |  |  | x | x | x |
| Year | 2.0 | ©YA Manufacturing | YA MA |  | x | x | x |  |
| Year | 2.0 | ©YA Mechanics \& Repair | YA MR |  |  | x | x | x |
| Year | 2.0 | ©YA Stem(Science, Tech, Engineering \& Math) | YASTEM |  | x | x | x |  |

Wisconsin's Youth Apprenticeship Program integrates school-based learning and work-based learning to provide youth with academic and occupational skills leading to both a high school diploma and a Certificate of Occupational Proficiency. This program combines academic and technical instruction with mentored on-the-job learning that makes a real world connection for the students. This program is open to juniors and seniors, and students may apply in February. Students must maintain good grades in school, work for at least 450 hours in a year, achieve required work skills, and meet high school graduation requirements in order to complete the program.


Students interested in the PHS Youth Apprenticeship program must apply for acceptance into the program through our PHS Liaison. Our PHS Liaison is Mrs. Connie Lund (colund@plymouth.k12.wi.us).


[^0]:    AP United States History: 1 year, Grades 10-12
    Psychology (Lakeland): 1 semester, Grades 11-12
    AP Microeconomics (Lakeland): 1 semester, Grades 11-12
    AP Macroeconomics (Lakeland): 1 semester, Grades 11-12
    IED Introduction to Engineering design (PLTW): 1 year, Grades 9-12
    POE Principals of Engineering (PLTW): 1 year, Grades 10-12
    DE Digital Electronics (PLTW): 1 year, Grades 10-12
    CIM Computer Integrated Manufacturing (PLTW): 1 year, Grades 10-12
    Environmental Sustainability (PLTW): 1 year, Grades 10-12
    Engineering Design and Development (PLTW): 1 year Grade 12
    Technical Drawing (LTC): 1 semester, Grades 10-12
    Metal Welding I \& Plasma Cutting (LTC): 1 semester, Grades 10-12
    Manufacturing Technology I (LTC): 1 semester, Grade 9-11 (If taken before 2016-2017)

[^1]:    PLTW course. Prerequisite: IED (Introduction to Engineering Design)

