

**2018-2019**



**LINN-MAR**

**High School**

Linn-Mar High School  
Program of Studies

Inspire Learning. **Unlock Potential. Empower Achievement.**

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# KEY



Regents Admissions Index (RAI) approved course



NCAA approved course



Weighted course graded on a 5.0 scale



Project Lead the Way



Kirkwood Community College credit course



Talented and Gifted Program Course

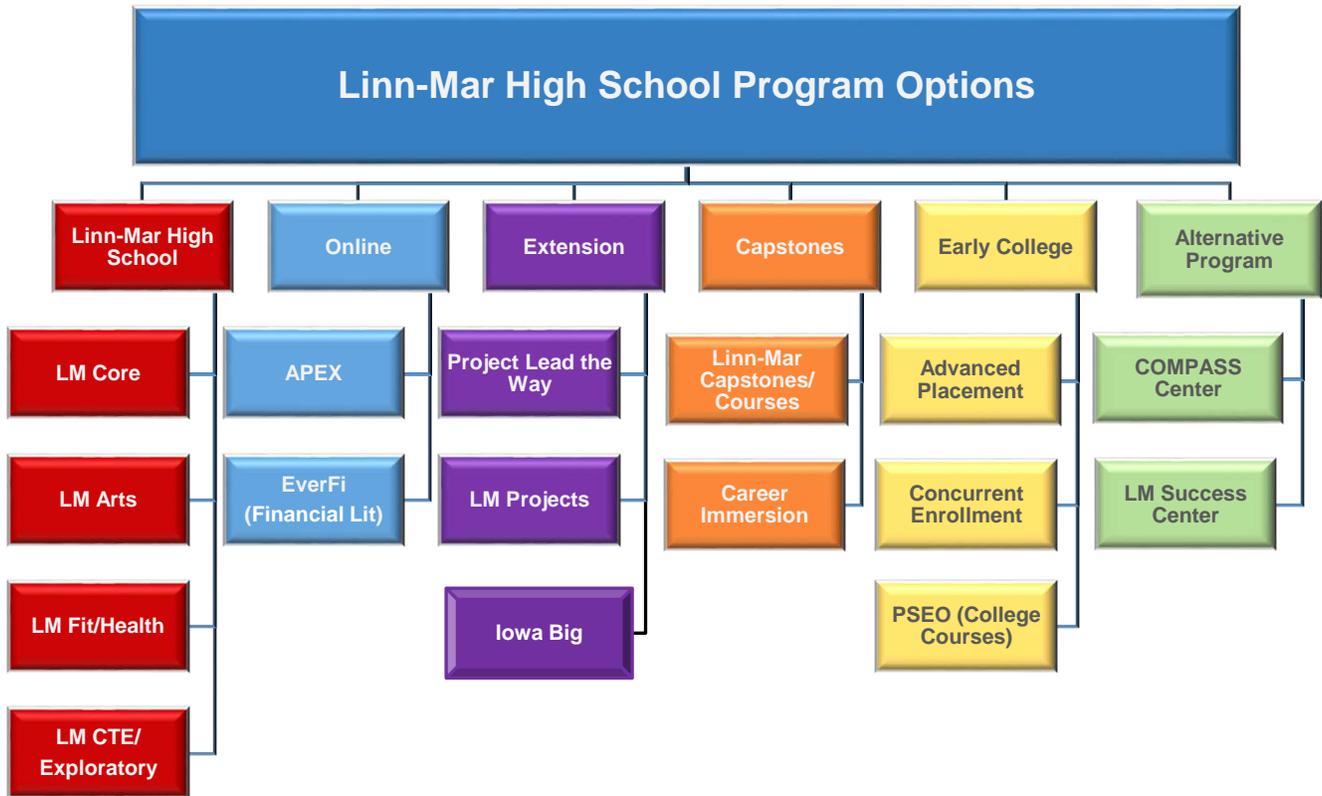


Curriculum for Agricultural Science Education



Blended Course

Linn-Mar High School Program of Studies  
Academic Guidelines





# Linn-Mar Academic Guidelines

## Academic Letter

Students who achieve a 3.33 or higher grade point average during a given school year are eligible for a Linn-Mar High School academic letter. Academic letters are presented to students at an assembly each fall. Students must have been in attendance at Linn-Mar High School during both semesters of the previous school year to qualify. Academic Letter recipients who achieve a GPA of 4.00 or higher during a given school year are eligible to receive a Linn-Mar High School Academic Letter *with Distinction*. Recipients with a GPA of 3.75-3.99 during a given school year are eligible to receive a Linn-Mar High School Academic Letter *with Honors*.

## Course Load

Students in grades 9-11 must enroll in 70 credit hours per year. Students in grade 12 must enroll in 60 credit hours per year.

## Credit Hours

Most block courses (which meet 95 minutes per day) are worth five credits per quarter (9 weeks). Most other courses (which meet for 45 minutes per day) are worth five credits per semester (18 weeks).

## Credit/Fail Option

Students in grades 10-12 may elect to take a course "Credit/Fail". **Courses needed to satisfy graduation requirements in Math, Science, Social Studies, and English may not be taken Credit/Fail.** A limit of 25 credits may be taken Cr/F during the high school career. A grade C- (70%) or higher must be earned to receive credit. Grades lower than C- will receive an F grade. Students must choose this option by the end of the 5<sup>th</sup> week for block classes and by the end of the 10<sup>th</sup> week for semester/traditional classes.

## Drop/Add Deadlines

A student must add a new block course before the end of the 3<sup>rd</sup> day of a new grading period. A new Math, Music, Foreign Language, or **early-bird** course must be added before the end of the 5<sup>th</sup> day of a new semester. A student must drop a block course before the end of the 4<sup>th</sup> week of a given grading period. A 45 minute "skinny" course must be dropped before the end of the 8<sup>th</sup> week.

## Grading

Linn-Mar High School uses a standard grading scale: A+ (99%); A (93%); A- (90%); B+ (87%); B (83%); B- (80%); C+ (77%); C (73%); C- (70%); D+ (67%); D (63%); D- (60%); F+ (55%). Percentages are rounded to the nearest whole percentage (0.5 or higher is rounded up and 0.49 or lower is rounded down). Extra credit or same test re-takes may raise a grade to no more than an A-.

Linn-Mar High School Program of Studies  
Academic Guidelines

### **Grade Point Calculation**

Grade point averages (GPA) are computed on a 4.33 scale as follows: A+ (4.33); A (4.0); A- (3.67); B+ (3.33); B (3.0); B- (2.67); C+ (2.33); C (2.0); C- (1.67); D+ (1.33); D (1.0); D- (0.67). Transfer GPA will be computed using the Linn-Mar High School grade point calculation values.

### **Graduation – Early**

Students meeting all requirements for graduation and **electing to graduate early must apply for early graduation at least one month prior to the student's final quarter.** Applications can be picked up in the 11/12 office and submitted to the Principal's Office. The Principal will meet with each early graduation applicant prior to recommending candidates to the Board of Education for approval.

### **Graduation Requirements**

Linn-Mar High School students are required to earn 250 credits in order to graduate. In addition, the following department requirements must be met in order to earn a diploma:

- **English – 40 credits.** Must include English 9 or English I (10 credits each), English II (may opt out if pass English I with a 90% or higher grade), English III or Advanced English III, and one speech/acting course (5 credits).
- **Mathematics – 30 credits.** Must include Algebra (10 credits) or Algebra Fundamentals I and Algebra Fundamentals II (20 credits). Students who successfully complete both semesters of Algebra may not then take Algebra Fundamentals I or Algebra Fundamentals II to fulfill the Algebra or three year Math requirement.
- **Science - 30 credits.** Must include General Biology (10 credits) or Fundamentals of Biology I and Fundamentals of Biology II (20 credits), a physical science course (Chemistry, Physics, or Earth and Physical Science) (10 credits). Ten elective credits may include the following technical offerings: Agriculture, Food and Natural Resources, Principles of Agricultural Science - Animal, Natural Resources and Ecology, Food Science and Safety, and Aquaculture Science.
- **Science (starting with the Class of 2022) - 30 credits.** Must include General Biology (10 credits) or AP Biology 1&2 (15 credits) an earth science course (Earth Science (10 credits), Earth and Space Science (10 credits), or AP Environmental Science 1&2 (15 credits)), a chemistry course (Applied Chemistry and Physics (10 credits) or Chemistry I (10 credits)), and a physics course (Earth and Space Science (10 credits), Applied Chemistry and Physics (10 credits), Physics I (10 credits), or AP Physics 1&2 (20 credits)).
- **Social Studies – 30 credits.** Must include U.S. History 9 or U.S. History I (10 credits) or AP U.S. History (15 credits), World History (10 credits) or AP World History (15 credits), American Government (5 credits) or AP American Government (10 credits), and one social studies elective (5 credits).
- **Social Studies (starting with the Class of 2022) - 30 credits.** Must include U.S. History 9 or U.S. History I (10 credits) or AP U.S. History (15 credits), World History (10 credits) or AP World History (15 credits), American Government (5 credits) or AP American Government (10 credits), Introductory Psychology or Sociology (5 credits).
- **Personal Finance (starting with the Class of 2022) - 5 credits.** Students must receive credit for Personal Finance (5 credits) or granted a waiver through completion of designated online Financial Literacy course with certificate.
- **Health/Fitness - 20 credits.** Must include Health I (5 credits). Must include a Lifetime Fitness Course each school year.

Graduation requirements for students with an Individual Education Program (IEP) will be in accordance with the prescribed course of study as written in their IEP. Prior to graduation, the IEP team shall determine whether the graduation requirements have been met.

Linn-Mar High School Program of Studies  
Academic Guidelines

**Standards Reporting**

Linn-Mar High School reports on Priority Standards of the Iowa Core and content standards in subject areas not included in the Iowa Core. Standards reporting is based off of proficiency scales used for assessing student progress for each priority standard. Standards will be reported in addition to traditional percentage grading. For teachers who convert a proficiency scale score to a percentage score, the following conversion scale will be used:

**Curriculum Maps Proficiency Scales**

4	Advanced	In addition to proficient, in-depth inferences and applications that go beyond what was taught
3.5	High Proficient	
3	Proficient	No Major errors or omissions regarding <b>any</b> of the simple or complex concepts taught
2.5	Proficient with Support	
2	High Progressing	An understanding of the simpler details and processes taught, but requires support
1.5	Low Progressing	
1	Capable of 2.0 with Support	With help, partial understanding of details and processes taught
0.5	Limited Success	
0	Not Attempted	Not Attempted

**Proficiency Scale Conversion**

4	100	A+
3.5	95	A
3	90	A-
2.5	80	B-
2	70	C-
1.5	65	D
1	60	D-
0	50	F

Linn-Mar High School Program of Studies  
Academic Guidelines

**Standardized Testing Program**

Standardized testing plays a significant part in the planning process for post-high school transition. The counseling staff, homeroom teachers, parents, and students will collaborate to develop an appropriate four-year academic plan for each student. The LMHS testing plan is designed to comply with Iowa Department of Education requirements. In addition, these tests provide helpful information about students' strengths and interests. Finally, test results are analyzed to provide feedback regarding the effectiveness of curriculum, instruction, and assessment.

*\* Required assessments are subject to change each year.*

**9<sup>th</sup> Grade**

- Iowa Assessments (required)

**10<sup>th</sup> Grade**

- Iowa Assessments (required)
- NWEA MAP test (math and reading assessment) (required)

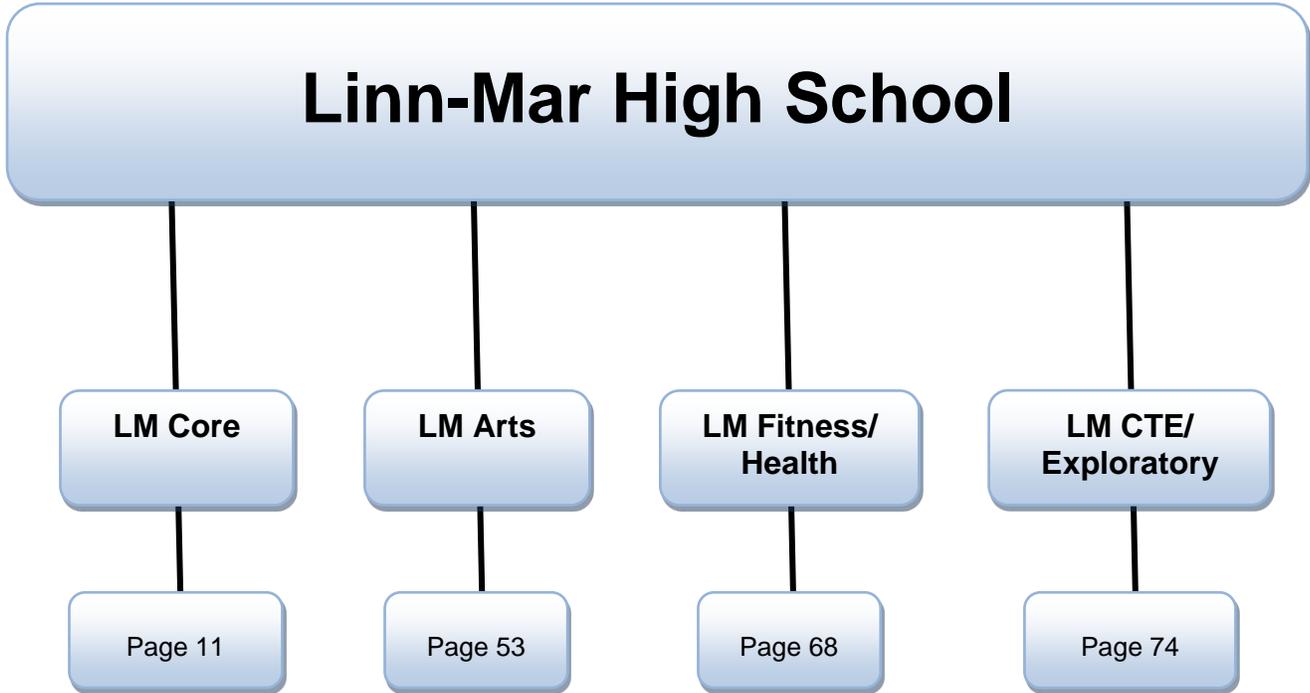
**11<sup>th</sup> Grade**

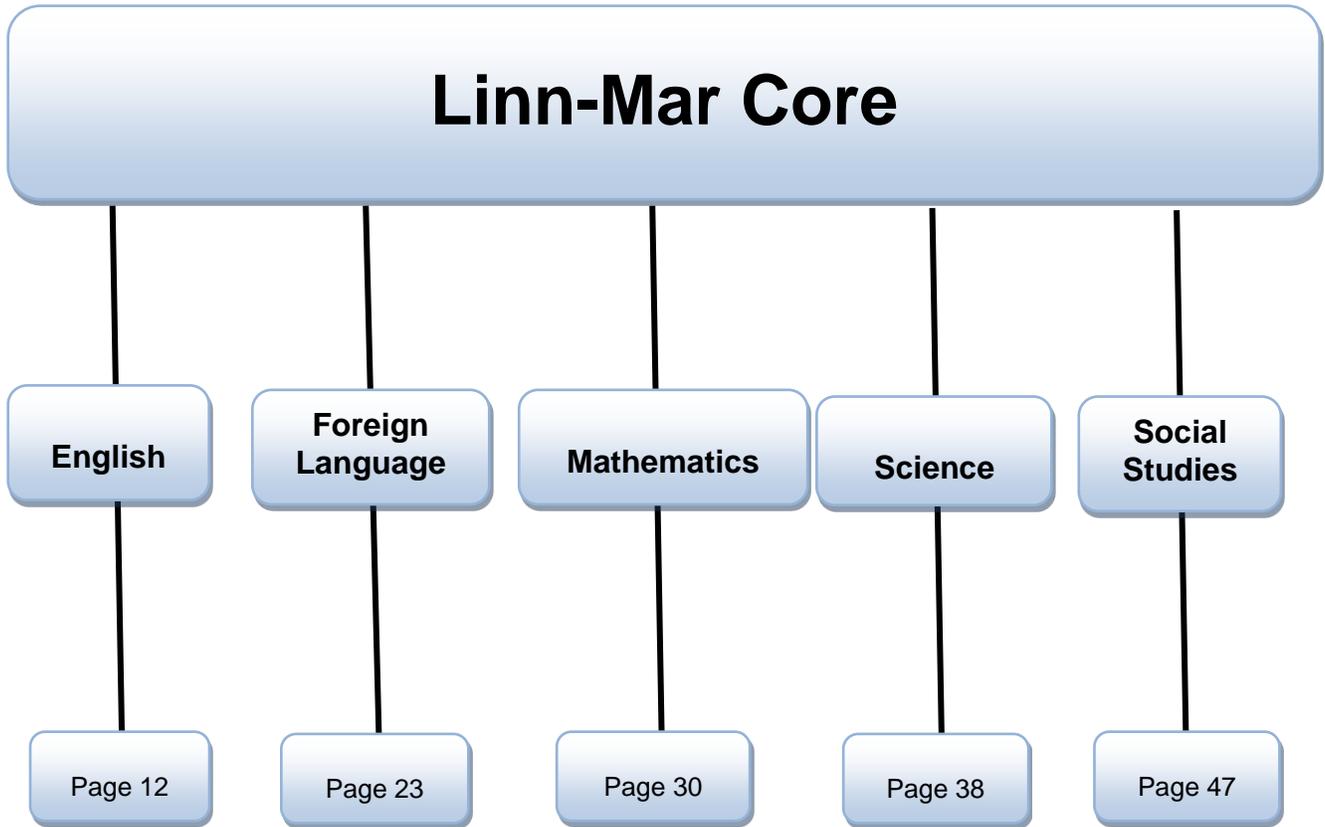
- Iowa Assessments (required)
- ASVAB – military career inventory (optional)
- ACT (optional) *\*\* fee required*
- SAT I and SAT II (optional) *\*\* fee required*
- PSAT: Pre-SAT/National Merit Scholarship Qualifying Test (optional) *\*\* fee required*

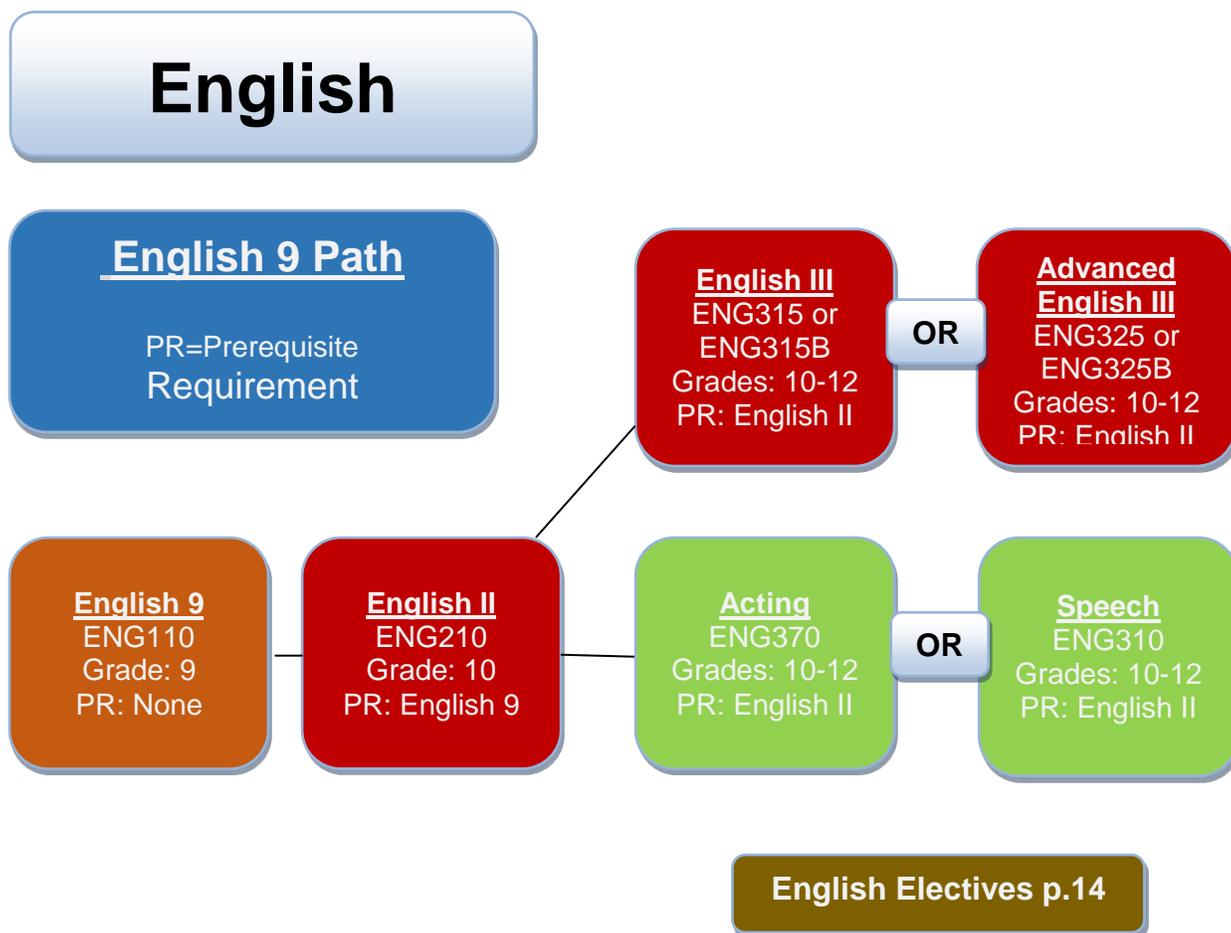
**12<sup>th</sup> Grade**

- ACT (optional) *\*\* fee required*
- SAT I and SAT II (optional) *\*\* fee required*
- COMPASS (Kirkwood placement) (optional)
- ASVAB- military career inventory (optional)

*\* If any test is required by state legislative or Department of Education action, it will be added to this listing for the year required.*

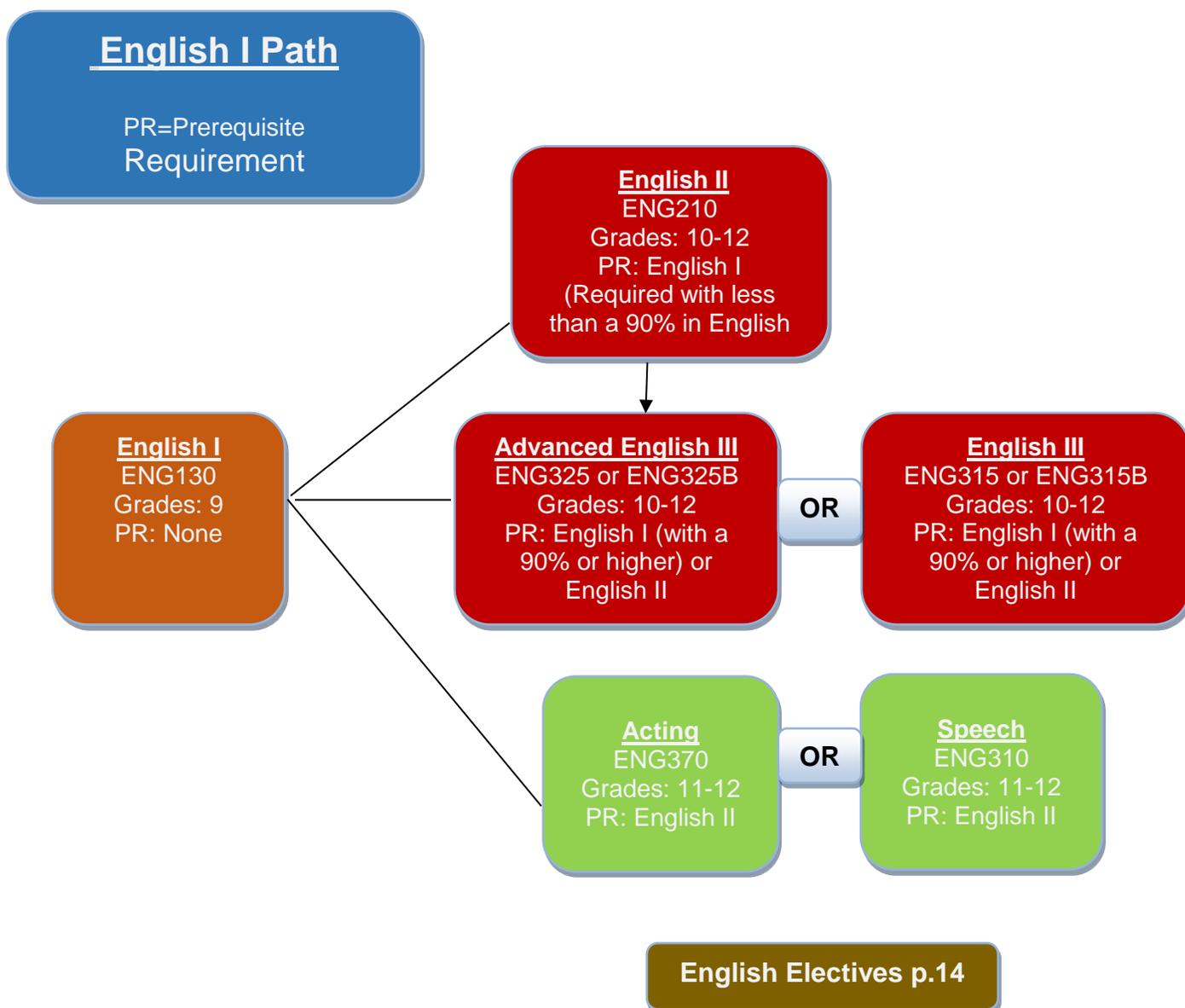






### Graduation Requirements

- 40 credits of English (Will include at least 1 elective)
- English 9 or English I
- English II (May opt out w/ 90% in English I)
- English III or Advanced English III
- Speech or Acting



- Graduation Requirements**
- 40 credits of English (Will include at least 1 elective)
  - **English 9** or **English I**
  - **English II** (May opt out w/ 90% in English I)
  - **English III** or **Advanced English III**
  - **Speech** or **Acting**

Linn-Mar High School Program of Studies

**English Electives**

PR=Prerequisite Requirement

**Academic Literacy I**

ENG105  
Grades: 9  
PR: Placement

**Academic Literacy II**

ENG205  
Grades: 10  
PR: Placement

The above courses may be required for individual students

**Journalism**

ENG220  
Grades: 10-12  
PR: English I or English II

**British Literature**

ENG340  
Grades: 11-12  
PR: English II or Approval

**Classics**

ENG350  
Grades: 11-12  
PR: English II or Approval

**Contemporary Literature**

ENG360  
Grades: 10-12  
PR: English II or Approval

**Literature of a Selected Author**

ENG380  
Grades: 10-12  
PR: English II

**Creative Writing**

ENG410  
Grades: 10-12  
PR: English I or English II

**Intro to College Writing**

ENG420  
Grades: 11-12  
PR: English III or Advanced English III

**College Grammar**

ENG430  
Grades: 10-12  
PR: English II or Approval

**College Reading**

ENG450  
Grades: 10-12  
PR: English II or Approval

**Composition I**

ENG460  
Grades: 11-12  
PR: English III or Advanced English III and qualifying placement score

**Composition II**

ENG465  
Grades: 11-12  
PR: Composition I

**AP English**

ENG511 & ENG512  
Grades: 11-12  
PR: English III or Advanced English III

### Academic Literacy I



Course #: ENG105  
 Grade Level: 9  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: approval

**Considerations:** Students are placed in this course per recommendation of the 8<sup>th</sup> grade language arts teachers, Iowa Assessment scores and other indicators. This course is designed for students reading significantly below grade level.

\* May be required for individual students.

**Course Description:** This course develops reading rate and comprehension skills of material presented in all content areas. Each unit will include the reading process, independent reading and vocabulary. Specific units will focus on reading textbooks, fiction, non-fiction, internet, graphics and tests.

### English 9

Course #: ENG110  
 Grade Level: 9  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** English 9 or English I required for graduation.

**Course Description:** This course develops communication skills in reading, speaking, listening, thinking and writing. It includes units in the short story, the novel, poetry, drama and research. The student will practice various forms of writing and will work toward improving grammar, mechanics, and vocabulary.

### English I



Course #: ENG130  
 Grade Level: 9  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none

**Considerations:** English I or English 9 required for graduation. Students need to be highly motivated in reading and writing. Expectations are high regarding motivation and achievement, reflected in the pace and rigor of the curriculum. Additionally, good basic writing and research skills are expected.

**Course Description:** This is an accelerated class which emphasizes analytical reading and writing. Students should be independent learners. Students will read several novels, non-fiction, drama and short stories.

### Academic Literacy II

Course #: ENG205  
 Grade Level: 10  
 Credits: 5  
 Length: 2 Quarters  
 Format: Skinny  
 Prerequisite: Academic Literacy OR English 9

**Considerations:** Students are placed in this course per recommendation of 9<sup>th</sup> grade English teachers, Iowa Assessment scores, and other indicators. This course is designed for students reading significantly below grade level. \*May be required for individual students.

**Course Description:** This course continues to develop reading rate and comprehension of material presented in all content areas. This course reinforces strategies learning in Academic Literacy I.

## English II

Course #: ENG210  
 Grade Level: 10  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: English 9 OR  
 English I



**Considerations:** See prerequisite. Fulfills the 10<sup>th</sup> grade English requirement for graduation.

**Course Description:** This course continues to develop and refine student skills in the areas of reading, writing, listening, and speaking. In English II work continues on student responsibility, respect for each other, intellectual curiosity, and tolerance for varying viewpoints.

## Journalism

Course #: ENG220  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Passed English II OR  
 passed English I with 90%  
 or higher



**Considerations:** See prerequisite.

**Course Description:** This course is an introductory, overview class which teaches basic journalism skills while examining the role of newspapers in our society. Areas explored include newspaper interviewing, writing, and editing. Students are also introduced to the concepts of Press Law. This course DOES NOT meet the composition requirement for admission to UNI.

## Speech

Course #: ENG310  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR  
 passed English I  
 with 90% or higher



**Considerations:** See prerequisite. Speech or Acting is required for graduation.

**Course Description:** Speech is designed to make students more effective communicators by emphasizing a variety of real-life speaking situations and building self-confidence in all of these settings. Because this is a performance based class, students should carefully consider conflicts which may result in absences. Sophomores who have passed English 1 with 90% or better may ask their counselor to be put on a waiting list for this class. Admission to the class is subject to availability.

## English III

Course #: ENG315 or ENG315B  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: English II OR  
 passed English I  
 with 90% or higher



**Considerations:** See prerequisite.

**Course Description:** Students will analyze and interpret a variety of American literature, including selections from our earliest writers to our foremost contemporaries. This class will also introduce various writing styles. This is a process oriented class where students will revise and edit their own work.

### Advanced English III



Course #: ENG325 or ENG325B  
Grade Level: 10-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: Passed English II OR  
English 9 or passed  
English I with 90% or  
higher

**Considerations:** Fulfills the literature and writing requirement for graduation and is encouraged for students planning to take AP English.

**Course Description:** This is an accelerated version of English III where students will analyze/interpret a variety of American literature with an emphasis on analytical writing and interpreting literary pieces. Students will also write informative, persuasive, research and personal essays. Students should be highly self-motivated and independent and should expect homework each night. This course has a high level of rigor and expectations. The following text will be covered in class:

- Billy Budd
- The Awakening
- The Jungle
- The Adventures of Huckleberry Finn
- The Great Gatsby
- I Know Why the Caged Bird Sings
- The Crucible
- Selections of poetry from Walt Whitman, Emily Dickinson and other American poets
- Short pieces of fiction and nonfiction from American authors

### British Literature



Course #: ENG340  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: English II OR passed  
English I with 90% or  
higher

**Considerations:** See prerequisite.

**Course Description:** This course is designed to broaden a student's reading and writing experiences. Students will read approximately five novels, excerpts from classic British works, historical overviews of the literary periods and articles related to Britain. Students will do individual and group presentations. Among these are: serve on a discussion group for a novel, present their research project, and design and discuss their coat-of-arms.

### Classics

Course #: ENG350  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR passed English I with 90% or higher



**Considerations:** See prerequisites.

**Course Description:** Students in this course will analyze selected works of literature that speak compassionately of the human experience, that relate human values and that represent some of the best of the literary traditions in order to gain new awareness of themselves and others.

### Contemporary Literature

Course #: ENG360  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR passed English I with 90% or higher



**Considerations:** See prerequisites.

**Course Description:** Students will read a variety of selected contemporary titles in multiple genres, including fiction, non-fiction, memoir, short stories, essays and poetry. Specific attention will be devoted to identifying classifications, and the study of theme, author voice and specific author intent within the writing. Students will complete multiple projects to promote lifelong literacy and will discover how technology and the internet can enhance reading selections. Some selections in this course have a more mature theme.

### Acting

Course #: ENG370  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR passed English I with 90% or higher

**Considerations:** See prerequisites. Acting or Speech is required for graduation. Acting DOES NOT meet the Board of Regents criteria for the RAI. Sophomores who have passed English 1 with 90% or better may ask their counselor to be put on a waiting list for this class. Admission to the class is subject to availability.

**Course Description:** Acting is designed to make students more effective communicators by emphasizing a variety of speaking situations and building self-confidence in all these settings. Because this is a performance based class, students should carefully consider potential conflicts that may result in absences.

### Literature of a Selected Author

Course #: ENG380  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR pass English I with 90% or higher



**Considerations:** See prerequisites. This is an advanced, college preparatory literature course.

**Course Description:** Students will read, discuss, and analyze a variety of texts surrounding a selected author. Students will relate historical events and their impact on the literature, will relate the author's life, world/regional events of the time, and social conditions of the works of the author. Students will respond to common elements and themes in the author's major body of work.

### **Communications**

Course #: ENG390  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Prerequisite: English 9 or English I



**Considerations:** Fulfills the graduation requirement for Speech through Iowa BIG.

**Course Description:** Communications will prepare students to effectively publicly speak for career and professional endeavors and interactions. Students will understand and apply necessary skills for interviewing, team collaboration, public presentations to school boards and community organizations, creating professional digital profiles, and professional use of social media. Students will develop speaking and listening skills in authentic learning opportunities that address an evolving definition of public speaking.

### **Creative Writing**

Course #: ENG410  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR pass English I with 90% or higher



**Considerations:** See prerequisites.

**Course Description:** This course is designed for students who genuinely like to write in a variety of forms. Students will take writing from the initial idea through the developmental and polishing stages.

### **Intro to College Writing**

Course #: ENG420  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English III or Adv. English III



**Consideration:** Students should take this class if they need to improve their writing skills, and do not yet feel comfortable taking a college-level writing class.

**Course Description:** This course is designed for any student who is considering college, interested in improving general writing skills, and/or considering taking Composition I. Students will improve organizational skills in writing, learn how to develop their ideas, improve their skills in word choice and sentence structure, improve their mechanics in writing, improve their research skills, and learn how to better develop and write a research paper in MLA style. Papers may include the following essays: Personal, Definition, Division/Classification, Comparison/Contrast, and Persuasive. In addition, students will write a research paper in which they will support their position on a contemporary issue.

### **College Grammar**

Course #: ENG430  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II OR passed English I with 90% or higher



**Considerations:** See prerequisites.

**Course Description:** This course develops skills in analyzing sentences and applying rules of standard written English. Included are units on vocabulary development, grammatical punctuation, and editing written products.

### College Reading

Course #: ENG450  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II



**Considerations:** See prerequisites.

**Course Description:** This course is designed for students who wish to improve their reading rate and comprehension skills in order to be successful in their studies beyond high school.

### Composition I

Course #: ENG460  
 Grade Level: 11-12  
 Credits: 5 (LM), 3 (KW)  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English III OR  
 Adv. English III AND  
 qualifying placement score



**Considerations:** See prerequisite. Basic writing and research skills are expected and needed. This is a dual-credit course, and the expectations reflect those of college courses.

**Course Description:** This course strengthens students' writing skills that have been developed in previous English courses. Particular emphasis is on furthering skills in argument writing. The course also seeks to develop a student's ability to think critically. Students will complete several formal papers, impromptu essays in response to current events, and two papers involving research. Additionally, students will make presentations and frequently conduct peer review. This class is combination of seminar and lab time.

### Composition II

Course #: ENG465  
 Grade Level: 11-12  
 Credits: 5 (LM), 3 (KW)  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Composition I



**Considerations:** See prerequisite. This is a dual-credit course, and the expectations reflect those of college courses.

**Course Description:** This course continues to develop writing skills and critical thinking skills introduced in Composition I, with a particular emphasis on argument analysis. The course requires critical analysis of reading materials, audience and self, and further emphasizes precise and effective use of research tools while honing a student's ability to analyze and construct logical arguments. This class is a combination of seminar and lab time.

### Advanced Placement English 1 & 2

Course #: ENG511 & ENG512  
 Grade Level: 11-12  
 Credits: 15  
 Length: 3 Quarters  
 Format: Block  
 Prerequisite: Advanced English III is strongly recommended



**Considerations:** See prerequisite. Students MUST sign up for both sections listed above. This course is a three-quarter class beginning the second quarter of the year. Students may take the AP English exam in May.

**Course Description:** This course is for highly motivated students capable of college level work. Students will further develop critical thinking skills through the study of complex literature and writing numerous literary analyses. Students will be expected to have read one text prior to the beginning of the course, and should check with their instructor for further information.

### **English Language Learners I**

Course #: ENG140  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey and their scores on the IPT English language tests.

**Course Description:** This course is designed to develop students' speaking, listening, reading and writing skills in the English language and develop the skills that students need to be successful at L-M and beyond.

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### **English Language Learners II Reading**

Course #: ENG245R  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey and their scores on the IPT English language tests.

**Course Description:** This course is designed to continue to develop students' speaking, listening, reading, and writing skills in the English language. This course focuses on academic reading, analyzing and interpreting different genres which build academic vocabulary and grammar skills.

### **English Language Learners II Composition**

Course #: ENG245C  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey and their scores on the IPT English language tests.

**Course Description:** This course is designed to develop students' composition skills in the English language. This course will focus on reading, analyzing and interpreting different genres which build academic vocabulary and grammar skills.

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### **English Language Learners III Reading**

Course #: ENG255R  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey and their scores on the IPT English language tests.

**Course Description:** This course is designed to continue to develop students' speaking, listening, reading, and writing skills in the English language. This course focuses on academic reading, analyzing and interpreting different genres which build academic vocabulary and grammar skills as well as texts that relate to American history and culture in order to increase students' background knowledge on these subjects while honing their reading skills.

### **English Language Learners III**

#### **Composition**

Course #: ENG255C  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey, their scores on the IPT English language tests, and school performance.

**Course Description:** This course is designed to continue to develop students' composition skills in the English language. This course focuses on the writing process, a variety of essay styles and writing research papers.

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### **English Language Learners III**

#### **College Prep**

Course #: ENG001CP  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey, their scores on the IPT English language tests, and school performance.

**Course Description:** This course is designed to continue to develop students' composition skills in the English language. This course will focus on preparing for the ACT and SAT exams through extensive grammar, reading and composition practice. Focus will also be given to the college admissions process, financial aid concerns, and scholarship opportunities.

### **English Language Learners**

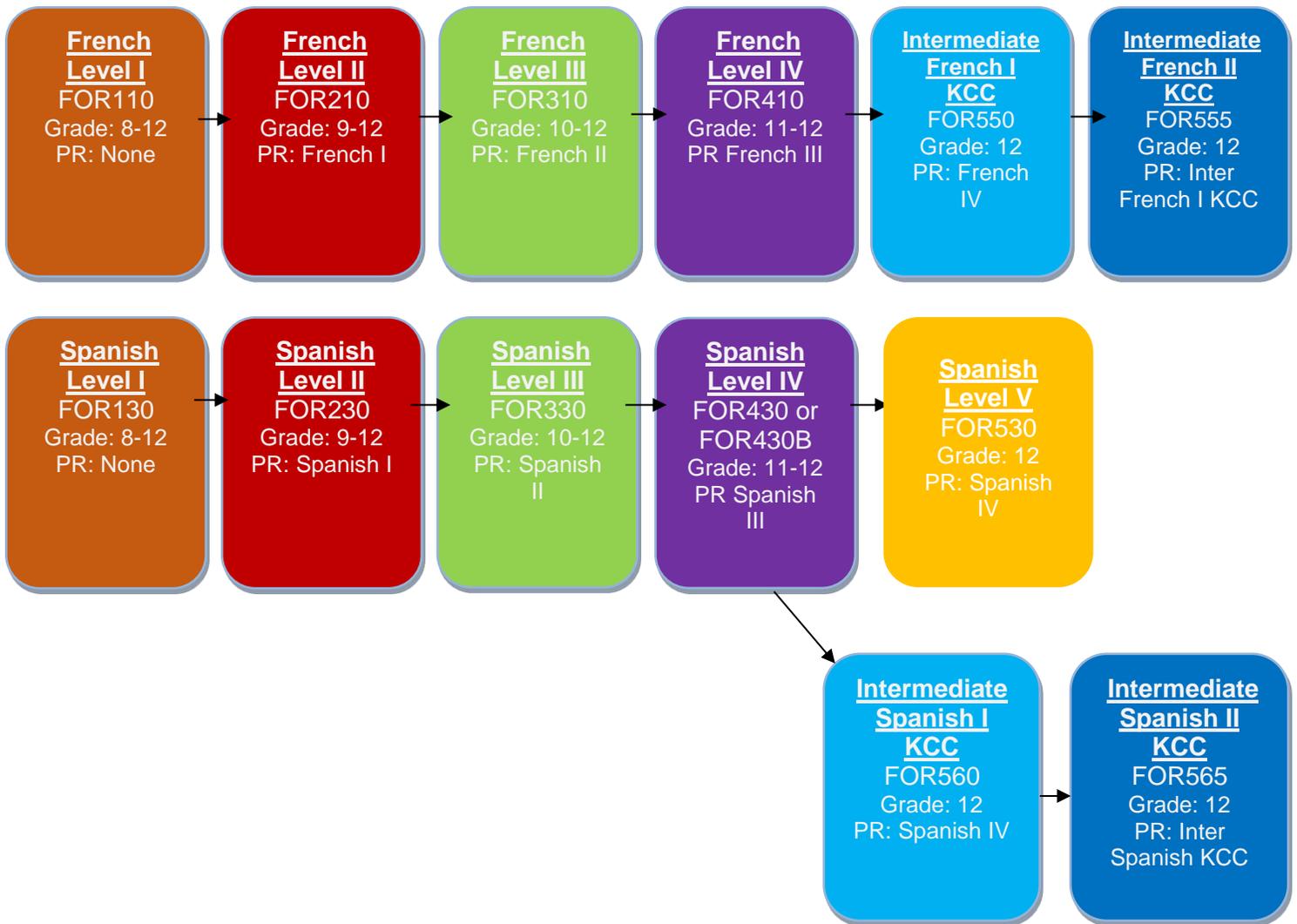
#### **Directed Studies**

Course #: ENG001DS  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Considerations:** Students are placed in the course based on the Home Language Survey, their scores on the IPT English language tests, and school performance.

**Course Description:** This course is designed to assist students with their other academic classes. Supports provided include help with understanding the expectations and assignments for classes, one-on-one tutoring and administration of assessments when necessary.

# Foreign Language



### Level I French

Course #: FOR110  
 Grade Level: 8-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: none



**Considerations:** none

**Course Description:** This course develops the communicative skills of reading, writing, speaking, and listening. Basic grammar concepts and vocabulary are introduced. The target language is used during class time.

Topics include school schedules and subjects, pastimes and activities, likes and dislikes, places, weather, time, family and Paris. Grammar concepts include adjectives and agreement, present tense of –er verbs, and irregular verbs avoir, etre, faire, aller, venir as well as stem changing verbs acheter and preferer and the –re group of verbs. Students also learn possessive adjectives and the near future.

### Level I Spanish

Course #: FOR130  
 Grade Level: 8-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: none



**Considerations:** none

**Course Description:** This course develops the communicative skills of reading, writing, speaking, and listening. Basic grammar concepts and vocabulary are introduced. The target language is used during class time.

Topics include school schedules and subjects, food and beverages, and pastimes. Grammar concepts include adjectives and agreement, me gusta, present tense ar, er, ir verbs, and irregular verbs estar, ser, ir, tener, and jugar.

### Level II French

Course #: FOR210  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: French I



**Considerations:** Second semester grade of 60% or higher in Level I is required.

**Course Description:** This course continues to emphasize the communicative skills of reading, writing, speaking, and listening. Grammar concepts, vocabulary, and use of target language are expanded.

Topics include eating in a café, clothing and shopping, household chores and parts of the house, shops and stores and travel. Additional units include provinces of France and a cinematographic unit on Marcel Pagnol. Grammar concepts include passe compose, demonstrative adjectives, interrogative adjectives, the partitive and prepositions with places. New verbs are mettre, boire, voir, prendre, savoir, connaitre, appeler, dormir, partir, sortir, vouloir, pouvoir as well as –ir verbs. Student also learn command forms.

## **Level II Spanish**

Course #: FOR230  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Spanish I



**Considerations:** Second semester grade of 60% or higher in Level I is required.

**Course Description:** This course continues to emphasize the communicative skills of reading, writing, speaking, and listening. Grammar concepts, vocabulary, and use of target language are expanded.

Topics include families, parties, and restaurants, rooms in the house, clothing, stores, and vacation.

Grammar concepts include possessive adjectives, comparatives and superlatives, direct object and indirect object pronouns, affirmative tu commands, present progressive and preterite tense. The irregular verbs tener, venir, ser, estar, poder, dormer, pensar, preferir, querer, and decir are introduced.

## **Level III French**

Course #: FOR310  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: French II



**Considerations:** Second semester grade of 60% or higher in level II is required.

**Course Description:** This course continues to develop and refine the communicative skills of reading, writing, speaking, and listening. Complex grammar concepts are introduced. The target language will be widely utilized.

Topics include expansion on prior topics and prior preparation and francophone holidays and cuisine, school places and events, morning routine, childhood memories and activities, animal vocabulary. Grammar topics addressed are direct and indirect object pronouns as well as y and en, extension of passe compose and learning of the imperfect tense, negative expressions, reflexive verbs, comparative and superlative adjectives and nouns. Students should be able to use the near future, present tense and both past tenses. There is also a cinematographic unit with two additional Pagnol films. Students begin to write more extensive and styles of communication in French.

### Level III Spanish

Course #: FOR330  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Spanish II



**Considerations:** Second semester grade of 60% or higher in Level II is required.

**Course Description:** This course continues to develop and refine the communicative skills of reading, writing, speaking and listening. Complex grammar concepts are introduced. The target language will be widely utilized.

Topics include school, extracurricular activities, special events, clothing, errands, places in the city, and childhood. Grammar concepts include stem changing verbs, negative and affirmative words, reflexive verbs, demonstrative adjectives, direct and indirect object pronouns, affirmative tu commands, present progressive, preterite, and the imperfect tense. The irregular verbs of saber and conocer are introduced.

### Level IV French

Course #: FOR410  
Grade Level: 11-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: French III



**Considerations:** Second semester grade of 60% or higher in Level III is required.

**Course Description:** Level IV expands the communicative skills of reading, writing, speaking, and listening. Complex grammar concepts are introduced. Class will be conducted extensively in the target language.

Topics include outdoor activities, fitness and health, professions, travel plans, movies and reading, the Renaissance. Informal speech register, slang and texting language is also taught. Grammar concepts include the future, the conditional and subjunctive verb tenses, demonstrative, interrogative and possessive pronouns. Present participles and relative pronouns are also learned. There is also a Victor Hugo poetry unit. Students will study current events of the francophone world on a weekly basis.

## Level IV Spanish



Course #: FOR430 or FOR430B  
Grade Level: 11-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Spanish III

**Considerations:** Grade of 60% or higher for second semester in Level III is required.

**Course Description:** Level IV expands the communicative skills of reading, writing, speaking, and listening. Complex grammar concepts are introduced. Class will be conducted extensively in the target language.

Topics include natural disasters, accidents, emergency room, TV programs, and sporting events, movies, cooking, and camping. Grammar concepts include preterite vs. imperfect, reflexive verbs, gustar-like verbs, impersonal se, por vs. para, imperfect progressive, present perfect, and commands.

## Level V Spanish



Course #: FOR530  
Grade Level: 12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Spanish IV

**Considerations:** Second semester grade of 60% or higher in Level IV is required.

**Course Description:** Level V will focus on the communicative skills of reading, writing, speaking, and listening. Complex grammar concepts are introduced. Class will be conducted extensively in the target language.

Topics include visiting an airport, planning a trip and traveling to a foreign country, staying in a hotel, professions and making plans for the future, and discussing environmental problems and possible solutions.

Grammar concepts includes the review of present, preterite, imperfect, and perfect tenses and the introduction of nosotros commands, future, conditional, and subjunctive tenses.

Spanish V will offer students an opportunity to explore the Hispanic culture.

**Intermediate  
French I KCC**



Course #: FOR550  
Grade Level: 12  
Credits: 5 (LM), 4 (KW)  
Length: 1 Semester  
Format: Skinny  
Prerequisite: French IV

**Considerations:** see prerequisite. Class is conducted in French.

**Course Description:** This course continues to develop the “5 Cs” of second language acquisition (communication, cultures, connections, comparisons, and communities) by providing intensive practice in the fundamental communicative skills of listening, speaking, reading and writing, with a methodic study of different cultural contexts and a review of the basic grammar. This class offered the opportunity for language use beyond the limited sphere of the elementary courses. Discussion of the cultural practices and products of francophone countries presented in the readings and viewing materials constitute an important part of the course. Comparisons and connections between francophone and Anglophone cultures and language will also be examined.

**Intermediate  
French II KCC**



Course #: FOR555  
Grade Level: 12  
Credits: 5 (LM), 4 (KW)  
Length: 1 Semester  
Format: Skinny  
Prerequisite: Intermediate French I

**Considerations:** see prerequisite. Class is conducted in French.

**Course Description:** This course continues to develop the “5 Cs” of second language acquisition (communication, cultures, connections, comparisons, and communities) by expanding the repertoire of realia (movies, readings, Internet explorations) and class activities. The class provides continuous practice in developing the communicative skills and encourages group discussion. Examining the practices and products of francophone cultures as well as recognizing the importance of comparisons and connections between French and American culture and language is an important class component.

**Intermediate  
Spanish I KCC**



Course #: FOR560  
Grade Level: 12  
Credits: 5 (LM), 4 (KW)  
Length: 1 Semester  
Format: Skinny  
Prerequisite: Spanish IV

**Considerations:** see prerequisite. Class is conducted in Spanish.

**Course Description:** In this class, students will continue to develop their ability to communicate in Spanish in everyday, practical situations that they might encounter both in the U.S. and abroad. Along with the development of oral skills, students will also work on the other 3 vital components of language: reading, writing and listening comprehension. Students will actively engage themselves in pair/group activities to express themselves in basic situations. Classroom time will be used for intensive language practice in meaningful contexts (i.e. applying important grammatical concepts, essential vocabulary, and cultural norms needed to maintain basic communication.) Class time will consist of communication activities following grammatical explanations. Students are expected to study and complete assigned workbook, video, lab and textbook activities outside of class.

**Intermediate  
Spanish II KCC**

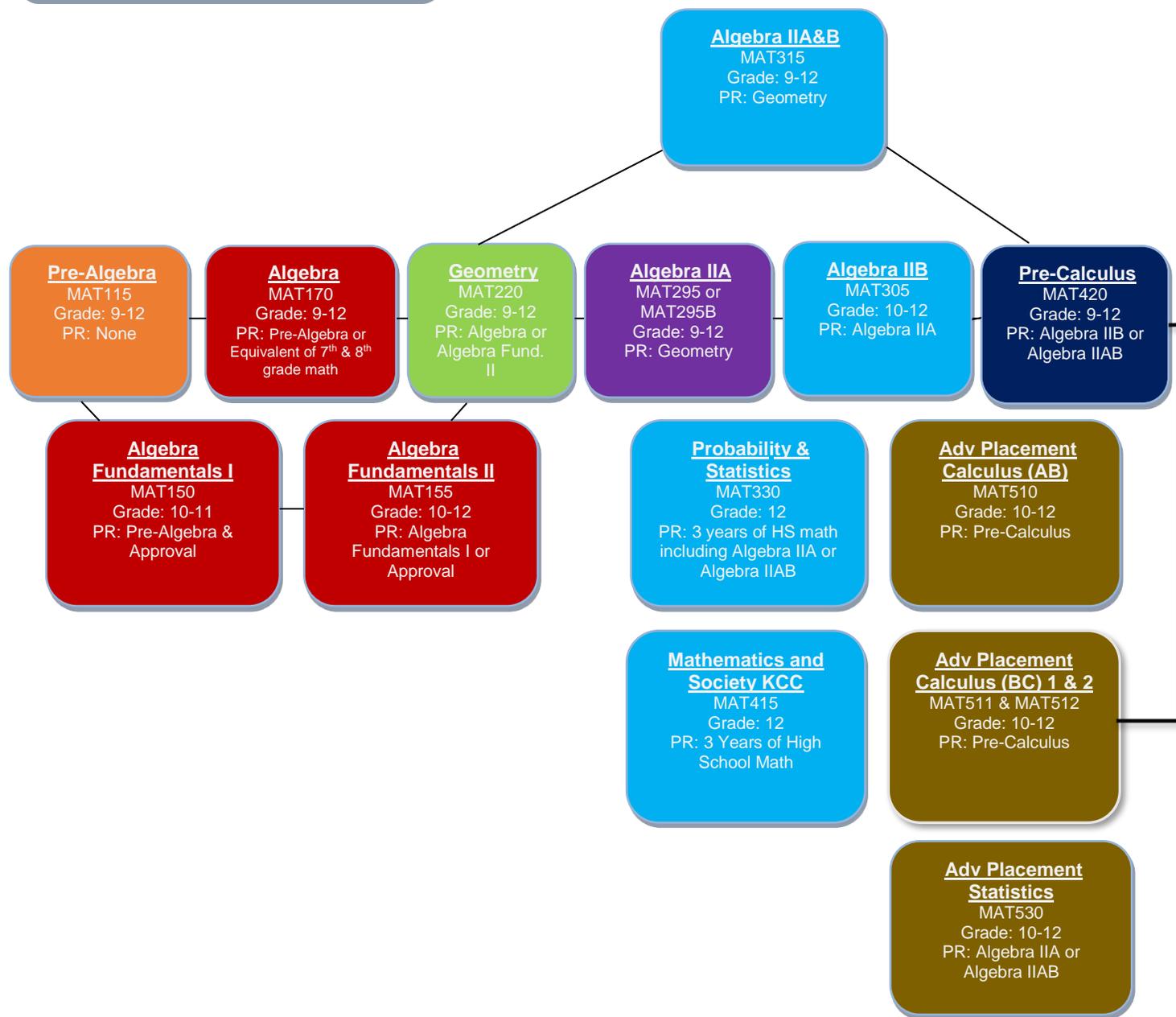


Course #: FOR565  
Grade Level: 12  
Credits: 5 (LM), 4 (KW)  
Length: 1 Semester  
Format: Skinny  
Prerequisite: Intermediate Spanish I

**Considerations:** see prerequisite. Class is conducted in Spanish.

**Course Description:** In this class, students will continue to develop their ability to communicate in Spanish in everyday, practical situations that they might encounter both in the U.S. and abroad. Along with the developments of oral skills, students will also work on the other 3 vital components of language: reading, writing and listening comprehension. Students will actively engage themselves in pair/group activities to express themselves in basic situations. Classroom time will be used for intensive language practice in meaningful contexts. (i.e. applying important grammatical concepts, essential vocabulary, and cultural norms needed to maintain basic communication.) Class time will consist of communication activities following grammatical explanations. Students are expected to study and complete assigned workbook, video, lab and textbook activities outside of class.

# Mathematics



## Graduation Requirements

- 30 Credits Mathematics
- Must include Algebra OR Algebra Fundamentals I and Algebra Fundamentals II

# Mathematics

## Alternative Pathway

PR=Prerequisite Requirement

### Pre-Algebra

MAT115  
Grade: 9-12  
PR: None

### Algebra Fundamentals I

MAT150  
Grade: 10-11  
PR: Pre-Algebra or  
Approval

### Algebra Fundamentals II

MAT155  
Grade: 10-12  
PR: Algebra Fund.  
I or Approval

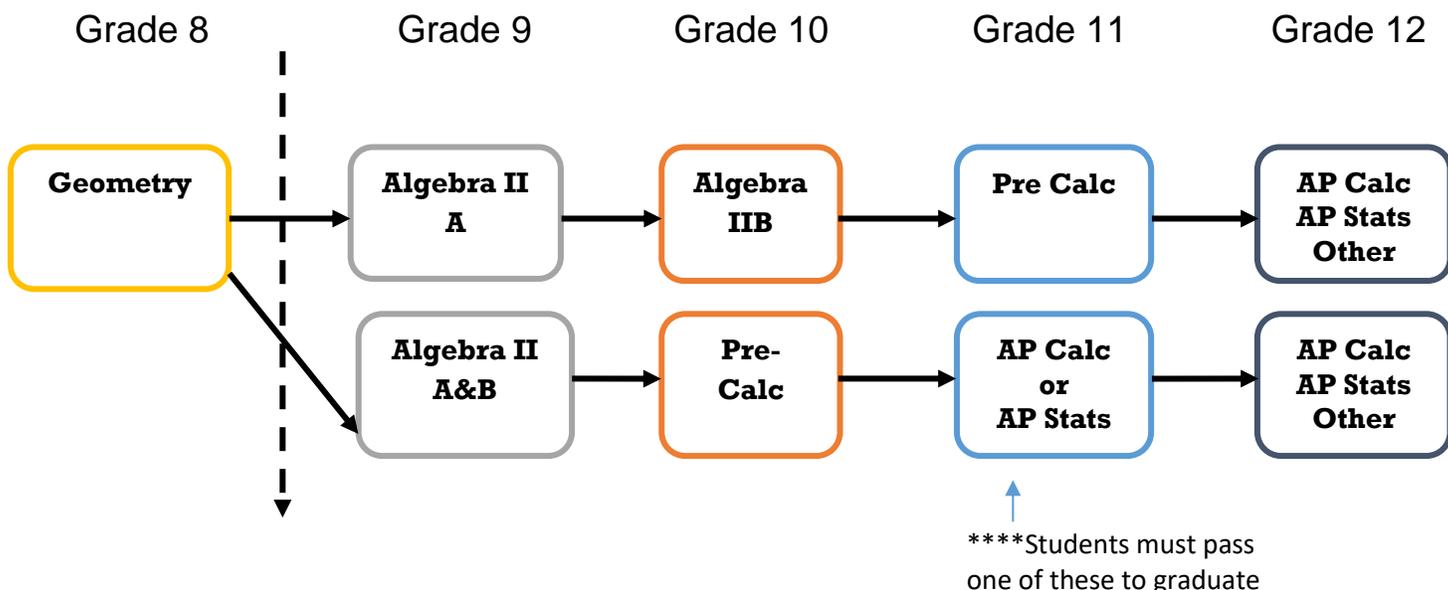
### Geometry

MAT220  
Grade: 9-12  
PR: Algebra or  
Algebra Fund. II

## Graduation Requirements

- 30 Credits Mathematics
- Must include Algebra OR Algebra Fundamentals I and Algebra Fundamentals II

## Math Pathways

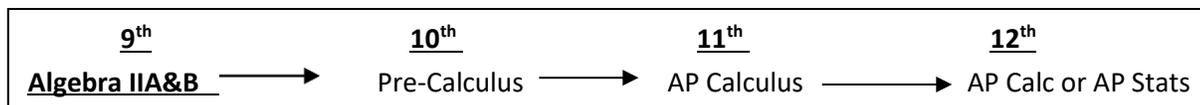


## Algebra IIA&B

This course is a combination of Algebra IIA and Algebra IIB in one course.

### Things to consider before selecting Algebra IIA&B in 9<sup>th</sup> grade:

Incoming 9<sup>th</sup> grade students taking the Algebra II A&B course will be accelerating in math for a second time and this can result in some serious graduation concerns if they struggle with Algebra II A&B, Pre-Calculus, AP Calculus, or AP Statistics (Three years of math is required for graduation).



- 1) Math skill level and effort: Students should have earned high level grades for Algebra and Geometry.
- 2) Students taking Algebra IIA&B in 9th grade **must** take and pass AP Calculus or AP Statistics (taken their junior year) to earn the three years of math required for graduation.
- 3) Students who struggle in Algebra IIA&B after the first three days of school must stay in the Algebra IIA&B course **or** they can drop it and take Algebra IIA the following year (sophomore year). The last option means that they would not be in a math class their freshman year and would eliminate the option of taking AP Calculus in high school.
- 4) Please choose the appropriate course based on the student's future math goals and for their passion for the subject matter.

### Pre-Algebra

Course #: MAT115  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: none  
 Subsequent: Algebra

**Considerations:** A scientific calculator or its equivalent required. Graphing calculators are not allowed in this course.

**Course Description:** This course is an introductory class for Algebra. It is designed to review basic skills and math concepts. Elementary algebra skills with variables and problem-solving techniques will be imperative to the curriculum.

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### Algebra Fundamentals I

Course #: MAT150  
 Grade Level: 10-11  
 Credits: 10  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: Pre-Algebra and approval  
 Subsequent: Algebra Fundamentals II



**Considerations:** Students are placed in this course per approval of the math department based on Pre-Algebra performance. A scientific calculator or equivalent is required. Graphing calculators are not allowed in this course. *Algebra Fundamentals I and Algebra Fundamentals II together meet the algebra graduation requirement.*

**Course Description:** This course is designed to include material covered in the first semester of Algebra. Topics include negative numbers, absolute values, opposites, linear equations, and inequalities in word problems.

### Algebra Fundamentals II

Course #: MAT155  
 Grade Level: 10-12  
 Credits: 10  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: Algebra Fundamentals I or Approval  
 Subsequent: Geometry (recommended) Mathematics and Society



**Considerations:** Students are placed in this course per approval of the math department based on Algebra, and Iowa Assessment scores. A scientific calculator or equivalent is required. Graphing calculators are not allowed in this course. *Algebra Fundamentals I and Algebra Fundamentals II together meet the algebra graduation requirement.*

**Course Description:** This course is designed to include material covered in the second semester of Algebra. Topics include negative numbers, absolute values, opposites, linear equations, and inequalities in one variable word problems, factoring, graphing, and quadratic equations.

## Algebra

Course #: MAT170  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Pre-Algebra or the equivalent of 7<sup>th</sup> and 8<sup>th</sup> grade math  
 Subsequent: Geometry



**Considerations:** Scientific calculators are required. Graphing calculators are not allowed in this course.

**Course Description:** Algebra deals with variables, properties of operations and formulas. Topics include negative numbers, absolute value, opposites, and linear equations in one variable, inequalities in one variable, word problems, factoring, graphing, and quadratic equations.

## Geometry

Course #: MAT220  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra OR Algebra Fundamentals II  
 Subsequent: Algebra IIA or Algebra IIA&B or Mathematics Society



**Considerations:** Scientific calculators are required. Graphing calculators are not allowed in this course.

**Course Description:** Geometry introduces the study of points, lines, planes, polygons, circles, solid figures, and their associated relationships as a mathematical system. Emphasis is placed on the description and use of inductive, deductive, and intuitive reasoning skills. Power of abstract reasoning, spatial visualization and logical reasoning patterns are improved through this course. Focus on comparisons between figures concerning surface areas, volumes, congruency, similarity, transformations, and coordinate geometry is also studied through two and three dimensions.

## Algebra IIA

Course #: MAT295 or MAT295B  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Geometry  
 Subsequent: Algebra IIB (recommended) or Mathematics Society or AP Statistics



**Considerations:** A graphing calculator is required. TI89 or TI-Nspire calculators are NOT allowed.

**Course Description:** This course includes a variety of topics, including equations, inequalities, linear functions and relations, systems of equations and inequalities, quadratic functions and relations, polynomials and functions, inverse functions and relations, radical functions and relations, exponential functions and relations, logarithmic functions and relations, and rational functions and relations. This course fulfills minimum requirement for entry into most regent universities.

## Algebra IIB

Course #: MAT305  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra IIA  
 Subsequent: Pre-Calculus (recommended) or AP Statistics or Mathematics & Society



**Considerations:** A graphing calculator is required. TI89 or TI-Nspire calculators are NOT allowed.

**Course Description:** This course covers all topics in Algebra IIA, not included in Algebra IIA: conic sections, sequences and series, statistics and probability. There is a heavy emphasis on trigonometric functions, trigonometric identities, and trigonometric equations.

### Algebra IIA&B

Course #: MAT315  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Geometry  
 Subsequent: Pre-Calculus (recommended)  
 or Mathematics & Society  
 or AP Statistics



**Considerations:** Recommendation from a mathematics teacher. A graphing calculator IS required. TI89 or TI-Nspire calculators are NOT allowed.

**Course Description:** This course includes a variety of topics, including equations, inequalities, linear functions and relations, systems of equations and inequalities, quadratic functions and relations, polynomials and functions, inverse functions and relations, radical functions and relations, exponential functions and relations, logarithmic functions and relations, and rational functions and relations; and also included in this course is an extension of the above topics, as well as the new additional topics. These include factoring, solving equations, logarithmic functions and relations, conics (including rotations and transformations), sequences and series, trigonometry functions, trigonometry identities, and trigonometry equations.

### Probability and Statistics

Course #: MAT330  
 Grade Level: 12  
 Credits: 5  
 Length: 1 Semester  
 Format: Skinny  
 Prerequisite: 3 years of high school math, including Algebra IIA or Algebra IIB



**Considerations:** Graphing calculators are required.

**Course Description:** This course is intended to develop statistical literacy and thinking by developing skills to interpret results, write explanations, find patterns, and make decisions. Included are units on data classification, frequency distribution and their graphs, and measures of central tendency.

### Pre-Calculus

Course #: MAT420  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra IIB or Algebra IIB  
 Subsequent: AP Calculus (recommended)  
 or Mathematics & Society  
 or AP Statistics



**Considerations:** Graphing calculator is required. TI89 and TI-Nspire calculators are not allowed.

**Course Description:** This course is designed for students who want to be better prepared for College Calculus or AP Calculus. This course has been enhanced with additional materials that promote a deeper mathematical understanding of the topics, extend known topics and present new topics that are generally not included in a high school curriculum. These topics will prepare the student for subsequent courses by improving their understanding of algebra and geometry concepts.

**Advanced Placement  
Calculus (AB)**



Course #: MAT510  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Pre-Calculus

**Considerations:** Students may take the AP Calculus exam in May. Graphing calculator is required. TI84 is recommended.

**Course Description:** AP Calculus AB is roughly equivalent to a first semester college Calculus I course devoted to topics in differential and integral calculus. The AP course covers topics in these areas, including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. You'll learn how to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and how to make connections amongst these representations. You will learn how to use technology to help solve problems, experiment, interpret results, and support conclusions.

**Advanced Placement  
Calculus (BC) 1 & 2**



Course #: MAT511 & MAT512  
 Grade Level: 10-12  
 Credits: 15  
 Length: 2 Semesters  
 Format: Skinny-1<sup>st</sup> semester  
 Block-2<sup>nd</sup> semester  
 Prerequisite: Pre-Calculus

**Considerations:** Students MUST sign up for both sections listed above. Students may take the AP Calculus exam in May. Graphing calculator is required.

**Course Description:** AP Calculus BC is equivalent to a full year of college Calculus. It covers both Calculus I and Calculus II. Students will analyze and solve non-trivial mathematical problems related to calculus. Mathematical modeling and communication will be emphasized. The course surveys the mathematics of change from elementary derivatives through sophisticated integrals to infinite series.

**Advanced Placement Statistics**



Course #: MAT530  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra IIA or Algebra IIAB  
 Subsequent: Mathematics & Society or AP Calculus

**Considerations:** Students may take the AP Statistics exam in May. Graphing calculator is required.

**Course Description:** This course is a typical introductory college statistics course. It is divided into 4 major themes: exploratory data analysis, probability, statistical inference and planning, and conducting a study. Students will use both graphical and numerical techniques, probability to anticipate the distribution of data to be collected, design ways to collect data while avoiding bias, and make inferences from samples of data.

## Mathematics and Society KCC



Course #: MAT415  
Grade Level: 12<sup>th</sup> Grade Only  
Credits: 5 (L-M) 3 (KCC)  
Length: 1 Semester  
Format: Skinny  
Prerequisite: Three years of High School math

**Considerations:** See prerequisite. This is a dual-credit course and the expectations reflect those of a college course. In order to take this class, the student needs to register as a Kirkwood student earning college credit in high school by using this link:

<https://www.kirkwood.edu/site/index.php?d=725>.

An additional requirement is an ACT score of 19 or higher OR a score of 30 or higher on the ALEKS math placement test

(<https://www.kirkwood.edu/placement>). Students can register for this course through Linn-Mar's registration procedures, but will need to meet the necessary test requirement by the first day of class at LMHS.

The following link provides information regarding taking placement tests in Kirkwood:

<https://www.kirkwood.edu/testcenter>.

**Course Description:** This course introduces selected areas of mathematics in familiar settings and develops students' conceptual and problem-solving skills. The course includes a study of mathematical concepts selected from finance, statistics, probability, growth patterns and voting techniques.

# Science

Requirements through the Class of 2021

## Physical Science Options

PR=Prerequisite Requirement

## Electives

### Earth Science

SCI125  
Grade: 9-12

### AP Environ Science 1&2

SCI541 & SCI542  
Grade: 10-12  
PR: General Biology,  
Earth/Physical, Algebra

### Astronomy

SCI390  
Grade: 11-12  
PR: Geometry

### Meteorology

SCI395  
Grade: 11-12  
PR: Geometry

### Chemistry I

SCI320  
Grade: 9-12  
PR: Algebra

### AP Chemistry 1&2

SCI521 & SCI522  
Grade: 10-12  
PR: Algebra & Chemistry I

### Geology

SCI380  
Grade: 11-12  
PR: Geometry

### Environmental Sustainability

SCI620  
Grade: 10-12  
PR: Algebra &  
General Biology

### Physics I

SCI350  
Grade: 10-12  
PR: Algebra  
(Geometry recommended)

### AP Physics 1&2

SCI531 & SCI532  
Grade: 10-12  
PR: Chemistry I AND  
Algebra IIA

### Applied Chemistry & Physics

SCI360  
Grade: 10-12  
PR: None

### Earth & Space Science

SCI340  
Grade: 10-12  
PR: None

## Graduation Requirements

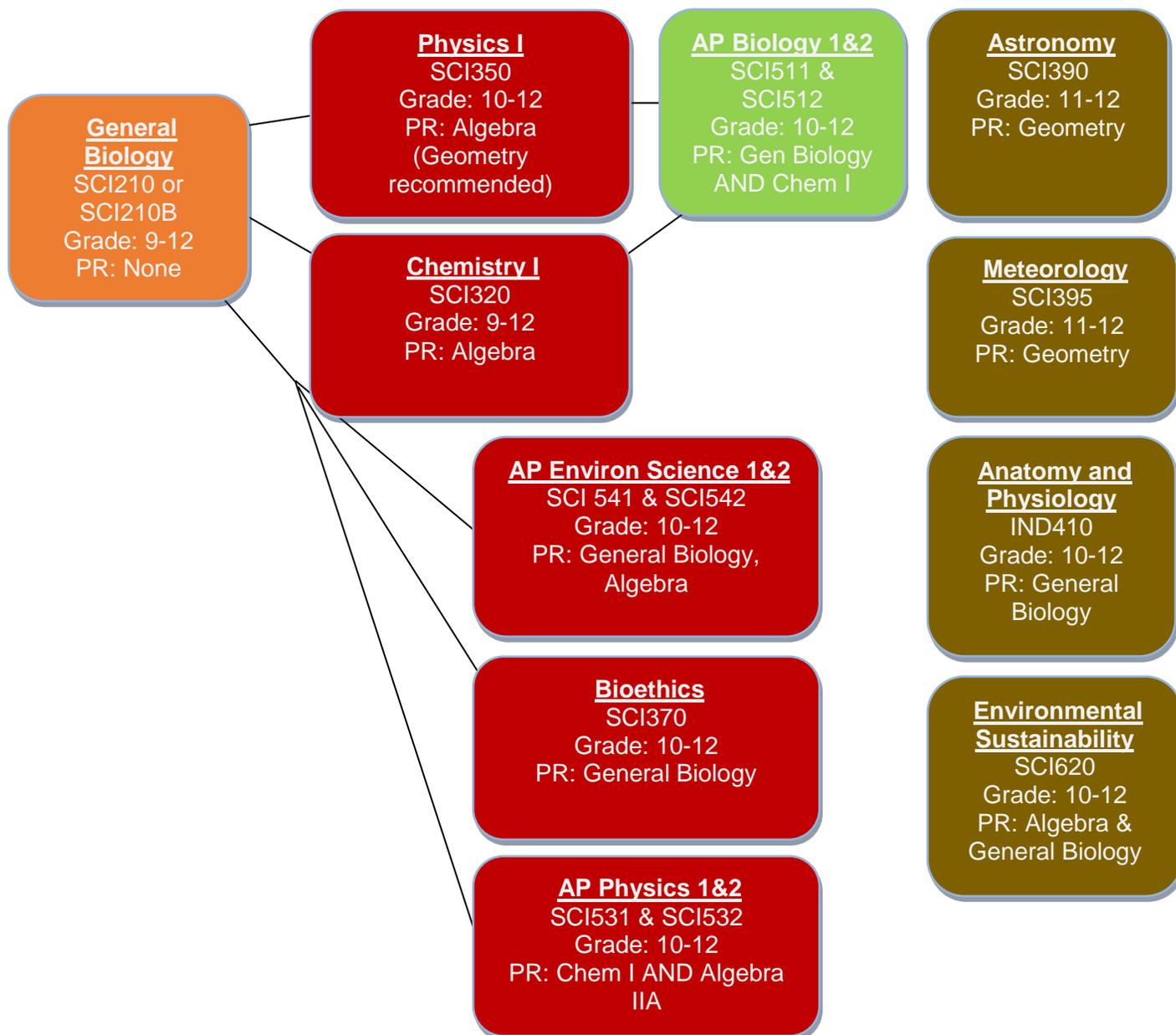
- 30 Credits of Science
- Must include General Biology or Biology Fundamentals I and Biology Fundamentals II and a Physical Science Course

## Life Science Options

PR=Prerequisite Requirement

## Electives

Requirements through the Class of 2021



## Graduation Requirements

- 30 Credits of Science
- Must include General Biology or Biology Fundamentals I and Biology Fundamentals II and a Physical Science Course

# Science

Class of 2022 and later

GRADUATION REQUIREMENT – Must take a course from each discipline (column) for a minimum of 30 credits. Two courses meet requirements for two different disciplines.

## Earth Science

Earth Science  
SCI125  
Grade: 9  
PR: None

Earth & Space Science  
SCI340  
Grade: 10-12  
PR: None

AP Environmental Science 1&2  
SCI541 &  
SCI542  
Grade: 10-12  
PR: General Biology, Algebra

## Physics

Applied Chemistry & Physics  
SCI360  
Grade: 10-12  
PR: None

Physics I  
SCI350  
Grade: 10-12  
PR: Algebra IIA

AP Physics 1&2  
SCI531 &  
SCI532  
Grade: 10-12  
PR: Chemistry I and Algebra IIA

## Chemistry

Chemistry I  
SCI320  
Grade: 9-12  
PR: Algebra

## Life Science

General Biology  
SCI210 or  
SCI210B  
Grade: 9-10  
PR: None

AP Biology 1&2  
SCI511 &  
SCI512  
Grade: 10-12  
PR: Chemistry I or ACP

## Science Electives

Class of 2022 and later.

Elective Science credits DO NOT fulfill Science credit requirements for graduation.

### Earth Science

#### Geology

SCI380

Grade: 11-12  
PR: Geometry  
and ACP or  
Chemistry I

#### Meteorology

SCI395

Grade: 11-12  
PR: Geometry  
and ACP or  
Chemistry I

#### Astronomy

SCI390

Grade: 11-12  
PR: Geometry  
and ACP or  
Chemistry I

### Chemistry

#### AP Chemistry

1&2

SCI521 &  
SCI522

Grade: 10-12  
PR: Algebra &  
Chemistry 1

### Life Science

#### Anatomy & Physiology

SCI410

Grade: 10-12  
PR: General  
Biology

#### Bioethics

SCI370

Grade: 10-12  
PR: General  
Biology

#### Environmental Sustainability

SCI620

Grade: 10-12  
PR: Algebra &  
Gen. Biology

### Integrated Sciences

#### Agri – Aqua Sciences

See

pp 75-80

#### PLTW Project Lead the Way

See

pp 102-106

### Earth Science

Course #: SCI125  
 Grade Level: 9-10  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** Earth Science (SCI125) is a course based on the completion of NGSS Earth and Space Standards and successful completion will meet the earth science graduation requirement. This course may not be taken subsequent to Earth and Space Science (SCI340).

**Course Description:** Earth Science is a course designed to develop an understanding of Earth's origin and interactions. Students will examine the geological history, materials of Earth, internal and exterior processes, and learn how these systems interact and have changed over time.

### General Biology

Course #: SCI210 or SCI210B  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** Strong comprehensive vocabulary, reading and study skills.

**Course Description:** This course is a survey class in life science. The areas investigated are: biological structure and function; heredity; life's continuity and change; diversity of life.

### Chemistry I

Course #: SCI320  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra



**Considerations:** See prerequisites. This course meets the physical science requirement. (required for AP Chemistry)

**Course Description:** This course is designed to explore the nature of matter and how it changes. It emphasizes the relationship between chemistry and real-world applications. Chemistry I covers the same topics as General Chemistry and is intended for students with a strong interest in science, math, or engineering careers.

### Earth and Space Science

Course #: SCI340  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite:



**Considerations:** This course is based on the completion of NGSS Earth and Space Standards and successful completion will meet the earth science and physics graduation requirement. This course should not be taken subsequent to Earth Science (SCI125).

**Course Description:** This course is designed to help students develop an understanding of Earth and its place in the universe. Students will examine the materials of Earth, its internal and exterior processes, geological history, and will learn how Earth's systems interact and change over time. Students will also explore physics concepts such as forces and motion, waves, and energy by analyzing their role in space science.

### **Physics I**

Course #: SCI350  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra  
 (Geometry recommended)



**Considerations:** See prerequisites. This course meets the physical science requirement.

**Course Description:** This course examines the fundamental properties and laws of the physical world. These properties include motion, forces, momentum, energy and waves.

### **Applied Chemistry and Physics**

Course #: SCI360  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** This course satisfies the Physics and Chemistry graduation requirements.

**Course Description:** Students will study big ideas in Chemistry and Physics. Chemistry concepts include properties of matter, the influence of electrons on behavior of the chemical elements, behavior of chemical reactions, and nuclear reactions. Physics content includes force, motion, momentum, collisions, energy transformations, electromagnetism, waves, and light.

### **Bioethics**

Course #: SCI370  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: General Biology



**Considerations:** See prerequisites. This course meets the science elective requirement.

**Course Description:** This course examines contemporary ethical issues in genetics, medicine, health, animal use, and the environment, reflecting on the ways in which technology and varying perspectives have resulted in conflict within society.

### **Geology**

Course #: SCI380  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Geometry and ACP  
 (Applied Chemistry and Physics) or Chemistry I



**Considerations:** See prerequisites. This course meets the physical science requirement.

**Course Description:** Students will receive an intense, in-depth look into the core subjects of geology, which include: physical, structural and environmental geology, crystallography, mineralogy, stratigraphy, and geomorphology.

### Astronomy

Course #: SCI390  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Geometry and ACP  
 (Applied Chemistry and  
 Physics) or Chemistry I



**Considerations:** See prerequisites. This course meets the science elective requirement.

**Course Description:** Students will receive an intense, in-depth look at astronomy topics. This includes: astronomical history, stellar measuring, stellar evolution, forces (gravitational, inertial, nuclear, magnetic, etc.) and the universe (theories, black matter, quasars, etc.).

### Meteorology

Course #: SCI395  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Geometry and ACP  
 (Applied Chemistry and  
 Physics) or Chemistry I



**Considerations:** See prerequisites. This course meets the science elective requirement.

**Course Description:** Students will receive an intense, in-depth look at topics relating to the atmosphere. Students will focus on forecasting weather, using severe weather as its guideline.

### Anatomy & Physiology

Course #: SCI410  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: General Biology



**Considerations:** See prerequisites. This course meets the science elective requirement.

**Course Description:** This course provides students with the fundamental concepts of human structure and function as it pertains to their bodies. It is designed to lead students into a basic career in the health field and prepare students for post-secondary education.

### Advanced Placement Biology 1 & 2



Course #: SCI511 & SCI512  
 Grade Level: 10-12  
 Credits: 15  
 Length: 3 Quarters  
 Format: Block  
 Prerequisite: Chemistry I or ACP  
 (Applied Chemistry and  
 Physics)

**Considerations:** See prerequisites. Students MUST sign up for both sections listed above. General Biology is recommended but not required for enrollment in AP Biology. Anatomy and Physiology is recommended. Students may take the AP Biology exam in May.

**Course Description:** This course is an in-depth study of the field of biology. Areas of emphasis include energy pathways; cell, genetics and genetic engineering; and organisms and their environments.

**Advanced Placement  
Chemistry 1 & 2**



Course #: SCI521 & SCI522  
 Grade Level: 10-12  
 Credits: 15  
 Length: 3 Quarters  
 Format: Block  
 Prerequisite: Chemistry I AND  
 Advanced Algebra IIA

**Considerations:** See prerequisites. Students MUST sign up for both sections listed above. A scientific calculator is required. Students may take the Chemistry AP exam in May.

**Course Description:** This course covers the basics of chemistry at the college level. Areas of emphasis include atomic structure, molecular bonding, thermochemistry, kinetics, and chemical equilibria.

**Advanced Placement Physics 1 & 2**

Course #: SCI531 & SCI532  
 Grade Level: 10-12  
 Credits: 20  
 Length: 4 Quarters  
 Format: Block  
 Prerequisite: Chemistry I AND  
 Algebra IIA



**Considerations:** See prerequisites. Students MUST sign up for both sections listed above. Physics I is NOT a prerequisite for this class. A scientific calculator is required. Students may take the AP Physics exam in May.

**Course Description:** This course covers the basics of physics at the college level. Students taking this course should have a strong interest in engineering or other related science areas. Areas of emphasis include electricity, magnetism, atomic and nuclear physics, motion, thermodynamics and optics.

**Advanced Placement  
Environmental  
Science 1 & 2**



Course #: SCI541 & SCI542  
 Grade Level: 10-12  
 Credits: 15  
 Length: 3 Quarters  
 Format: Block  
 Prerequisite: General Biology, Algebra

**Considerations:** See prerequisites. Students must sign up for both sections listed above. Course adheres to the objectives instituted by the College Board for all AP Environmental sciences. Students may take the AP exam in May.

**Course Description:** The goal of AP Environmental Science is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them.

## Environmental Sustainability



(Previously was Biotechnical Engineering)

Course #: SCI620

Grade Level: 10-12

Credits: 10

Length: 2 Quarters

Format: Block

Prerequisite: Algebra AND  
General Biology



**Elective Science credit  
can also be found in the  
Agricultural Science  
and PLTW sections.**

**Considerations:** See prerequisites. This is course in the Project Lead the Way engineering sequence. Students will earn credit for this course from Kirkwood Community College upon successful completion.

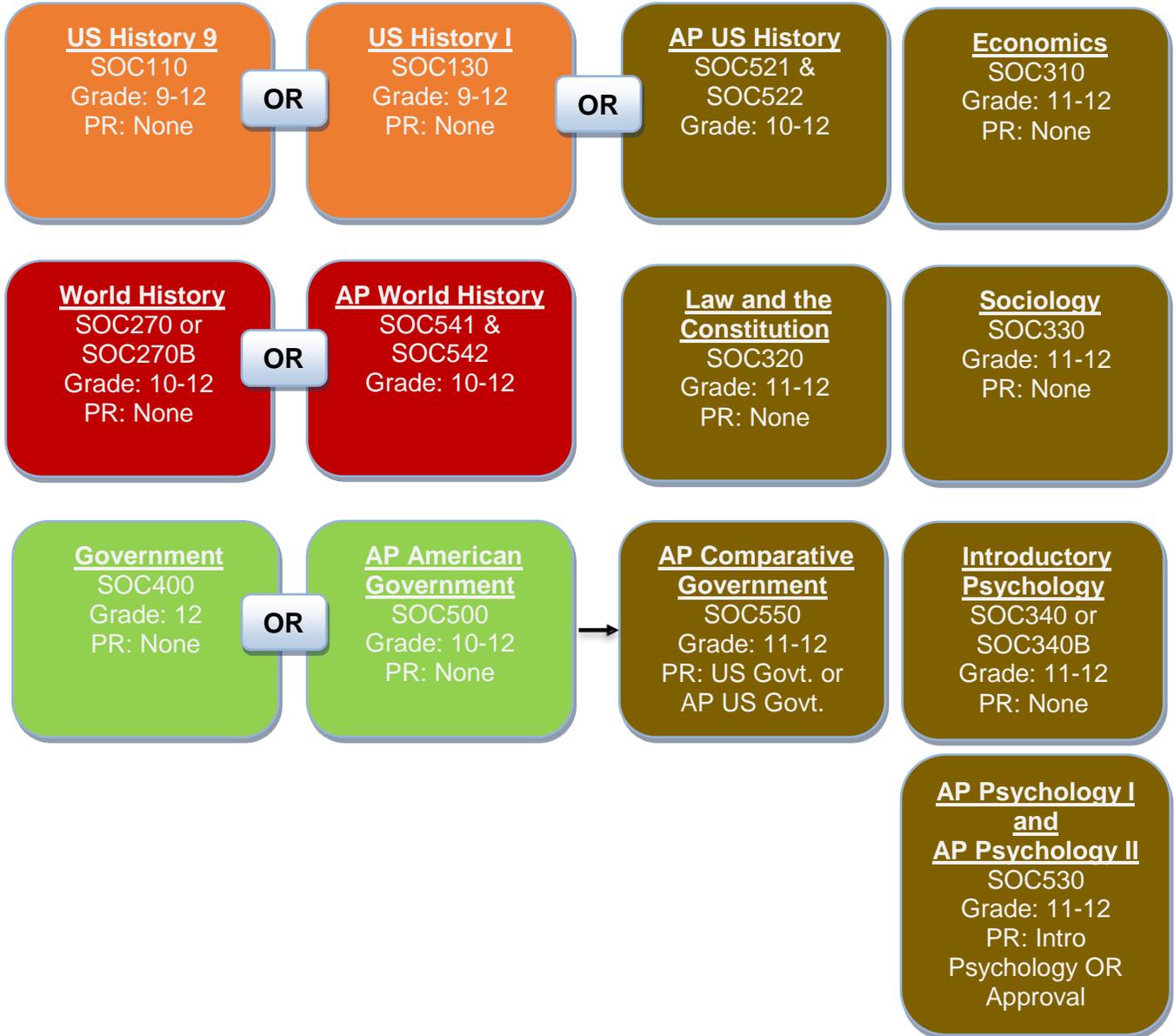
**Course Description:** Students will investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, students' research and design potential solutions to these true-to-life challenges.

# Social Studies

PR = Prerequisite Requirement

## Electives

Requirements through the year 2021



### Graduation Requirements

- 30 Credits of Social Studies
- US History 9, US History I, or AP US History
- World History or AP World History
- Government
- One Social Studies Elective

# Social Studies

PR = Prerequisite Requirement

## Electives

Class of 2022 and after.

### US History 9

SOC110  
Grade: 9-12  
PR: None

OR

### US History I

SOC130  
Grade: 9-12  
PR: None

OR

### AP US History

SOC521 &  
SOC522  
Grade: 10-12

### Economics

SOC310  
Grade: 11-12  
PR: None

### World History

SOC270 or  
SOC270B  
Grade: 10-12  
PR: None

OR

### AP World History

SOC541 &  
SOC542  
Grade: 10-12

### Law and the Constitution

SOC320  
Grade: 11-12  
PR: None

### Sociology

SOC330  
Grade: 11-12  
PR: None

OR

### Introductory Psychology

SOC340 or  
SOC340B  
Grade: 11-12  
PR: None

### AP Psychology I and AP Psychology II

SOC530  
Grade: 11-12  
PR: Intro Psychology  
OR Approval

### Government

SOC400  
Grade: 12  
PR: None

OR

### AP American Government

SOC500  
Grade: 10-12  
PR: None

### AP Comparative Government

SOC550  
Grade: 11-12  
PR: US Govt. OR  
AP US Govt.

## Graduation Requirements

- 30 Credits of Social Studies
- US History 9, US History I, or AP US History
- World History or AP World History
- Sociology or Introductory Psychology
- Government

### US History 9

Course #: SOC110  
 Grade Level: 9  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** Required for graduation.

**Course Description:** US History 9 examines American history from the Gilded Age to the present, focusing on the people, ideas and events that have helped create the nation and world we live in today. Students are required to examine why events happened as they did and explain how our past is related to our present. A variety of learning activities, requiring both group and individual effort, allow students to become actively involved learners.

### US History I

Course #: SOC130  
 Grade Level: 9  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** Recommended for students with a strong interest in reading and writing in history. Students successful in this course may move into the AP World History elective to satisfy their world history requirement. US History 9, US History I, OR AP US History is required for graduation.

**Course Description:** This course explores the Gilded Age to present focusing on people, ideas, and events that have helped to create the nation and world we live in today. Strong emphasis is placed on developing skills in writing, interpretation and analysis of primary historical documents. Students will examine events and ideas from a variety of perspectives as they learn how to take a position on an issue, develop a thesis statement and use evidence to defend their position.

### World History

Course #: SOC270 or SOC270B  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** See prerequisites. World History OR AP World History is required for graduation.

**Course Description:** This course investigates the foundations of our modern world. This will be done by researching various civilizations from ancient civilizations through modern times. Students will evaluate the changing nature of the world's political, economic and social systems.

### Economics

Course #: SOC310  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None



**Considerations:** Students should be comfortable working with charts and tables.

**Course Description:** This course will focus on economic concepts (scarcity, choice, incentives); supply, demand, and markets; microeconomics (production, productivity, competitive markets); and macroeconomics (the economy in the aggregate, inflation, unemployment).

### Law and the Constitution

Course #: SOC320  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none



**Considerations:** Meets the social studies elective graduation requirement.

**Course Description:** This course focuses on the origins of legal rights in the United States. With a particular focus on Constitutional structure and the Bill of Rights, students will examine the development, structure and operation of the American legal system including citizen rights and responsibilities, the role of the US Supreme Court and the Iowa court system, the Iowa Code and the functions of the courts by experiencing a mock trial.

### Sociology

Course #: SOC330  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none



**Considerations:** Meets the Behavioral Sciences graduation requirement.

**Course Description:** This course is a study of human group behavior and social problems. The course will explore the following concepts: culture, socialization, deviance and social control, social stratification, minority groups, marriage and family.

### Introductory Psychology

Course #: SOC340 or SOC340B  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none



**Considerations:** Meets the Behavioral Sciences graduation requirement. This course is taught at the college-prep level and requires higher order thinking skills and work outside of the class room to be successful.

**Course Description:** This course is designed to help students understand human behavior. Students will learn about psychology as a science, career options, methods of learning, human development, personality development and psychological illness.

### Government

Course #: SOC400  
 Grade Level: 12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none



**Considerations:** Government or AP American Government is required for graduation.

**Course Description:** Course highlights will include a study of the three branches of government, political voting behavior, political party membership, interest groups and elected officials. Students will study the underlying principles upon which the US government is based: limited government, rules of law, federalism and protection of individual rights.

**Advanced Placement  
American Government**



Course #: SOC500  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters during  
 second semester  
 Format: Block  
 Prerequisite: none

**Considerations:** Instructor approval for 10<sup>th</sup> graders. Fulfills the government graduation requirement. Students may take the American Government AP exam in May.

**Course Description:** Several topics covered in this course include: Constitutional underpinnings, political beliefs & behaviors, political parties, interest groups & mass media, institutions of national government, public policy & civil rights and civil liberties.

**Advanced Placement  
Comparative Government**



Course #: SOC550  
 Grade Level: 11-12  
 Credits: 5  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: US Govt. or  
 AP US Govt.

**Considerations:** Could be linked with AP US Government for a year-long AP Government course. AP exam would be optional.

**Course Description:** AP Comparative Government is a semester-long (block) course comparing governmental systems of Great Britain, Russia, China, Mexico, Nigeria and Iran. It is intended to follow US Government in greater depth and introduce students to more global international relations concepts and a broader, current understanding of the world we live in.

**Advanced Placement  
US History 1 & 2**



Course #: SOC521 & SOC522  
 Grade Level: 10-12  
 Credits: 15  
 Length: 3 Quarters  
 Format: Block  
 Prerequisite: US History 9 OR  
 US History I is  
 recommended

**Considerations:** Instructor approval for 10<sup>th</sup> graders. Students MUST sign up for both sections listed above. Fulfills the US history graduation requirement. This course begins in 2<sup>nd</sup> quarter. Students may take the US History AP exam in May.

**Course Description:** Students will participate in reading primary and secondary history materials, lectures, research projects, and group and individual presentations. College level work is expected in this survey course which covers the full range of US history from the early European explorations to the present.

**Advanced Placement  
Psychology 1 & 2**



Course #: SOC530  
 Grade Level: 11-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Intro. Psychology  
 OR approval

**Considerations:** Textbooks are available for purchase online but one will be provided in class. Class is geared to prep students to take the national AP Psychology exam in May.

**Course Description:** Areas studied: history and approaches, states of consciousness, biological bases of behavior, cognition, testing and individual differences, sensation and perception, motivation and emotion, abnormal psychology and treatment, and social psychology. College level work is expected, as this is a college level course.

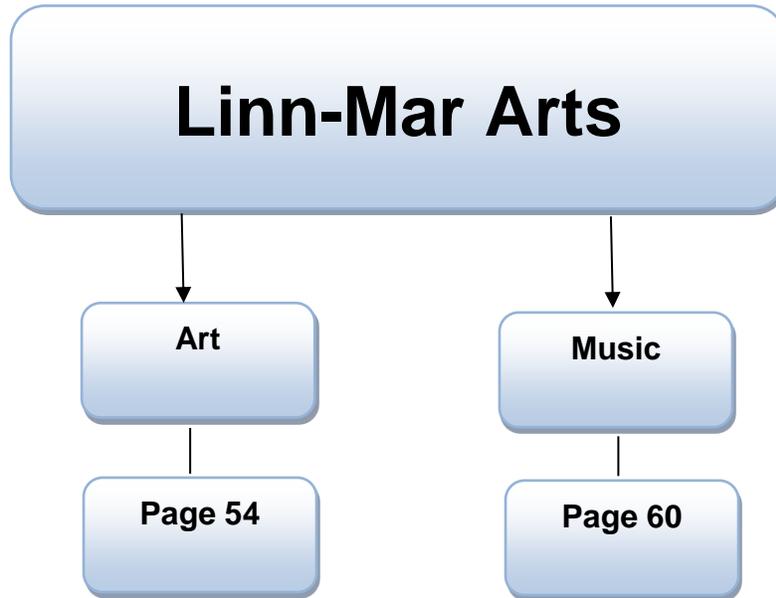
**Advanced Placement**  
**World History 1 & 2**



Course #: SOC541 & SOC542  
Grade Level: 10-12  
Credits: 15  
Length: 3 Quarters  
Format: Block  
Prerequisite: none

**Considerations:** Students MUST sign up for both sections listed above. Fulfills the required world history requirement. Duration is three quarters beginning in 2<sup>nd</sup> quarter. Students may take the World History AP exam in May.

**Course Description:** This course is a broad survey of the major periods of human history from a global comparative perspective. Students will study the events and trends that have shaped the world into what it is today, while refining their study, writing and critical thinking skills.



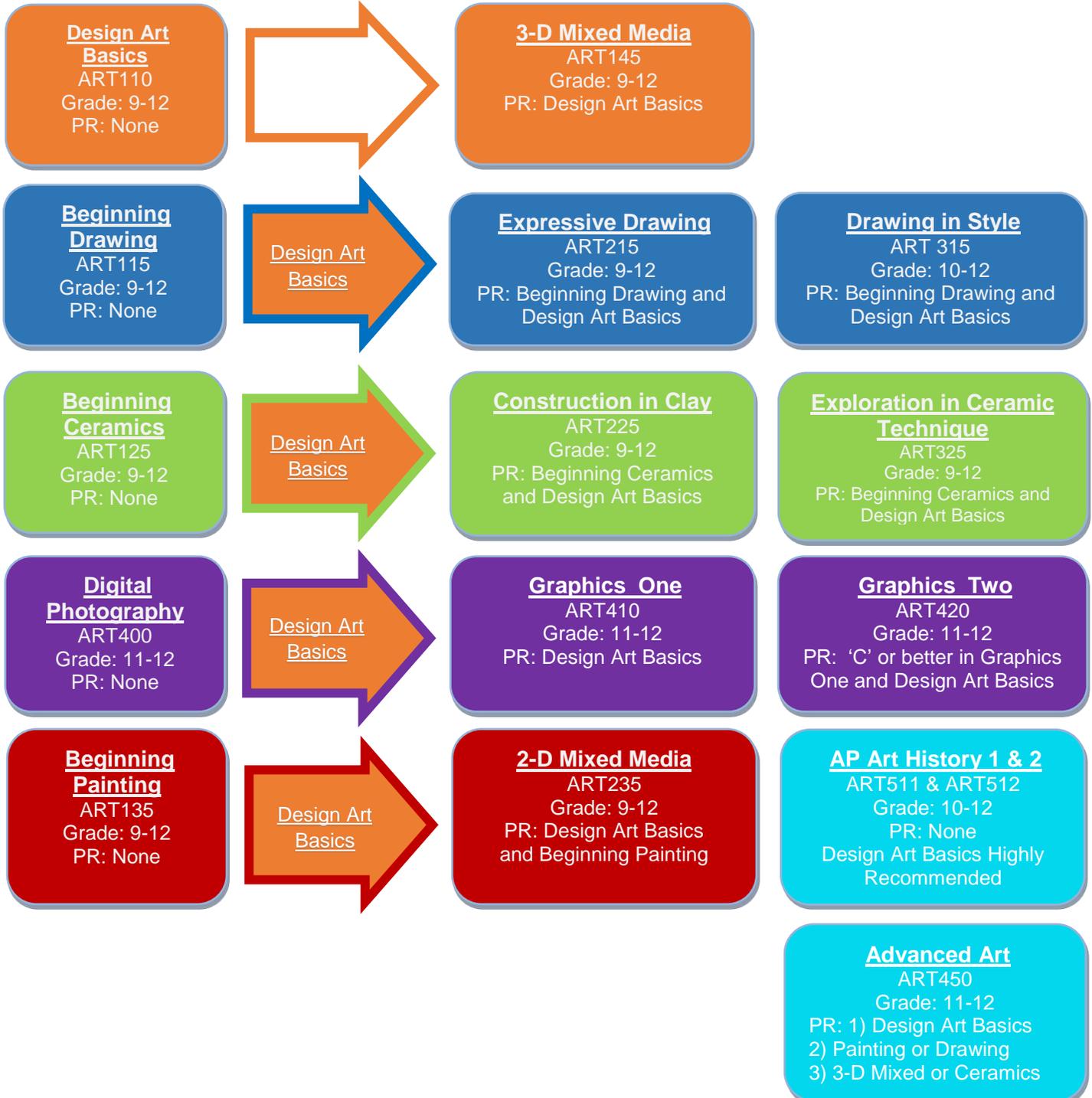


**Art**  
PR=Prerequisite Requirement

**Entry Level**

**Intermediate Level**

**Advanced Level**



### Design Art Basics

Course #: ART110  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** This course is a basic design course which is **highly recommended** before taking any art course.

**Course Description:** This is a design course that teaches basic visual literacy. By learning about the elements and principles of art, students will learn what visual images communicate. Students will gain a better understanding of how and what they are communicating in their art work through direct application of the elements and principals. Students will develop technical skills through the use of a variety of mediums including computer-generated images.

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### Beginning Drawing

Course #: ART115  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** This course is for the student that wants to improve their drawing skills. Design Art Basics is highly recommended.

**Course Description:** Students will draw from both life and photographic images. Emphasis will be placed on tone, line, value, and proportion. Students will also learn linear perspective drawing. The works of other artists, past and present, will be studied.

### Beginning Ceramics

Course #: ART125  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Design Art Basics is strongly encouraged before taking this course. Students will be required to take a written midterm, as well as a written final. Students may need to spend extra time in the studio to complete all of their course work. This class is for motivated, hands-on students.

**Course Description:** Like getting dirty? Working with your hands? Then Beginning Ceramics is right for you. Beginning Ceramics allows students to dig into clay and learn the basic hand building methods: pinch, coil, slab and sculpting. Students will also learn how to use the potter's wheel to create simple forms. Students will learn the scientific principle of clay and glazes. Class will be spent learning these skills and applying these skills to specific projects over the course of the quarter. Creativity is a must as well as using fundamentally sound techniques.

### **Beginning Painting**

Course #: Art135  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Design Art Basics

**Course Description:** Students will be introduced to a variety of water-based paints: water color, tempera and acrylic. Students will explore the history, vocabulary, and process used in this type of painting. Students will learn how art is used for personal expression and as social statements.

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### **3-D Mixed Media**

Course #: ART145  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Design Art Basics

**Considerations:** Design Art Basics is required. This course will involve written work as well as art work projects. Presentations and class discussions are regular occurrences in this course.

**Course Description:** Students will learn a variety of techniques related to 3-D Art, such as, sculpture in the round, relief, assemblage, mobiles, and installations. Students will learn to create art by reflecting on their own personal experiences and by researching other cultures.

### **Expressive Drawing**

Course #: ART215  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Beg. Drawing and Design Art Basics

**Considerations:** Students will draw everyday developing ideas, revising compositions and creating projects. Students will participate in oral class critiques.

**Course Description:** Students will continue to build on the skills learned in Beginning Drawing. Emphasis will be placed on composition and mood of each drawing. Human figure studies and experimentation of a variety of media will be stressed throughout the quarter. The works of the artists, past and present, will be studied.

### Construction in Clay

Course #: ART225  
Grade Level: 9-12  
Credit Hours: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Beg. Ceramics and Design Art Basics

**Considerations:** This class is for the more serious ceramic student. More in-depth work will be done on the wheel as well as hand building. Beginning Ceramic and Design Art Basics are required for taking this class.

**Course Description:** Students will review and expand on techniques learned in Beginning Ceramics. Emphasis in this class will be placed on alternative firings and construction methods. Students will investigate new ways of hand-building, firing, artists and styles. Skills will continue to be developed on the wheel to create bowls and cylinders. Students will use clay as an expressive medium to communicate ideas, feelings, thoughts, emotions and moods in their work.

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### 2-D Mixed Media

Course #: ART235  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Design Art Basics And Beg. Painting

### **Considerations:**

**Course Description:** Students will continue to develop the skills learned in Art Basics and experiment new techniques using a wide variety of materials, including oil paint, collage, and Xerox transfer. Students will learn how to communicate their ideas in creative ways by combining paint with other materials to create their art work.

### Drawing In Style

Course #: ART315  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Beginning Drawing and Design Art Basics

**Considerations:** This course will require drawing on a daily basis and researching a variety of topics to provide inspiration for artwork. This course is recommended to be taken after ART215.

**Course Description:** This course is for students who desire to create in-depth drawings in a variety of media including ink, charcoal, pencil, chalk, and computer. Students will begin to develop a personal style and applying their imagination to create unique and original works of art. The works of other artist, past and present, will be studied.

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### Exploration in Ceramic Technique

Course #: ART325  
Grade Level: 9-12  
Credits: 5  
Length: 1Quarter  
Format: Block  
Prerequisite: Beg. Ceramics and Design Art Basics

**Considerations:** Construction in Clay is highly recommended before this course. This class is for the serious, dedicated ceramic student looking to develop a portfolio, considering art as a career or highly interested in ceramic arts.

**Course Description:** This class places an emphasis on the wheel and requires the production of wheel throwing portfolio. Students will also select different hand-building techniques to communicate visual ideas in clay. This class allows for deeper exploration of ceramic techniques, glazing and firings. Students will experiment using various new ways of working with clay.

### Digital Photography

Course #: ART400  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Design Art Basics is strongly recommended before taking this class.

**Course Description:** In this class students will become familiar with the fundamentals of digital photography. Topics will include: basic workings of a digital camera, compositions for photography, how lighting affects photographs and use of Adobe Photoshop editing programs. Students will participate in various photo shoots including: portrait, landscape, still life and various others. Critiques and regular class discussions are the norm for this class. Digital photography will change your way of seeing; taking pictures will become more than just capturing a moment in time, but creating visual communication through the use of a camera.

### Graphics One

Course # ART410  
Grade Level: 11-12  
Credits: 5  
Length 1 Quarter  
Format Block  
Prerequisite Design Art Basics

**Considerations:** The coursework relies heavily on the use of the Adobe Creative Suite as well as emerging technologies. The class requires students to be creative, independent, focused, and project driven.

**Course Description:** Graphics One will explore several areas of the current graphics industry. The class will provide rigorous, real world situations where students utilize professional programs from the Adobe Creative Suite along with their knowledge of the fine arts to create high end, visually stunning art and presentations. Projects will stem from the graphically visual world we live in today and pull from such topics as Brand Identity, Marketing, and Web Presence. We will also discuss the benefits of digital portfolios as well as the importance of the creative mind in today's technology driven society.

## Graphics Two

Course #	ART420
Grade Level:	11-12
Credits:	5
Length	1 Quarter
Format	Block
Prerequisite	"C" or better in Graphics One & Design Art Basics

**Considerations:** The coursework relies heavily on the use of the Adobe Creative Suite, specifically Adobe Illustrator. The class requires students to be creative, independent, focused, and project driven. Student/ course work will be cloud based utilizing the school shared drive as well as Power School Learning.

**Course Description:** Graphics Two continues to push the boundaries of design with in-depth rigorous approaches utilizing the skills learned in Graphics One. Projects will continue to challenge and polish a student's understanding of typography, grid, composition, & layout. Students will have the opportunity to further develop their skills using the Adobe Creative Suite, as well as having access to iPad Pro's and Digital SLR Camera's. Additionally, all coursework will benefit students interested in developing a design portfolio.

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## Advanced Art

Course #:	ART450
Grade Level:	11-12
Credits:	5
Length:	1 Quarter
Format:	Block
Prerequisite:	1) Design Art Basics 2) Painting or Drawing 3) 3-D Mixed or Ceramics

**Considerations:** 11<sup>th</sup> and 12<sup>th</sup> grade students only

**Course Description:** This class will emphasize preparing a portfolio for scholarship, college admission, and learning about art-related careers. Students will learn attitudes that promote independent idea development and problem solving. They will explore selected ideas and media in depth in their development as beginning artist.

## AP Art History 1 & 2

W

Course #:	ART511 & ART512
Grade Level:	10-12
Credits:	15
Length:	3 Quarters
Format:	Block
Prerequisite:	None, Design highly Recommended

**Considerations:** Students MUST sign up for both sections listed above. Instructor approval for 10<sup>th</sup> graders. Students may take the AP Art History exam in May. Students scoring a 3 or above will earn college course credit at most universities, which will satisfy a general education requirement.

**Course Description:** This course will engage students at the same level as an introductory college art history survey. Students will develop an understanding and knowledge of diverse historical, religious, political, and sociological contexts of architecture, sculpture and painting. The students will examine and critically analyze works from the past and present from all corners of the World. The essential question for this class is, "What does it mean to be Human?"

# Music

PR=Prerequisite Requirement

## Linn-Mar High School Band Program

### Concert Band

MUS110  
Grade: 9  
PR: 8<sup>th</sup> Grade Band  
OR Instructor Approval

### Wind Symphony

MUS200C  
Grade: 10-12  
PR: Instructor Approval

### Marching Band

MUS280  
Grade: 10-12 (9<sup>th</sup> Grade by Audition)  
PR: None

### Symphony Band

MUS150A  
Grade: 9-11  
PR: Instructor Approval

### Wind Ensemble

MUS200A  
Grade: 10-12  
PR: Instructor Approval

### AP Music Theory

MUS500  
Grade: 10--12  
PR: Instructor Approval

### Symphonic Winds

MUS150B  
Grade: 10-12  
PR: Instructor Approval

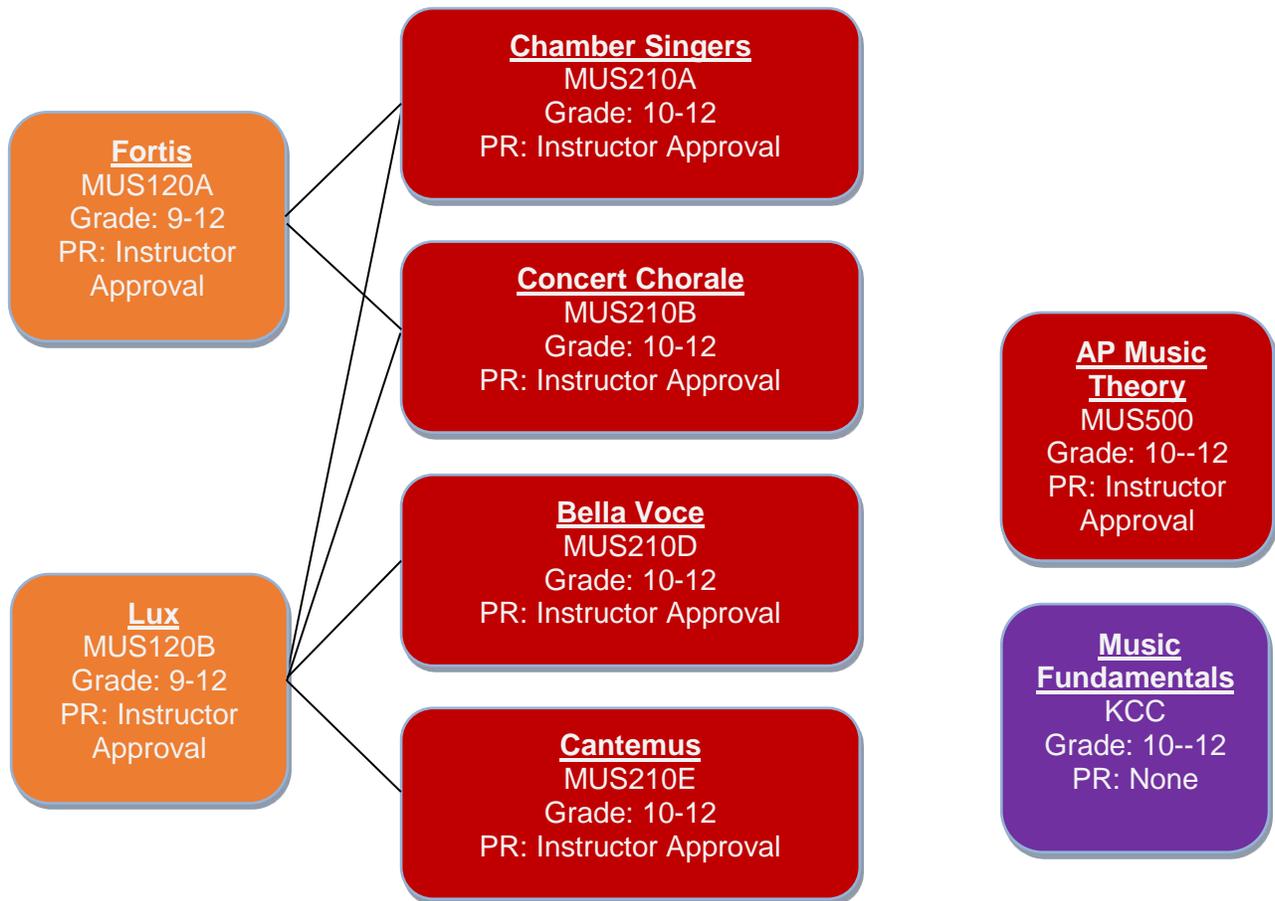
### Music Fundamentals

KCC  
Grade: 10--12  
PR: None

# Music

PR=Prerequisite Requirement

## Linn-Mar High School Choral Program



# Music

PR=Prerequisite Requirement

## Linn-Mar High School Orchestra Program

### Concert Orchestra

MUS230

Grade: 9-11

PR: Instructor Placement

### Philharmonic Orchestra

MUS290

Grade: 9-12

PR: Instructor Approval

### Symphony Strings

MUS240

Grade: 9-12

PR: Instructor Placement

### AP Music Theory

MUS500

Grade: 10--12

PR: Instructor Approval

### Music Fundamentals

KCC

Grade: 10-12

PR: None

### **Concert Band**

Course #: MUS110  
Grade Level: 9  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: 8<sup>th</sup> grade band OR  
Instructor approval

**Fees:** \$45.00 rental if using a school wind instrument or percussion instrument.

**Considerations:** Some instruments are provided. Most students own their own instrument.

**Course Description:** This course is a concert band which rehearses daily. . The group learns and performs concert band music- Emphasis is on the preparation and performance of high school level quality music literature. Students will also participate in a brass, woodwind, or percussion ensemble during the third quarter. In addition, members will learn fundamentals of marching. Each member receives a lesson each six day cycle.

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### **Symphony Band**

Course #: MUS150A  
Grade Level: 9-11  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Participation in a school band the prior year OR Instructor Approval

**Fees:** \$45.00 rental if using a school wind instrument or percussion instrument.

**Considerations:** Some instruments are provided. Most students own their own instrument.

**Course Description:** This course is a concert band which rehearses daily. The group learns and performs concert band music. Emphasis is on the preparation and performance of high school level quality music literature. Students will also participate in a brass, woodwind, or percussion ensemble during the third quarter. Each member in grades 9-10 receives a lesson each six day cycle.

### **Symphonic Winds**

Course #: MUS150B  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Participation in a school band the prior year OR instructor approval

**Fees:** \$45.00 rental if using a school wind instrument or percussion instrument.

**Considerations:** Some instruments are provided. Most students own their own instrument.

**Course Description:** This course is a concert band which rehearses daily. The group learns and performs concert band music. Emphasis is on the preparation and performance of high school level quality music literature. Students will also participate in a brass, woodwind, or percussion ensemble during the third quarter. Each member in grade 10 receives a lesson each six day cycle.

### **Wind Symphony**

Course #: MUS200C  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Participation in a school band the prior year OR Instructor Approval

**Fees:** \$45.00 rental if using a school wind instrument or percussion instrument.

**Considerations:** Some instruments are provided. Most students own their own instrument.

**Course Description:** This course is a concert band which rehearses daily. The group learns and performs concert band music. Emphasis is on the preparation and performance of advanced high school and college level music. Students will also participate in a brass, woodwind, or percussion ensemble during the third quarter. Each member in Grade 10 receives a lesson each six day cycle. Private lessons are recommended.

### **Wind Ensemble**

Course #: MUS200A  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Participation in a school band the prior year OR Instructor Approval

**Fees:** \$45.00 rental if using a school wind instrument or percussion instrument.

**Considerations:** Some instruments are provided. Most students own their own instrument.

**Course Description:** This course is a concert and which rehearses daily. The group learns and performs concert band music. Emphasis is on the preparation and performance of college/university level band music. Students will also participate in a brass, woodwind, or percussion ensemble during the third quarter. Each member in grade 10 receives a lesson each six day cycle. Private lessons are recommended.

### **Fortis**

Course #: MUS120A  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Instructor Approval

**Considerations:** 10-12 grade Tenor and Bass voices must audition to be placed in this choir. 9<sup>th</sup> grade Tenor and Bass voices are automatically placed in this choir.

**Course Description:** The choir of Tenor and Bass voices rehearses and performs four concerts locally each school year. Fundamentals of good singing, musical literacy, and group dynamics are stressed. Each student will receive a private lesson every week of the school year starting the 2<sup>nd</sup> quarter.

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### **Lux**

Course #: MUS120B  
Grade: 9-12  
Credits: 10  
Length: 2 semesters  
Format: Skinny  
Prerequisite: Instructor Approval

**Considerations:** 10-12 grades Sopranos and Altos must audition to be placed in this choir. 9<sup>th</sup> grade Soprano and Alto voices are automatically placed in this choir.

**Course Description:** The choir of only Soprano and Alto voices rehearses and performs four concerts locally each school year. Fundamentals of good singing, musical literacy, and group dynamics are stressed. Each student will receive a private lesson every week of the school year starting 2<sup>nd</sup> quarter.

### **Chamber Singers**

Course #: MUS210A  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: 9<sup>th</sup> grade choir OR  
Instructor approval

**Considerations:** All registrants will complete a vocal audition and be placed in the appropriate ensemble by the instructors.

**Course Description:** Emphasis will be on the preparation of choral works for smaller groups, i.e. madrigals, early music, and contemporary music. Private lessons are recommended.

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### **Concert Chorale**

Course #: MUS210B  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: 9<sup>th</sup> grade choir OR  
Instructor approval

**Considerations:** All registrants will complete a vocal audition and be placed in the appropriate ensemble by the instructors.

**Course Description:** Emphasis will be on the preparation of choral works for larger groups, i.e. music for double choir, major choral works with orchestra, music for operatic choruses, as well as standard acapella literature.

### **Bella Voce**

Course #: MUS210D  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: 9<sup>th</sup> grade choir OR  
Instructor approval

**Considerations:** All registrants will complete a vocal audition and be placed in the appropriate ensemble by the instructors.

**Course Description:** Emphasis will be on preparation of advanced quality choral music by established and emerging composers for this genre. Soloist voice as well as strong choral singers will be the foundation of the group. Students will receive a weekly lesson in each nine week period. Private lessons are recommended.

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### **Cantemus**

Course #: MUS210E  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: 9<sup>th</sup> grade choir OR  
Instructor approval

**Considerations:** All registrants will complete a vocal audition and be placed in the appropriate ensemble by the instructors.

**Course Description:** Emphasis will be on preparation of advanced quality choral music by established and emerging composers for this genre. Soloist voice as well as strong choral singers will be the foundation of the group. Private lessons are recommended.

### **Concert Orchestra**

Course #: MUS230  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Fees:** \$45.00 rental instrument fee.

**Considerations:** Entry-level ensemble no audition required. Cellos and Basses are provided for daily rehearsal only. Most students own their own instrument.

**Course Description:** Emphasis is on the preparation and performance of high school level quality music literature for the string instruments. Lessons are offered during a six day cycle and scheduled based on schedule availability. Private lessons are recommended.

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### **Symphony Strings**

Course #: MUS240  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Fees:** \$45.00 rental instrument fee.

**Considerations:** All students must audition for the director to be enrolled in this ensemble. Specific audition materials are required for the audition and can be acquired from the director.

**Course Description:** Emphasis is on the preparation and performance of college/university/professional level quality music literature for string instruments. Students also participate along with the wind, brass, and percussion to form the Full-Symphony Orchestra. Lessons are offered during a six day cycle and are scheduled based on schedule availability. Private lessons are recommended.

### **Philharmonic Orchestra**

Course #: MUS290  
Grade Level: 9-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: approval

**Fees:** \$45.00 rental instrument fee.

**Considerations:** All students must audition for the director to be enrolled in this ensemble. Specific audition materials are required for the audition and can be acquired from the director.

**Course Description:** Emphasis is on the preparation and performance of high school level quality music with some literature for string instruments. Lessons are offered during a six-day cycle and scheduled based on schedule availability. Private lessons are recommended.

### **Marching Band**

Course #: MUS280  
Grade Level: 10-12  
(9<sup>th</sup> by audition)  
Credits: 2.5  
Length: 1 Quarter  
Format: Early-Bird (7:15-8:00)  
Prerequisite: none

**Course Description:** Meets daily during 1st quarter and is recommended for all grade 10-12 band members. The color guard is open to both band and non-band members with dance experience, or students who have the desire to perform. Auditions for the color guard and incoming 9th graders will be during the 2nd semester of the previous school year. The Marching Lions perform at the Linn-Mar Homecoming parade, all home football games, 4-5 contests, the Metro Marching Band Classic, and the Band Extravaganza.

### **Advanced Placement Music Theory**



Course #: MUS500  
Grade Level: 10-12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: Music Fundamentals or Instructor approval

**Considerations:** Students may take the Music Theory AP exam in May. This course is strongly recommended for students considering studying music at the college/university level.

**Course Description:** This college-level class is progressive with each unit building on the previous. Major areas of study include the basic materials of music, time classification, notation, intervals, scales, time signatures, structure of tonality, triads, phrase structure and harmonization, seventh chords, musical style, exploration of arranging, composing, sight-singing, melodic and harmonic dictation.

**MUSIC FUNDAMENTALS HIGHLY RECOMMENDED (See p. 115)**

# Linn-Mar Fitness/Health

## Fundamentals of Lifetime Fitness

HPE110  
Grade: 9-10

## Lifetime Fitness – Aqua Fit

HPE321  
Grade: 11-12

## Lifetime Fitness – Flex and Fit

HPE331  
Grade: 11-12

## Lifetime Fitness – CrossFit

HPE341  
Grade: 11-12

## Lifetime Fitness – Total Body I

HPE351  
Grade: 11-12

## Lifetime Fitness – Total Body II

HPE352  
Grade: 11-12

## Health I

HPE250  
Grade: 10  
PR: None

## Health II

HPE260  
Grade: 11-12  
PR: Health I,  
General Biology, Anatomy  
and Physiology

## Super Sport

ALT400  
Grade: 9-12  
PR: Approval

## Health Careers

HPE450  
Grade: 12  
PR: None

## Graduation Requirements

- 20 Credits of Fitness/Health
- Must include **Health I**
- Must include 5 credits of **Fundamentals of Lifetime Fitness** each year for grades 9 and 10, and a minimum of 2.5 credits of **Lifetime Fitness** each year for grades 11 and 12.

# Fitness/Health

PR=Prerequisite Requirement

Physical education is required for every student in Iowa (Department of Education regulations, chapter 12). The focus of the Fitness Program at Linn-Mar High School is activity in the core component areas of cardiovascular fitness, strength training, endurance fitness, flexibility, competitive fitness activities and CPR/Water Safety Skills. All students are required to demonstrate an acceptable level of effort during activities while working towards a goal in each component area and complete district-approved fitness assessments each quarter. Students must take one Fitness course each school year and Health I to meet the state-required guidelines.

## Health I

Course #: HPE250  
 Grade Level: 10  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

**Considerations:** This course is **required** for graduation.

**Course Description:** This course is designed to lead students to healthy lifestyle choices through use of decision making processes. Students are encouraged to assess their attitudes and behavior patterns and to understand the impact their lifestyle choices have on their communities and on their own well-being. Topics covered include: fitness and wellness, CPR/choking/AED for infant, child and adult; nutrition; eating disorders; sexual education; substance abuse; STDs; HIV/AIDS; cancer; infectious and non-infectious diseases.

## Health II

Course #: HPE260  
 Grade Level: 11-12  
 Credits: 10  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: General Biology, Anatomy & Physiology, and Health 1

**Considerations:** None

**Course Description:** This is an in-depth course for students interested in the health related field. This broad spectrum includes but is not limited to: nutrition, sports medicine, sports management, exercise science, sports psychology, and mental/emotional health.

### **Super Sport**

Course #: ALT400  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Approval

**Considerations:** Specific skills taught and assessed are determined by a student's individualized education plan. Must have administrative approval to enroll.

**Course Description:** This adaptive physical education course focuses on individual and team activities to promote an active and healthy lifestyle. This course will adapt the activities to meet the physical needs of all students.

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### **Fundamentals of Lifetime Fitness**

Course #: HPE110  
Grade Level: 9-10  
Credits: 5 (Each Year)  
Length: 1 Quarter  
Format: Block  
Prerequisite: None  
Grading: Credit/No Credit

**Considerations:** This course is **required** for both freshmen and sophomores. This course is **required** for graduation.

**Course Description:** This course is designed for freshmen and sophomores. The class emphasis includes; enhancing personal fitness through daily fitness workouts and games designed to improve aerobic capacity, core endurance, upper body muscular strength and overall flexibility. The students will demonstrate the ability to use goal-setting and decision-making skills to aid in enhancing their personal fitness level. The students will achieve a level of fitness while demonstrating knowledge of fitness concepts and principles. Students will complete a district-approved fitness assessment for completion of the class.

### **Lifetime Fitness - Aqua Fit**

Course #: HPE321  
Grade Level: 11-12  
Credits: 2.5 (Each Year)  
Length: 1 Quarter  
Format: Skinny  
Prerequisite: Fundamentals of Lifetime Fitness or Permission  
Grading: Credit/No credit

**Considerations:** One Lifetime Fitness course is **required** for both Junior and Senior years.

**Course Description:** This section combines many energizing formats and uses the unique buoyancy, resistance and movement of water to improve students overall fitness. Students will explore ways to design and implement an Aqua Fitness program tailored to meet their own fitness goals. The class emphasis includes: enhancing personal fitness through daily fitness workouts and activities designed to improve aerobic capacity, core endurance, upper body muscular strength and overall flexibility. The student will demonstrate the ability to use goal-setting and decision-making skills to aid in enhancing their personal fitness levels. Students will complete CPR and Water Safety Review as well as a district approved heart rate and fitness assessments for completion of the class.

### Lifetime Fitness - Flex and Fit

Course #: HPE331  
Grade Level: 11-12  
Credits: 2.5 (Each Year)  
Length: 1 Quarter  
Format: Skinny  
Prerequisite: Fundamentals of  
Lifetime Fitness or  
Permission  
Grading: Credit/No credit

**Considerations:** One Lifetime Fitness course is required for both Junior and Senior years.

**Course Description:** This section is designed to improve the students overall fitness level with the emphasis on cardiovascular endurance, flexibility and body awareness. Students will explore ways to design and implement a fitness program tailored to meet their personal fitness goals. The class emphasis includes; enhancing personal fitness through daily fitness workouts and activities designed to improve aerobic capacity, core endurance upper body muscular strength and overall flexibility. The student will demonstrate the ability to use goal-setting and decision-making skills to aid in enhancing their personal fitness levels. Students will complete CPR and Water Safety Review as well as a district approved heart rate and fitness assessments for completion of the class.

### Lifetime Fitness - CrossFit

Course #: HPE341  
Grade Level: 11-12  
Credits: 2.5 (Each Year)  
Length: 1 Quarter  
Format: Skinny  
Prerequisite: Fundamentals of  
Lifetime Fitness or  
Permission  
Grading: Credit/No credit

**Course Description:** This section is designed to improve the students overall fitness using many functional movements performed at a relatively high intensity for focused results in strength, power, endurance, speed, accuracy, flexibility and balance. Students will explore ways to design and implement a CrossFit program tailored to meet their own fitness goals. The class emphasis includes; enhancing personal fitness through daily fitness workouts and activities designed to improve aerobic capacity, core endurance, upper body muscular strength and overall flexibility. The student will demonstrate the ability to use goal-setting and decision-making skills to aid in enhancing their personal fitness levels. Students will complete CPR and Water Safety Review, as well as a district approved heart rate and fitness assessments for completion of the class.

### Lifetime Fitness - Total Body I

Course #: HPE351  
 Grade Level: 11-12  
 Credits: 2.5 (Each Year)  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Fundamentals of  
 Lifetime Fitness or  
 Permission  
 Grading: Credit/No credit

**Course Description:** This section is designed to improve the students overall fitness. Focus will be on introductory Strength Training Skills and a variety of introductory level Strength Training skills. Students will be engaged in demonstrations/discussions, evaluations of lift performances, and functional demonstrations of weight lifting techniques. Students will explore ways to design and implement a Strength/Fitness program tailored to meet their own fitness goals. The student will demonstrate the ability to use goal-setting and decision-making skills to aid in enhancing their personal fitness levels. Students will complete CPR and Water Safety Review, as well as a district approved heart rate and fitness assessments for completion of the class.

### Lifetime Fitness - Total Body II

Course #: HPE352  
 Grade Level: 11-12  
 Credits: 2.5 (Each Year)  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Fundamentals of  
 Lifetime Fitness or  
 Permission  
 Grading: Credit/No credit

**Course Description:** This section is designed to improve the students overall fitness and allow advanced students to apply learned Strength Training Principles and Techniques. Students will explore ways to design and implement a Strength/Fitness program tailored to meet their own fitness goals. The goal will be to improve muscular strength; further knowledge and understanding of Strength Training theory and practice. The student will demonstrate the ability to use goal-setting and decision-making skills to aid in enhancing their personal fitness levels. Students will complete CPR and Water Safety Review, as well as a district approved heart rate and fitness assessments for completion of the class.

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### Health Careers



Course #: HPE450  
 Grade Level: 12  
 Credits: Up to 21 credits  
 Length: 2 Semesters  
 Format: Block  
 Prerequisite: None

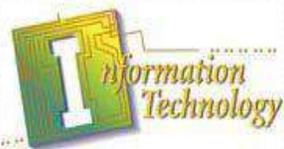
**Considerations:** This course is a part of the **Career Edge Academy** and is taught on-site by Kirkwood staff. This course fulfills the senior physical education requirement.

**Fee:** Purchase of safety and consumable materials used in the course may be required.

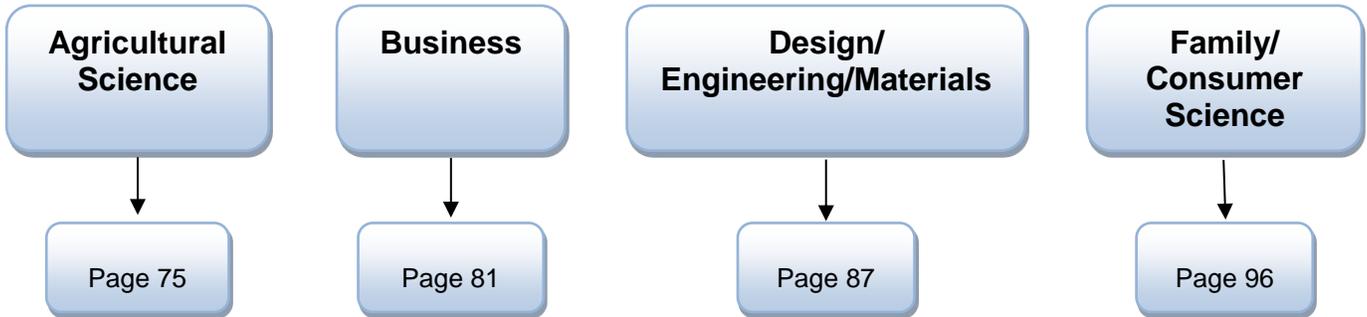
**Course Description:** The Health Sciences Academy includes hands-on patient care and meets for 85 minutes per day for the entire school year. Students will learn the basic expectations of a health care professional through a combination of coursework, job shadows and assisting with patient care. When completed, students will be eligible to take the Licensed Practical Nurse certification test.

# 16 Career Clusters-

The sixteen career clusters provide an organizing tool



# Linn-Mar CTE/Exploratory



# Agricultural Science

PR=Prerequisite Requirement

## Introduction to Agriculture, Food, and Natural Resource

AGR110  
Grade: 9-10  
PR: None

## Natural Resources & Ecology

AGR260  
Grade: 10-12  
PR: None

## Aquaculture Science

AGR225  
Grade: 10-12  
PR: None

## Food Science & Safety

AGR270  
Grade: 10-12  
PR: None

## Principles of Agricultural Science- Animal

AGR240  
Grade: 10-12  
PR: None

## Animal and Plant Biotechnology

AGR280  
Grade: 10-12  
PR: AFNR, ASA, APA,  
FSS, NRE, ARD

## Principles of Agricultural Science- Plant

AGR250  
Grade: 10-12  
PR: None

## Environmental Science Issues

AGR290  
Grade: 10-12  
PR: AFNR, NRE or  
Instructor Approval

## Capstone

AGR500  
Agriculture Research and  
Development  
Grade: 10-12  
PR: Application and Interview

**Introduction to Agriculture, Food, and Natural Resources**

Course #: AGR110  
 Grade Level: 9-10  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** The CASE™ *Introduction to Agriculture, Food and Natural Resources* course is intended to serve as the introductory course within the CASE™ Program of Study. This course is structured to enable all students to have a variety of experiences that will provide an overview of all fields of agricultural science and natural resources so that students may continue through a sequence of courses through high school. The knowledge and skills students develop will be used in future courses within the CASE™ program. In addition, students will understand specific connections between their lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community.

**Course Description:**

Students participating in the CASE™ *Introduction to Agriculture, Food and Natural Resources* course will experience exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of communication, the science of agriculture, plants, animals, natural resources, and agricultural mechanics. While surveying the opportunities available in agriculture and natural resources, students will learn to solve problems, conduct research, analyze data, work in teams, and take responsibility for their work, actions, and learning. For example, students will work in groups to determine the efficiency and environmental impacts of fuel sources in a practical learning exercise. Students will be introduced to the aquaculture lab and greenhouse.

**Principles of Agricultural Science-Animal**

Course #: AGR240  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** Students participating in the CASE™ *Principles of Agricultural Science – Animal* course will explore “hands-on” projects and activities to learn the characteristics of animal science and work on major projects and problems similar to those that animal science specialists, such as veterinarians, zoologists, livestock producers, and industry personnel, face in their respective careers. In addition, students will understand specific connections between animal science lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community. The knowledge and skills students develop will be used in future courses within the CASE curriculum.

**Course Description:**

Students participating in the CASE™ *Principles of Agricultural Science – Animal* course will have experiences in various animal science concepts with exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of animal anatomy, physiology, behavior, nutrition, reproduction, health, selection, and marketing. For example, students will acquire the skills in meeting nutritional needs of animals while developing balanced, economical rations. Throughout the course, students will consider the perceptions and preferences of individuals within local, regional, and world markets.

### Aquaculture Science

Course #: AGR225  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none

**Considerations:** Students participating in the *Aquaculture Science* course will explore “hands-on” projects and activities to learn the characteristics of aquaculturists and work on major projects and problems similar to those that animal science specialist such as aquaculture producers, zoologists, veterinarians, fisheries scientists, marine scientists, pet store owners and managers, and industry personnel, face in their respective careers. In addition, students will understand specific connections between aquaculture science lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community. The knowledge students will develop will be used in future courses within the Agricultural Science Education Department.

**Course Description:** Students participating in the *Aquaculture Science* course will have experiences in various aquaculture science concepts with exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of the aquaculture industry, taxonomy, habitat, and genetics, aquatic biology, nutrients and feeding, disease and pest management, water quality and management, and ornamental aquaculture.

For example, students will acquire the skills in meeting aquatic biology needs of finfish while working in the department’s aquaculture laboratory.

### Principles of Agricultural Science-Plant

Course #: AGR250  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** Students participating in the *CASE™ Principles of Agricultural Science – Plant* course will explore “hands-on” projects and activities to learn the characteristics of plant science and work on projects and problems similar to those that plant science specialists, such as horticulturalists, agronomists, greenhouse and nursery managers and producers, and plant research specialist’s face in their respective careers. In addition, students will understand specific connections between plant science lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community. The knowledge and skills students develop will be used in future courses within the CASE curriculum.

**Course Description:** Students participating in the *CASE™ Principles of Agricultural Science Plant* course will have experiences in various plant science concepts with exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of plant anatomy and physiology, classification, and the fundamentals of production and harvesting. Students will learn to apply scientific knowledge and skills to use plants effectively for agricultural and horticultural production. Students will discover the value of plant production perceptions and preferences of individuals within local, regional, and world markets.

### Natural Resources and Ecology



Course #: AGR260  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None

**Considerations:** Students participating in the *CASE™ Natural Resources and Ecology* course will explore “hands-on” projects and activities to explore agriculture in an environmentally conscience society and work on projects and problems similar to those that natural resources specialists, such as conservation biologists, ecologists, environmental scientists, fisheries scientists, foresters, hydrologists, range managers, renewable energy specialists, soil scientists, wildlife biologists, and research specialists face in their respective careers. In addition, students will understand specific connections between natural resources and ecology lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community. The knowledge and skills students develop will be used in future courses within the CASE curriculum.

**Course Description:** Students participating in the course *CASE™ Natural Resources and Ecology* will have experiences in various natural resources conservation and ecology concepts with exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of biomes and ecosystems, soil, water, air, flora, fauna, agriculture forestry and mining and renewable energy initiatives. Students will learn to apply scientific knowledge and skills to determine the difference between conservation and preservation, human impact on the environment, environmental policies needed to meet the demands of future natural resource needs, and social concerns. Throughout the course, students will consider the perceptions and preferences of individuals within local, regional, and world ecosystems. Students will study the ecosystem of the Linn-Mar High School Campus and surrounding area.

### Food Science and Safety



Course #: AGR270  
 Grade Level: 10-12  
 Credit Hours: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None

**Considerations:** Students participating in the *CASE™ Food Science and Safety* course will explore “hands-on” projects and activities to explore the science behind food through chemistry and microbiology, food safety, and processing students will work on projects similar to food science specialists, such as food process engineers, food safety specialists, nutritionist, dietitians, viticulturists, and research specialists’ face is their respective careers. In addition, students will understand specific connections between food science and safety lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community. The knowledge and skills students develop will be used in future courses within the CASE curriculum.

**Course Description:** Students participating in the course *CASE™ Food Science and Safety* will have experiences in various food science and safety concepts with exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of food chemistry and microbiology, nutrition, processing, food quality and safety, and product development. Students will learn to apply scientific knowledge and skills to grow, develop products, process, and distribute animal and plant foods to meet the demands of a growing global population. Throughout the course, students will consider the perceptions and preferences of individuals within local, regional, and world cultures. Students will be involved in a culminating project of food product development.

### Animal and Plant Biotechnology

Course #: AGR280  
Grade Level: 10-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: CASE™ Introduction to Agriculture, Food and Natural Resources, CASE™ Principles of Agricultural Science-Animal, CASE™ Principles of Agricultural Science- Plant, CASE™ Natural Resources and Ecology, CASE™ Food Science and Safety, or Instructor Approval



**Considerations:** Students participating in the *CASE™ Animal and Plant Biotechnology* course will complete hands-on projects and activities that will provide student with experiences in industry appropriate applications related to plant and animal agriculture. Students will complete hands-on activities, projects, and problems designed to build content knowledge and technical skills in the field of biotechnology. In addition, students will understand specific connections between animal and plant biotechnology lessons and SAE (supervised agricultural experience) and FFA components that are important for the development of an informed agricultural science education student. To be successful in the course students shall have an adequate background in science, math and computer skills.

**Course Description:** Students participating in the Course *CASE™ Animal and Plant Biotechnology* will maintain a research level Laboratory Notebook throughout the course documenting their experiences in the laboratory. Research and experimental design will be highlighted as students develop and conduct industry appropriate investigations. From background research through data collection and analysis, students will investigate a problem of their choice and conclude the project by reporting their results in the forms of a research paper and research poster. Students will become proficient at biotechnological skills involving micropipetting, bacterial cultures and transformations, electrophoresis, and polymerase chain reaction.

### Environmental Science Issues

Course #: AGR290  
Grade Level: 10-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: CASE™ Introduction to Agriculture, Food and Natural Resources, CASE™ Natural Resources and Ecology, or Instructor Approval



**Considerations:** Students will maintain a research level Laboratory Notebook throughout the course documenting their research and laboratory experiences. Issue analysis and experimental design will be highlighted as students develop and conduct environmental investigations.

**Course Description:** Environmental Science Issues is a specialization course in the CASE Program of Study. Students will complete hands-on activities, projects, and problems that simulate actual concepts and situations found in the environmental science field, allowing students to build content knowledge and technical skills. Students will investigate areas of environmental science including ecosystem management, sustainable agriculture, energy choices, and pollution.

## **Agricultural Research and Development**

Course #: AGR500  
Grade Level: 10-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: CASE™ Introduction to Agriculture, Food and Natural Resources, CASE™ Principles of Agricultural Science- Animal, CASE™ Principles of Agricultural Science- Plant, CASE™ Natural Resources and Ecology, CASE™ Food Science and Safety, or Instructor Approval



**Considerations:** Students participating in the *CASE™ Agricultural Research and Development* course will complete hands-on projects and activities that will explore research and development concepts that agricultural researchers use. Students will complete a research project similar to laboratory and field research specialist' face in their respective careers. Research projects management will require planning, scheduling, self-motivation, and prioritization of skills. In addition, students will understand specific connections between agricultural research and development lessons and SAE (supervised agricultural experience) and FFA components that are important for development of an informed agricultural science education student. To be successful in the course students shall have an adequate background in science, math and computer skills.

**Course Description:** Students participating in the course *CASE™ Agricultural Research and Development* will have experiences in agricultural research and development. Students will define a problem, propose a solution, develop protocol, collect and analyze data, and communicate results to their peers and members of the professional community. Areas of research may be related to animal systems, environmental science/natural resources systems, plant systems, power, structural, and technology systems, and social systems. Throughout the course, students will use a variety of methods, including, experimental, observational, and opinion-based research, to understand a problem. Students will learn that finding solutions to a problem are impacted by social, legal, financial, and environmental considerations.

# Business Accounting/Finance

PR=Prerequisite Requirement

## Personal Finance

BUS110  
Grade: 9-10  
PR: None

## Accounting

BUS330  
Grade: 10-12  
PR: None

## theROARstore

BUS550  
Grade: 11-12  
PR: Any of 2 or more Business  
Courses

## Advanced Accounting (AP Accounting)

BUS430  
Grade: 12  
PR: Accounting

## Career Immersion

MOC  
BUS440  
Grade: 12  
PR: Application and Interview

## Career Immersion

MOC  
BUS450  
Grade: 12  
PR: Application and Interview

# Business Marketing/Entrepreneurship

PR=Prerequisite Requirement

## Introduction to Business

BUS120  
Grade: 9-10  
PR: None

## Economics

SOC310  
Grade: 11-12  
PR: None

## Marketing

BUS355  
Grade: 11-12  
PR: None

## Business/Consumer Law

BUS410  
Grade: 11-12  
PR: None

## Entrepreneurship

BUS460  
Grade: 11-12  
PR: None

## theROARstore

BUS550  
Grade: 11-12  
PR: Any of 2 or more Business Courses

## AP Microeconomics

BUS510  
Grade: 10-12  
PR: None

## Career Immersion

MOC  
BUS440  
Grade: 12  
PR: Application and Interview

## Career Immersion

MOC  
BUS450  
Grade: 12  
PR: Application and Interview

### Personal Finance

Course #: BUS110  
Grade Level: 9-10  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** This course meets financial literacy standards of the Iowa Core required for graduation.

**Course Description:** This course exposes students to areas of personal finance that they will likely encounter. The curriculum covers, among other topics: consumer awareness, money management, opening bank accounts, managing a checkbook, managing credit, applying for a job and basic information about saving and investing. Information will be presented through projects, activities, guest speakers and multimedia presentations.

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### Accounting

Course #: BUS330  
Grade Level: 10-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** Students will learn the fundamentals of double-entry accounting for personal and small business use. They will also learn about payroll, income tax and banking activities. Computers and various business forms will be used to help students develop a beginning understanding of the business world.

### Marketing

Course #: BUS355  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** none

**Course Description:** Marketing is an all-encompassing look at today's business model and focuses on areas of study including, but not limited to: market planning, selling, promotion, distribution, pricing, marketing research and brand development.

---

### Business/Consumer Law

Course #: BUS410  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** This course will develop a general understanding of legal concepts for personal and business use. As students become familiar with these concepts, they will better understand the importance of the law in general, become familiar with relevant specific laws, and explore the applications of law both in business and in personal transactions. This will be achieved through field trips and/or guest speakers, and analyzing real cases.

### Advanced Accounting

Course #: BUS430  
Grade Level: 11/12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: Accounting

**Considerations:** See prerequisite. HP 10b11. Financial calculator is required.

**Course Description:** This course uses an integrated approach to teach accounting, by learning how businesses plan for and evaluate their operating, financing and investing decisions and then how accounting systems gather and provide data to decision makers. The course covers all the objectives of a traditional college level financial accounting course, plus those from a managerial accounting course. Topics include: accounting information systems, time value of money, and accounting for merchandising firms, sales and receivables, fixed assets, debt, equity, statement of cash flows, financial ratios, cost-volume profit analysis and variance analysis.

---

### MOC Internship

#### Career Immersion

Course #: BUS440  
Grade Level: 12  
Credits: 20  
Length: 2 Semesters  
Format: Block  
Prerequisite: See Considerations

**Considerations:** Must also enroll in MOC Related; admitted when hired by an MOC teacher-approved employer; receive pay in addition to credit; must commit to one year, must complete MOC application.

**Course Description:** MOC is a cooperative training program with area business and industry. Student interns work a minimum of 15 hours per week, learning specific career related skills and attitudes. The type of internship is based on the student's career interest and skills.

### MOC Related

#### Career Immersion

Course #: BUS450  
Grade Level: 12  
Credits: 10  
Length: 2 Semesters  
Format: Skinny  
Prerequisite: See Considerations

**Considerations:** Must also enroll in MOC Internship; must commit to one year, must complete MOC application.

**Course Description:** Student will learn job seeking and keeping skills (teamwork, problem solving, job application, career exploration, workplace diversity, time management, listening and oral communication).

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### Entrepreneurship

Course #: BUS460  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** It is recommended that students enroll in one or more of the following courses prior to enrolling in Entrepreneurship; Accounting, Marketing, Business/Consumer Law, Personal Finance.

**Course Description:** Students will learn about starting and running their own business. A custom business plan will be developed after exploring topics such as innovation & creativity, business opportunities, marketing & marketing research, finance business operations, and monitoring success. BizInnovator Curriculum, developed by the University of Iowa, will be used and is tied into the National Entrepreneurship Standards, the Iowa Core Curriculum, and 21<sup>st</sup> Century Skills.

### **Introduction to Business**

Course #: BUS120  
 Grade Level: 9-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

**Considerations:** None

**Course Description:** This course will give students an overview of the study of business. It will allow students to see and briefly experience all aspects, including Business Ownership and Entrepreneurship, Management and Organization, Human Resources, Marketing, Finance and Accounting.

### **Economics**

Course #: SOC310  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None



**Considerations:** Students should be comfortable working with charts and tables.

**Course Description:** This course will focus on economic concepts (scarcity, choice, incentives); supply, demand, and markets; microeconomics (production, productivity, competitive markets); and macroeconomics (the economy in the aggregate, inflation, unemployment).

### **AP Microeconomics**

W

Course #: BUS510  
 Grade Level: 11-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Economics is **recommended**

**Considerations:** Students should be comfortable working with charts, tables, numbers, and equations. Students may take the AP Microeconomics exam in May.

**Course Description:** This course will focus on economic concepts (scarcity, choice, incentives); supply, demand, and markets; product markets (production, productivity, competitive markets); resource markets (demand for resources, wage rates); microeconomics of government; microeconomic issues and policies.

**theROARstore**

Course #: BUS550  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Any of 2 or more Business courses

**Considerations:** This class has a work component built-in and may require students to work outside of normal instructional time.

**Course Description:** Students will be involved in the continued development and on-going operations of theROARstore. theROARstore is a student-run business, specializing in selling branded Linn-Mar merchandise. Students will learn customer service and selling skills in the classroom and develop & hone them while working in the store. In addition, students will spend time on developing theROARstore's product mix, price the products accordingly, and promote them using social media, email marketing, and website design. Activities may include (but are not limited to): research and development, market & product planning, promotion, pricing, merchandising, selling, management, distribution, and financial analysis. Skills needed to be successful include: creative and logical thinking, timeliness, dependability, willingness to work as a team, effective communication, attention to detail, ethical behavior, and professional and mature demeanor when working with customers, advisors, and individuals in positions of authority.

# Design/Engineering/Materials

## Design & Engineering

PR=Prerequisite Requirement

### Introduction to Engineering

#### Design (IED)

IND600

Grade: 9-12

PR: Algebra

### Computer Science Essentials

#### (CSE)

IND645

Grade: 9-12

PR: None

### Principles of Engineering (POE)

IND610

Grade: 10 -12

PR: Algebra

### Computer Science Principles

#### (CSP)

IND650

Grade: 9-12

PR: Algebra

### Civil Engineering and Architecture Design (CEA)

IND630

Grade: 10-12

PR: Algebra

### Computer Science A (CSA)

IND660

Grade: 10-12

PR: IND645 or IND650

### Digital Electronics

IND620

Grade: 10-12

PR: Algebra

### Career Immersion

#### MOC

BUS450

Grade: 12

PR: Application and Interview

### Aerospace Engineering

IND670

Grade: 10-12

PR: Introduction into Engineering  
Design

# Design/Engineering/Materials Construction/Carpentry

PR=Prerequisite Requirement

## Woods: Materials & Processes

IND240  
Grade: 9-10  
PR: None

## Cabinet Making (Woods II)

IND250  
Grade: 10-12  
PR: Woods: M&P

## Residential Construction I

IND120  
Grade: 9-12  
PR: None

## Residential Construction II

IND125  
Grade: 11-12  
PR: Residential Construction I

## Capstone Building Trades

IND500  
Grade: 12  
PR: Application and Interview

## Career Immersion

MOC  
BUS450  
Grade: 12  
PR: Application and Interview

# Design/Engineering/Materials Manufacturing

PR=Prerequisite Requirement

## Mechanical Drawing

IND110  
Grade: 9-12  
PR: None

## Computer Integrated Manufacturing

IND640  
Grade: 9-12  
PR: Algebra

## Engineering Design and Development (EDD)

IND680  
Grade: 12  
PR: Introduction to Eng. Design and one  
other PLTW Engineering course.

## Production Graphics

IND140  
Grade: 9-12  
PR: None

## Metals: Materials and Processes

IND310  
Grade: 11-12  
PR: None

## Career Immersion

**MOC**  
BUS450  
Grade: 12  
PR: Application and Interview

### **Mechanical Drawing**

Course #: IND110  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** This course is designed to provide practical application of drafting knowledge practices through sketching and computer aided drafting (CAD). Students learn to use different types of drawing to describe and communicate ideas.

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### **Residential Construction I**

Course #: IND120  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none

**Considerations:** None

**Course Description:** This is an introductory course for students who wish to explore the construction industry and related careers. Major activities covered through construction of a wall section include: concrete framing, roofing, plumbing and electrical.

### **Residential Construction II**

Course #: IND125  
Grade Level: 11-12 or approval  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Residential Const I

**Considerations:** None

**Course Description:** This is an advance course that provides students an opportunity to learn about materials, processes and careers found in Residential Construction. Activities include building and expanding on basics covered in Residential Construction I.

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### **Production Graphics**

Course #: IND140  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none

**Considerations:** None

**Course Description:** This course is designed to teach students introductory skills used in graphic productions. Emphasis will be placed on the developments of skills related to the design of layouts, digital photography, screen printing and use of Adobe Photoshop & InDesign.

### Woods: Materials and Processes

Course #: IND240  
Grade Level: 10-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: none

**Considerations:** Grade of 80% or higher for second quarter of Woods: Materials and Processes is required.

**Course Description:** This course is designed to teach skills necessary for basic woodworking applications. The course stresses student safety through a series of demonstrations and safety tests. Students will plan and construct introductory projects to gain skills necessary to complete a final project of their choosing. A lathe project is also required.

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### Cabinet Making

Course #: IND250  
Grade Level: 10-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: Woods: Materials and Processes

**Considerations:** Grade of 80% or higher for second quarter of Woods: Materials and Processes is required.

**Fees:** Students will be allotted materials for required projects. Additional fees may be charged if a student exceeds the allotted amount

**Course Description:** This course is designed to expand basic skills learned in Woods: Materials and Processes. A review of machine safety will precede project work. Students will design and draw plans for their project, calculate costs and devise a plan of procedure for completion of their project prior to starting work. Project work will be required to include at least one dovetailed drawer, rail, stile and panel piece.

### Metals: Materials and Processes

Course #: IND310  
Grade Level: 11-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: none

**Considerations:** Fees the same as Cabinet Making

**Course Description:** This course will provide students the opportunity to explore the field of metal and develop skills in working with metal fabrication. The areas covered are welding, sheet metal, machining, and foundry.

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### Building Trades Capstone Course

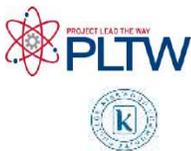
Course #: IND500  
Grade Level: 12  
Credits: 20  
Length: 2 Semesters  
Format: Block  
Prerequisite: none  
Fees: purchase of safety equipment such as glasses or ear protection

**Considerations:** Limit of seven Linn-Mar students. Students are selected by recommendation of Linn-Mar staff. Student must provide transportation to off-campus site.

**Course Description:** Linn-Mar and Marion High School students work two hours a day to build a full-sized house. The course includes all skills and tasks needed to complete this activity.

### **Computer Integrated Manufacturing (CIM)**

Course #: IND640  
Grade Level: 9-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Co-requisite: Algebra



**Considerations:** This course articulates credit with Kirkwood Community College.

**Course Description:** How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? While students discover the answers to these questions, they are learning about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems.

### **Civil Engineering and Architectural Design (CEA)**

Course #: IND630  
Grade Level: 10-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: Algebra



**Considerations:** This course articulates credit with Kirkwood Community College.

**Course Description:** Students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. Students will use 3D design software to design and document solutions for major course projects. Students communicate and present solutions to their peers and members of a professional community of engineers and architects.

### **Intro to Engineering Design**

Course #: IND600  
Grade Level: 9-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Co-requisite: Have taken or currently taking Algebra



**Considerations:** See prerequisites. Project Lead the Way (PLTW) engineering courses do not replace other science classes. Students taking PLTW courses should also take 3 or more semesters of traditional science courses. Students will earn credit for this course from Kirkwood Community College upon successful completion.

**Course Description:** Students in this hands-on, project-based course will focus on creative design processes, communication and teamwork skills. 3D CAD software will be used to produce, analyze, and evaluate product modes. Sketching, geometric relationships, 3D modeling, production and marketing will be studied through the development of designs.

### Digital Electronics (DE)

Course #: IND620  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** see prerequisites. This is the third course recommended in the **Project Lead the Way** engineering sequence. Students may be able to earn community college credit with successful completion of this course.

**Course Description:** This course is the study of electronic circuits that are used to process and control digital signals as opposed to analog signals that are varying. This distinction allows for greater signal speed and storage capabilities and has revolutionized the world of electronics. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices.

### Principles of Engineering

Course #: IND610  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra



**Considerations:** See prerequisites. Students will earn credit for this course from Kirkwood Community College upon successful completion.

**Course Description:** Students will apply science and math to solve practical problems. Topics covered include machines, kinematics, thermodynamics, control systems and materials. This course will give students an idea of what some college engineering coursework is like.

### Computer Science Essentials (CSE)

Course #: IND645  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** Students with no prior computer science experience can take this as a first computer science course. Academically confident/motivated students or students with a bit of prior programming experience may skip CSE and sign up for Computer Science Principles (CSP).

**Course Description:** In this entry level computer science course, students will learn to program apps using a graphical, block based programming language. After learning fundamentals of programming, student's transition to text based programming using the Python language. Students will continue using Python as they learn to create web applications. Students will use a variety of tools and computational thinking concepts as they build confidence and gain experience in the field of computer science.

### Computer Science Principles (CSP)

Course#: IND650  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Corequisite: Algebra or concurrent enrollment in Algebra



**Considerations:** Students who want a beginner level computer science experience should take Computer Science Essentials (CSE) as their first course. Academically motivated / confident students or students with a bit of prior programming experience may choose to skip CSE and register for CSP.

**Course Description:** Explore a variety of fields within computer science: Python programming, app development, visualization of data, image data manipulation, graphical user interfaces, cybersecurity, simulation, and creating webpages. This course aims to develop computational thinking, generate interest in career paths that utilize computing, and introduce a variety of professional tools that foster creativity and collaboration. CSP helps students develop programming experience, confidence and explore the workings of the Internet.

### Computer Science A(CSA)

Course #: IND660  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Corequisite: Computer Science Essentials (CSE) or Computer Science Principles (CSP)



**Considerations:** Students need prior programming experience outside of school. Computer Science A is a very challenging course. This is a Project Lead The Way (PLTW) course. This course prepares students for the AP Computer Science A exam.

**Course Description:** Students will learn object oriented programming in the Java language. After working extensively in Java, students will use Java to creating Android Apps. Android is a challenging platform to learn, but it is also interesting and rewarding. Students will extensively use Android Studio, which is a complex and powerful professional level programming tool. Unlike our other computer science courses, CSA focuses intensely on a single programming language (Java). In addition to Java programming, students will study user interfaces, connecting an app to a database, and a variety of general programming skills such as evaluating and troubleshooting code.

### Aerospace Engineering (AE)

Course #: IND670  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Introduction to Engineering Design or Design/Modeling in M.S. or Mechanical Drawing



**Considerations:** None

**Course Description:** The major focus of the Aerospace Engineering course is to expose students to the world of aeronautics, flight, and engineering. Students will employ engineering and scientific concepts in the solution of aerospace problems. Lessons will engage students in engineering design problems related to aerospace information systems, astronautics, rocketry, propulsion, the physics of space science, space life sciences, the biology of space science, principles of aeronautics, structures and materials, and systems engineering.

### Engineering Design and Development (EDD)

Course #: IND680  
 Grade Level: 12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Introduction to Engineering Design and one other PLTW Engineering course.



**Considerations:** EDD is a culminating capstone course. In order to have a solid foundation for this course, students need successful completion of the prerequisites Introduction to Engineering Design and one of the following courses: Principles of Engineering, Digital Electronics, Aerospace Engineering, Civil Engineering and Architecture, Computer Integrated Manufacturing, Environmental Sustainability, or Computer Science Principles.

**Course Description:** Utilizing activity-project-problem-based (APPB) teaching and learning pedagogy, students will perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams of students will design, build, and test their solution. Finally, student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process.

# Family/Consumer Sciences Culinary

PR=Prerequisite Requirement

## Culinary Basics

FAM210  
Grade: 9-12  
PR: None



## Creative Foods

FAM310  
Grade: 10-12  
PR: Culinary Basics



## Advanced Culinary Arts

FAM420  
Grade: 10-12  
PR: 80% or better in Creative Foods

## CAPSTONE

### Culinary

FAM500  
Grade: 12  
Proposed 2019-20  
PR: Application and Interview

## Career Immersion

### MOC

BUS450  
Grade: 12  
PR: Application and Interview

# Family/Consumer Sciences Child Development/Education

PR=Prerequisite Requirement

## Foundations of Living

FAM100  
Grade: 9-12  
PR: None

## Parenting

FAM435  
Grade: 10-12  
PR: None

## Child Development- Prenatal to Preschool

FAM330  
Grade: 11-12  
PR: None

## KCC Child Growth and Development

FAM425  
Grade: 11-12  
PR: Child Growth and Development  
w/ 80% or higher

## Career Immersion

MOC  
BUS450  
Grade: 12  
PR: Application and Interview

# Family/Consumer Sciences Home

PR=Prerequisite Requirement

## Foundations of Living

FAM100  
Grade: 9-12  
PR: None

## Creative Sewing

FAM220  
Grade: 10-12  
PR: None

## Interior Design

FAM240  
Grade: 10-12  
PR: None

## Creative Foods

FAM310  
Grade: 9-12  
PR: Culinary Basics

## Career Immersion

MOC  
BUS450  
Grade: 12  
PR: Application and Interview

### **Foundations of Living**

Course #: FAM100  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none

**Considerations:** none

**Course Description:** Students explore basic fundamentals of home and life management. Curriculum covers multiple focuses, including Child Development- infant through preschool, Home Design- living spaces and design principles, and Fashion and Sewing- Clothing choices and sewing skills.

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### **Culinary Basics**

Course #: FAM210  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none

**Considerations:** none

**Course Description:** This is an introductory foods course that develops skills and techniques related to the selection, storage, and preparation of basic foods.

### **Creative Sewing**

Course #: FAM220  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none

**Considerations:** none

**Course Description:** Students will learn to sew or increase sewing skills in this class. In addition to the sewing machine, equipment such as an embroidery machine, serger, and heat press will be used to produce professional products that are quick to make and cost effective. This course will also study clothing styles, principles of design, and take a look at careers related to this industry.

---

### **Interior Design**

Course #: FAM240  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none

**Considerations:** none

**Course Description:** This course investigates housing choices and the design of living areas. Students explore, apply, and evaluate the elements and principles of design, wall and floor treatments, furniture styles and arrangement, housing types available, floor plan design, landscaping, financial aspects related to housing, and related careers.

### **Creative Foods**

Course #: FAM310  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Culinary Basics

**Considerations:** see prerequisites.

**Course Description:** This advanced foods course offers the student an opportunity to continue developing cooking skills while learning about the selection and use of appliances, kitchen planning, and international foods, and altering recipes. Techniques for improving the appearance of foods will be practiced.

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### **Child Development - Prenatal to Preschool**

Course #: FAM330  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: none



**Considerations:** Students can gain three hours of articulation credit at Kirkwood Community College if credit is also earned for KCC Child Growth & Development.

**Course Description:** The goal of this course is to explore current issues and skills in the care giving of young children. Areas of study will include physical, intellectual, and social-emotional development through age four, including heredity, birth defects, pregnancy and birth. Interacting with young children in an on-site preschool provides real life practice with guidance techniques. A subsequent course for college credit may be taken after this course if criteria are met.

### **Advanced Culinary Arts**

Course #: FAM420  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: 80 % or better in Creative Foods

**Considerations:** See prerequisites.

**Course Description:** This course offers students entrepreneurship through catering. Students explore and practice the planning, marketing, and serving food for large groups.

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### **KCC Child Growth and Development**

Course #: FAM425  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Child Development- Prenatal to Preschool passed with 80% or higher



**Considerations:** See prerequisites.

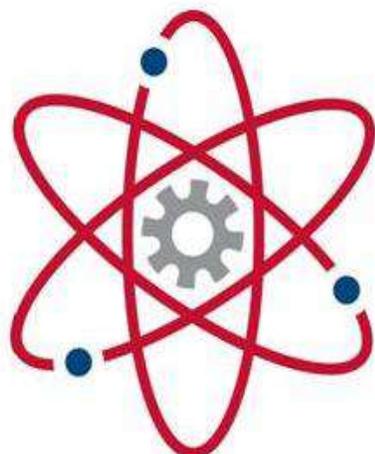
**Course Description:** Students will earn credit from Kirkwood Community College upon successful completion of this course. This course will study the development of children thru adolescence age. Areas of study will examine interactions between child, family, school and society. Theories and evidence-based practices associated with understanding and supporting children will be covered. This course provides opportunities to observe in an elementary classroom.

**Parenting**

Course #: FAM435  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block

**Considerations:** None

**Course Description:** The emphasis of this class is on parenting and families. Areas of study include the role of families, teenage parenthood, parenting skills and decisions, handling of common problems, and strengthening of families. Emphasis will be on family resources that can help families meet challenges, solve problems, and strengthen their family life. This course offers opportunities to interact with preschool-age children in the classroom.



PROJECT LEAD THE WAY

PLTW

**These courses are also found in the Science and DEM Department courses offered.**

### Environmental Sustainability

(Previously was Biotechnical Engineering)

Course #: IND620

Grade Level: 10-12

Credits: 10

Length: 2 Quarters

Format: Block

Prerequisite: Algebra AND  
General Biology



### Computer Integrated Manufacturing (CIM)

Course #: IND640

Grade Level: 9-12

Credits: 10

Length: 2 Quarters

Format: Block

Co-requisite: Algebra



**Considerations:** See prerequisites. This is course in the Project Lead the Way engineering sequence. Students will earn credit for this course from Kirkwood Community College upon successful completion.

**Course Description:** Students will 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.

**Considerations:** This course articulates credit with Kirkwood Community College.

**Course Description:** How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? While students discover the answers to these questions, they are learning about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems.

### Civil Engineering and Architectural Design (CEA)

Course #: IND630  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra



**Considerations:** This course articulates credit with Kirkwood Community College.

**Course Description:** Students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. Students will use 3D design software to design and document solutions for major course projects. Students communicate and present solutions to their peers and members of a professional community of engineers and architects.

### Intro to Engineering Design

Course #: IND600  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Co-requisite: Have taken or currently taking Algebra



**Considerations:** See prerequisites. Project Lead the Way (PLTW) engineering courses do not replace other science classes. Students taking PLTW courses should also take 3 or more semesters of traditional science courses. Students will earn credit for this course from Kirkwood Community College upon successful completion.

**Course Description:** Students in this hands-on, project-based course will focus on creative design processes, communication and teamwork skills. 3D CAD software will be used to produce, analyze, and evaluate product modes. Sketching, geometric relationships, 3D modeling, production and marketing will be studied through the development of designs.

### Digital Electronics (DE)

Course #: IND620  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: none



**Considerations:** see prerequisites. This is the third course recommended in the **Project Lead the Way** engineering sequence. Students may be able to earn community college credit with successful completion of this course.

**Course Description:** This course is the foundation of all modern electronic devices such as mobile phones, MP3 players, laptop computers, digital cameras and high-definition televisions. Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation.

### Principles of Engineering

Course #: IND610  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra



**Considerations:** See prerequisites. Students will earn credit for this course from Kirkwood Community College upon successful completion.

**Course Description:** Students will apply science and math to solve practical problems. Topics covered include machines, kinematics, thermodynamics, control systems and materials. This course will give students an idea of what some college engineering coursework is like.

### **Computer Science Essentials (CSE)**

Course #: IND645  
Grade Level: 9-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: None



**Considerations:** Students with no prior computer science experience can take this as a first computer science course. Academically confident/motivated students or students with a bit of prior programming experience may skip CSE and sign up for Computer Science Principles (CSP).

**Course Description:** In this entry level computer science course, students will learn to program apps using a graphical, block based programming language. After learning fundamentals of programming, student's transition to text based programming using the Python language. Students will continue using Python as they learn to create web applications. Students will use a variety of tools and computational thinking concepts as they build confidence and gain experience in the field of computer science.

### **Computer Science Principles (CSP)**

Course#: IND650  
Grade Level: 9-12  
Credits: 10  
Length: 2 Quarters  
Format: Block  
Corequisite: Algebra or concurrent enrollment in Algebra



**Considerations:** Students who want a beginner level computer science experience should take Computer Science Essentials (CSE) as their first course. Academically motivated / confident students or students with a bit of prior programming experience may choose to skip CSE and register for CSP.

**Course Description:** Explore a variety of fields within computer science: Python programming, app development, visualization of data, image data manipulation, graphical user interfaces, cybersecurity, simulation, and creating webpages. This course aims to develop computational thinking, generate interest in career paths that utilize computing, and introduce a variety of professional tools that foster creativity and collaboration. CSP helps students develop programming experience, confidence and explore the workings of the Internet.

### Computer Science A (CSA)

Course #: IND660  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Corequisite: Computer Science Essentials (CSE) or Computer Science Principles (CSP)

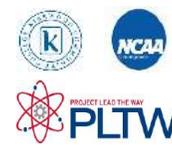


**Considerations:** Students need prior programming experience outside of school. Computer Science A is a very challenging course. This is a Project Lead The Way (PLTW) course. This course prepares students for the AP Computer Science A exam.

**Course Description:** Students will learn object oriented programming in the Java language. After working extensively in Java, students will use Java to creating Android Apps. Android is a challenging platform to learn, but it is also interesting and rewarding. Students will extensively use Android Studio, which is a complex and powerful professional level programming tool. Unlike our other computer science courses, CSA focuses intensely on a single programming language (Java). In addition to Java programming, students will study user interfaces, connecting an app to a database, and a variety of general programming skills such as evaluating and troubleshooting code.

### Aerospace Engineering (AE)

Course #: IND670  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Introduction to Engineering Design



**Considerations:** None

**Course Description:** The major focus of the Aerospace Engineering course is to expose students to the world of aeronautics, flight, and engineering. Students will employ engineering and scientific concepts in the solution of aerospace problems. Lessons will engage students in engineering design problems related to aerospace information systems, astronautics, rocketry, propulsion, the physics of space science, space life sciences, the biology of space science, principles of aeronautics, structures and materials, and systems engineering

**Engineering Design and Development  
(EDD)**

Course #:	IND680	
Grade Level:	12	
Credits	10	
Length:	2 Quarters	
Format:	Block	
Prerequisite:	Introduction to Engineering Design and one other PLTW Engineering course.	

**Considerations:** EDD is a culminating capstone course. In order to have a solid foundation for this course, students need successful completion of the prerequisites Introduction to Engineering Design and one of the following courses: Principles of Engineering, Digital Electronics, Aerospace Engineering, Civil Engineering and Architecture, Computer Integrated Manufacturing, Environmental Sustainability, or Computer Science Principles.

**Course Description:** Utilizing activity-project-problem-based (APPB) teaching and learning pedagogy, students will perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams of students will design, build, and test their solution. Finally, student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process.

# Linn-Mar Digital Learning

## **Blended Learning**

A variety of courses at Linn-Mar High School are offered in a Blended Learning format. Blended Learning courses currently include Advanced English III, Algebra IIA, English III, General Biology, Introductory Psychology, Spanish IV, and World History. Students involved in Blended Learning will interact with course content through a combination of face-to-face and digital instructional methods. Students participating in Blended coursework are exposed to both face-to-face instruction and online learning on a schedule that flexes day-to-day and week-to-week, depending on individual student and course needs.

## **Credit Recovery**

**APEX** As more opportunities become available online for academic preparation, LMHS is developing a framework for such options as deemed appropriate. Currently, APEX offerings are available, primarily for Credit Recovery, through the Academic Assistance Center.

## **Financial Literacy**

**EVERFI - Financial Literacy™** will be an option for students to meet required financial literacy standards.

**Linn-Mar Competency** skills may be met online through the Business department lab in word processing, spreadsheet, Web 2.0, desktop publishing, presentation (multi-media), and keyboarding.

# Linn-Mar Extension Opportunities

In an effort to provide students the opportunity to extend interest in a particular area, Linn-Mar High School is developing a framework to allow for these opportunities. While a Linn-Mar Projects component is being developed with a goal for implementation in 2019-2020, current extension offerings are provided through courses in the Project Lead the Way (PLTW) program and for those students identified to be a part of the Linn-Mar Talented and Gifted program.

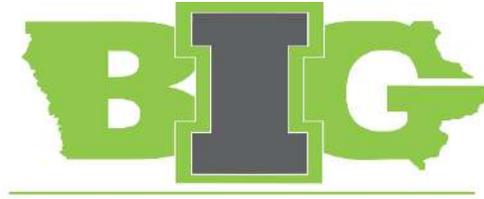
**Project Lead the Way (PLTW)** is a national program with courses designed to prepare students for a career in engineering or engineering technology. Emphasis is placed on applied learning through a challenging and engaging “hands-on” project-based approach. A national standards-based curriculum is followed. Courses for Project Lead the Way offered at Linn-Mar High School include:

- Introduction to Engineering Design (IED)
- Digital Electronics (DE)
- Principles of Engineering (PoE)
- Environmental Sustainability (ES)
- Computer Integrated Manufacturing (CIM)
- Civil Engineering and Architectural Design (CEA)
- Computer Science Essentials (CSE)
- Computer Science Principles (CSP)
- Computer Science A (CSA)
- Aerospace Engineering (AE)
- Engineering Design and Development (EDD)

## **Talented and Gifted**

This program is for students identified according to established district guidelines. The program begins in 9<sup>th</sup> grade with a required quarter-long career awareness and college planning seminar designed especially for TAG students. 9<sup>th</sup> grade students also have the option of choosing to take US History I and English I; both of which are open to all students, but stress academic rigor and presenting the student with challenge.

10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade students may elect to take an independent study course, allowing them to design their own in-depth study. Advanced Placement courses are also available to all students in these upper grades.



### **Iowa BIG**

The **core design principles** are:

- Use student passion to drive deep learning and deliver core academic credits
- Engage students in authentic community projects, problems, and opportunities
- Connect students more deeply to the people and resources of their community (Marion and Cedar Rapids).

We believe that educational options are necessary for every student to be successful. We must provide students with as many contextually-rich experiences as possible so they not only develop basic skills, but, more importantly, they can competently use those skills to solve real problems and make new things happen.

To reach every student, we would have to create a model that had the exact same goal as our local public schools—a rigorous and applicable education—but achieve that goal through very different means.

As a result, Iowa BIG's pedagogy centers on the following tenets:

1. *The student must choose and love the project.* Iowa BIG employs a project pool that is custom generated for us by our community. These projects come from the real needs of businesses, non-profits, and government agencies and are translated into “teenager” by our faculty. Students are free to choose projects they are passionate about. Students and faculty also pitch projects into the pool, which are then partnered with our community.
2. *The project must be interdisciplinary.* All projects at Iowa BIG cover material and require understandings of content from multiple traditional courses. This ensures the efficiency of our model and that our projects never become solely “problems from the back of the book.”

## 2018-19 Linn-Mar Course Credit through Iowa BIG

<u>Site</u>	<u>Linn-Mar Course</u>	<u>Discipline</u>	<u>Iowa BIG Course</u>
Boyson	Entrepreneurship (BUS460)	Business	Entrepreneurship
Boyson	Introduction to Business (BUS120)	Business	Introduction to Business
Boyson	Marketing (BUS355)	Business	Marketing
Boyson	Personal Finance (BUS110)	Business	Personal Finance
Boyson	Communications (ENG390)	English	Communications
Boyson	Contemporary Literature (ENG360)	English	Contemporary Literature
Boyson	Creative Writing (ENG410)	English	Creative Writing
Boyson	Intro to College Writing (ENG420)	English	Intro to College Writing
Boyson	Journalism (ENG220)	English	Journalism
Boyson	Economics (SOC310)	Social Studies	Economics
Boyson	Government (SOC400)	Social Studies	Government
Boyson	Introductory Psychology (SOC340)	Social Studies	Introductory Psychology
Boyson	Law and the Constitution (SOC320)	Social Studies	Law and the Constitution
Boyson	Sociology (SOC330)	Social Studies	Sociology
Geometric	Business elective	Business	Advanced Professional Studies
Geometric	Business elective	Business	Systems & Design Thinking
Geometric	Business elective (BUS601)	Business	Project Management Basics (KCC)
Geometric	English elective	English	Perspectives in Lit and Composition
Geometric	English elective	English	US Humanities and Composition
Geometric	Probability and Statistics (MAT330)	Mathematics	Finite Topics with Statistics
Geometric	Physics I (SCI350)	Science	Unified Physics
Geometric	Science elective	Science	Ecological Problems
Geometric	Science elective	Science	Honors Scientific Rsrch and Design
Geometric	Economics (SOC310)	Social Studies	Economics
Geometric	Government (SOC400)	Social Studies	American Government
Geometric	Introductory Psychology (SOC340)	Social Studies	Psychology
Geometric	Sociology (SOC330)	Social Studies	Sociology
Geometric	Social Studies elective	Social Studies	Using Tech & Design to Solve Social Issues

### **Freshman Seminar TAG 1**

Course #: TAG410   
Grade Level: 9  
Credits: 2.5  
Length: 1 Quarter  
Format: Skinny  
Prerequisite: Instructor Approval

**Considerations:** This course is for students identified by established district guidelines.

**Course Description:** Students explore how their skills, abilities, and specific personality traits relate to educational and career options. They will also study the college admissions process, scholarship application process, and how to find a college that best suits their goals. Students also participate in a community service project.

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### **Independent Study TAG 5**

Course #: TAG510   
Grade Level: 10-12  
Credits: 5  
Length: 1 Semester  
Prerequisite: Instructor Approval

**Considerations:** This course is for students identified by established district guidelines.

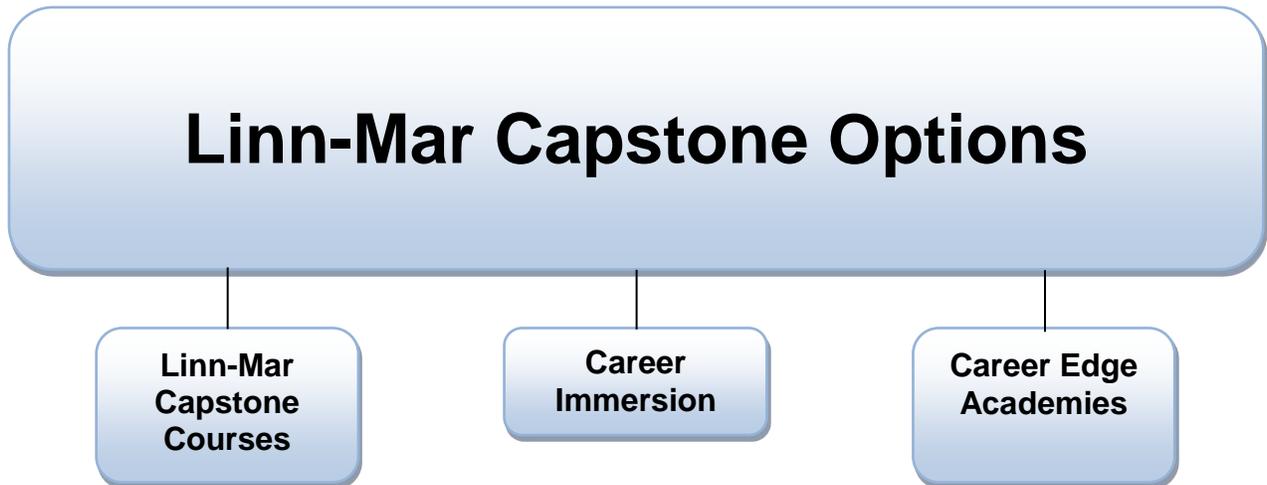
**Course Description:** This course is designed for students with demonstrated research skills who have a commitment to independent learning. Working with mentors from the community, students will plan and complete independent in-depth projects.

### **AP Independent Study**

Course #: TAG620   
Grade Level: 10-12  
Credits: 5-10  
Length: 1-2 Semesters  
Prerequisite: Instructor Approval

**Considerations:** This course is for students identified by established district guidelines.

**Course Description:** This course is offered through the Iowa Online AP Academy. You need at least one skinny in your schedule. Limited enrollment.



### **Linn-Mar Capstone Courses**

A “capstone” experience is an in-school immersion into the actual work environment of a particular job/subject area. These application opportunities allow a student to be trained in the specific skills of a particular work environment, as well as to be provided with experience in the career area. The following Capstone courses are currently being offered or developed:

- Building and Trades
- LM Store
- LM Culinary (developing)
- LM Teaching and Development
- Engineering Design and Development (EDD)
- Capstone Project in Agriculture, Aquaculture, Food and Natural Resources (developing)

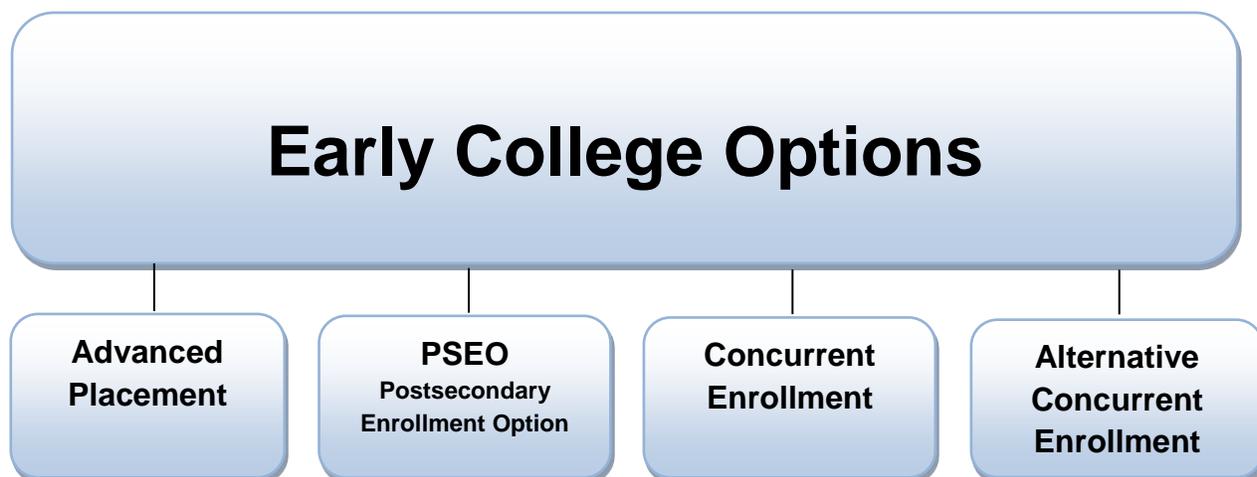
### **Career Immersion**

Career Immersion opportunities include internships, job shadows, and other experiences on the actual job site. These opportunities are provided through the MOC program, a partnership with The Workplace Learning Connection, and other businesses and agencies. Please see a counselor for more information on these opportunities.

### **Career Edge Academies**

Career Edge Academies are opportunities to explore high demand careers while earning both high school and college credit. Linn-Mar and other area high schools have teamed with Kirkwood Community College to create several courses that will help students explore careers, develop new skills, and gain insights into today's workplace. Academics include:

- Advanced Manufacturing & Welding
- Advanced Manufacturing and Welding Pilot (WOW - Women on Welding)
- Architecture, Construction, & Engineering (ACE)
- Computer Programming and Web Development
- Dental
- Emergency Medical Technician (EMT)
- Energy, Electrical and Automation Technology
- Networking & Computer Support
- Patient Care
- Pharmacy Technician
- Pre-Professional Health Careers
- Transportation – Auto Tech
- Transportation – Collision



### **Advanced Placement**

Linn-Mar High School offers Advanced Placement (AP) courses in Art History, Calculus (AB and BC), Statistics, Biology, Chemistry, Physics (B), Computer Science A, English Literature, Microeconomics, Music Theory, Comparative Government, World History, Psychology, U.S. Government, and U.S. History. A minimal number of AP courses are available through the Iowa AP Online Academy. Students who complete these courses can take a standard AP exam. Many colleges and universities accept AP courses for college credit, depending upon individual AP exam scores. More information is available in the Counseling Office or the TAG Office.

### **AP course are weighted for grade point calculation purposes as follows:**

**A+; A (5.0); A- (4.67); B+ (4.33); B (4.0); B- (3.67); C+ (3.33); C (3.0); C- (2.67); D+ (2.33); D (2.0); D- (1.67)**

### **Post-Secondary Opportunities (PSEO)**

Credit may be awarded by a college or university upon successful completion of course requirements. Any college credit determination is made by an individual college.

Students may enroll in college courses under the following provisions:

- The PSEO is intended for 11<sup>th</sup> and 12<sup>th</sup> grade students as part of their four-year plan.
- A course chosen under this option must not be a comparable course to one offered in the local high school curriculum.
- The chosen course may not replace graduation requirements.
- The school district will pay up to \$250 for related tuition and related course fees. Students are responsible for textbook fees.
- A student must complete the course with a passing grade in order for the school district to pay for the course.
- Students must maintain the minimum high school course load.

### **Concurrent and Alternative Concurrent Enrollment Courses**

Concurrent and Alternative Concurrent Enrollment courses receive both Linn-Mar and Kirkwood Community College credit upon successful completion of course requirements. Students taking a Concurrent or an Alternative Concurrent Enrollment course must meet and follow all course guidelines of Kirkwood Community College and understand that course performance becomes part of the individual's permanent college record.

**Concurrent and Alternative Concurrent Enrollment Courses (cont.)**

Students may enroll in Concurrent or Alternative Concurrent college courses under the following provisions:

- Alternative Concurrent Enrollment courses are intended for 9-12<sup>th</sup> grade students as part of their four-year plan.
- A course chosen under this option must be on the agreement list (courses listed below) between Linn-Mar and Kirkwood Community College.
- The chosen course may not replace graduation requirements.
- The school district will pay for related tuition and related course fees.
- Students must maintain the minimum high school course load.
- Students wishing to enroll in Alternative Concurrent Enrollment courses must have a qualifying ACT, Accuplacer (Reading & Writing), or ALEKS (Math) placement exam score as required on file with Kirkwood Community College.

**Concurrent Enrollment Courses**

The following is a list of college-level courses offered on the Linn-Mar campus:

Civil Engineering and Architect Design	Intermediate Spanish I
Composition I	Intermediate Spanish II
Composition II	Intro to Engineering Design
Computer Integrated Manufacturing	KCC Child Growth and Development
Computer Science Principles	Mathematics and Society
Digital Electronics	Medical Terminology
Environmental Sustainability	Music Fundamentals
Exploration of Health Careers	Patient Care - Nurse Aide
Intermediate French I	Principles of Engineering
Intermediate French II	Professionals in Health
	Project Management Basics

**Alternative Concurrent Enrollment Courses**

The Linn-Mar Community School District contracts with Kirkwood Community College to offer the following alternative concurrent enrollment college courses on a Kirkwood Community College campus:

American Sign Language I	Introduction to Business
American Sign Language II	Introduction to Ethics
Art Appreciation	Introduction to Sociology
Calculus III	Marriage and Family
Cultural Anthropology	Mass Media
Encounters in Humanities	Popular Culture
Exploring Teaching	Social Problems
Fundamentals of Oral Communication	Survey of World Religions
Human Relations in Management	Topics in Education
Intro to Criminal Justice	US History Since 1877
	US History to 1877

# Alternative Programming Options

## **Academic Assistance Program**

Linn-Mar High School's Academic Assistance program has two components:

Credit Completion is for students who receive F+ (55% - 59%). Credit completion allows students to complete course work taken during the previous grading period in order to receive a passing grade.

Credit Recovery is the second component of the program and is intended for junior/senior students who are significantly behind pace in earning credits for graduation. The Academic Assistance Counselor can answer questions for students and parents about guidelines and eligibility for the program.

## **Test Out Option**

Students who wish to "test out" of various courses must notify **the building principal** in writing of their intent by May 1 for Year-Long and fall semester classes, and by December 1 for spring block classes. Within a six-week period, students will receive information related to critical course objectives and the criteria for assessment. Students will then be asked to demonstrate, via multiple performance measures, critical objective mastery for the course.

## **COMPASS Alternative Program**

High School credits are available via the COMPASS alternative program. Linn-Mar will accept credit hours for approved courses that can be applied to requirements for the Linn-Mar High School diploma. Students should visit with their assigned counselor or the Academic Assistance Counselor to develop an approved plan for this option.

**Teacher-Led Courses**

**Compass Core**

**English 9**

Course #: ENG110  
 Grade Level: 9  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



**Considerations:** English 9 or English I required for graduation.

**Course Description:** This course develops communication skills in reading, speaking, listening, thinking and writing. It includes units in the short story, the novel, poetry, drama and research. The student will practice various forms of writing and will work toward improving grammar, mechanics, and vocabulary.

**English 10**

Course #: ENG200  
 Grade Level: 10  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: English 9

**Considerations:** English 10 or English II is required for graduation

**Course Description:** This course develops communication skills in reading, speaking, listening, thinking and writing. It includes units in the short story, the novel, poetry, drama and research. The student will practice various forms of writing and will work toward improving grammar, mechanics, and vocabulary.

**American Literature I**

Course #: ENG210e  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

**Considerations:** None

**Course Description:** Students will read, discuss, and analyze a variety of texts written by American authors, including short stories, plays, and The Great Gatsby. Students will research, collaborate, and present on topics related to the literature.

**Journalism**

Course #: ENG220  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None



**Considerations:** None

**Course Description:** This course is an introductory, overview class which teaches basic journalism skills while examining the role of newspapers in our society. Areas explored include newspaper interviewing, writing, and editing. Students are also introduced to the concepts of Press Law. This course DOES NOT meet the composition requirement for admission to UNI.

### **Multicultural Literature**

Course #: ENG255  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** Students will read selections that deal with across a variety of cultures. Students will complete multiple projects to promote lifelong literacy and will discover how technology and the internet can enhance reading selections. Some selections in this course have a more mature theme.

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### **Writing**

Course #: ENG270  
Grade Level: 11-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Consideration:** Students should take this class if they need to improve their writing skills, and do not yet feel comfortable taking a college-level writing class.

**Course Description:** This course is designed for any student who is considering college, interested in improving general writing skills, and/or considering taking Composition I. Students will improve organizational skills in writing, learn how to develop their ideas, improve their skills in word choice and sentence structure, improve their mechanics in writing, improve their research skills, and learn how to better develop and write a research paper in MLA style. Papers may include the following essays: Personal, Definition, Division/Classification, Comparison/Contrast, and Persuasive. In addition, students will write a research paper in which they will support their position on a contemporary issue.

### **Reading I**

Course #: ENG290  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** Students will read *Jurassic Park*. They will work on reading fluency and comprehension. Students will research, collaborate, and present on relevant topics. Students will also improve their writing skills.

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### **Reading II**

Course #: ENG300  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Reading I

**Considerations:** None

**Course Description:** Students will read *The Lost World*. They will work on reading fluency and comprehension. Students will research, collaborate, and present on relevant topics. Students will also improve their writing skills. They will create a project that illustrates their learning over the course of the quarter.

### Speech

Course #: ENG310  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None



**Considerations:** Speech or Acting is required for graduation.

**Course Description:** Speech is designed to make students more effective communicators by emphasizing a variety of real-life speaking situations and building self-confidence in all of these settings. Because this is a performance based class, students should carefully consider conflicts which may result in absences.

### English Skills

Course #: ENG335  
 Grade Level: 9-12  
 Credits: 2.5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

**Considerations:** Meets on Fridays only

**Course Description:** Students will work on their areas of weakness in relation to reading, writing, or speaking. Students will demonstrate growth in this area through a relevant project.

### Contemporary Literature

Course #: ENG360  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None



**Considerations:** None

**Course Description:** Students will read a variety of selected contemporary titles. Students will complete multiple projects to promote lifelong literacy and will discover how technology and the internet can enhance reading selections. Some selections in this course have a more mature theme.

### Contemporary Literature II

Course #: ENG250  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

**Considerations:** This course is designed for students who are motivated to read and complete projects independently.

**Course Description:** Students will read multiple novels of their choice of the appropriate reading level. Students will complete multiple projects to promote lifelong literacy and will discover how technology and the internet can enhance reading selections. Students will then present their projects to their peers.

### **Independent Novel Writing**

Course #: ENG400  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Writing and Creative Writing

**Considerations:** This course is designed for the student who is considering writing as a profession.

**Course Description:** Students will spend their classes writing, revising, and meeting with their instructor to improve their writing skills.

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### **Creative Writing**

Course #: ENG410  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None



**Considerations:** None

**Course Description:** This course is designed for students who genuinely like to write in a variety of forms. Students will take writing from the initial idea through the developmental and polishing stages.

### **Pre-Algebra**

Course #: MAT115  
Grade Level: 9-12  
Credits: 5 credits per quarter  
Length: 1 Semester  
Format: Block  
Prerequisite: None

**Considerations:** A scientific calculator or its equivalent required. Graphing calculators are not allowed in this course.

**Course Description:** This course is an introductory class for Algebra. It is designed to review basic skills and math concepts. Elementary algebra skills with variables and problem-solving techniques will be imperative to the curriculum.

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### **Algebra Fundamentals I**

Course #: MAT150  
Grade Level: 10-11  
Credits: 5 credits per quarter  
Length: 1 Semester  
Format: Block  
Prerequisite: Pre-Algebra and approval



**Considerations:** Students are placed in this course per approval of the math department based on Pre-Algebra performance. A scientific calculator or equivalent is required. Graphing calculators are not allowed in this course. Algebra Fundamentals I and Algebra Fundamentals II together meet the algebra graduation requirement.

**Course Description:** This course is designed to include material covered in the first semester of Algebra. Topics include negative numbers, absolute values, opposites, linear equations, and inequalities in word problems.

### Algebra Fundamentals II



Course #: MAT155  
 Grade Level: 10-12  
 Credits: 5 credits per quarter  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: Algebra Fundamentals I or approval

**Considerations:** Students are placed in this course per approval of the math department based on Algebra, and Iowa Assessment scores. A scientific calculator or equivalent is required. Graphing calculators are not allowed in this course. Algebra Fundamentals I and Algebra Fundamentals II together meet the algebra graduation requirement.

**Course Description:** This course is designed to include material covered in the second semester of Algebra. Topics include negative numbers, absolute values, opposites, linear equations, and inequalities in one variable word problems, factoring, graphing, and quadratic equations.

### Geometry



Course #: MAT220  
 Grade Level: 9-12  
 Credits: 5 Credits per quarter  
 Length: 2 Semesters  
 Format: Block  
 Prerequisite: Algebra OR Algebra Fundamentals II

**Considerations:** A scientific calculator is required. Graphing calculators are not allowed in this course.

**Course Description:** Geometry introduces the study of points, lines, planes, polygons, circles, solid figures, and their associated relationships as a mathematical system. Emphasis is placed on the description and use of inductive, deductive, and intuitive reasoning skills. Power of abstract reasoning, spatial visualization and logical reasoning patterns are improved through this course. Focus on comparisons between figures concerning surface areas, volumes, congruency, similarity, transformations, and coordinate geometry is also studied through two and three Diagrams.

### General Biology I & II

Course #: SCI210  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None

**Considerations:** Strong comprehensive vocabulary, reading and study skills.

**Course Description:** This course is a survey class in life science. The areas investigated include: biological structure and function; heredity; life's continuity and change; diversity of life.

### Stream & Field Biology

Course #: SCI280  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarters  
 Format: Block  
 Prerequisite: General Biology

**Considerations:** See prerequisites. Strong comprehensive vocabulary, reading and study skills. This course meets the L-M science elective requirement.

**Course Description:** This course emphasizes critical thinking and application of scientific process skills in the identification, analysis, and evaluation of environmental problems and issues, as well as discussions of potential solutions.

### Human Anatomy

Course #: SCI240  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: General Biology

**Considerations:** See prerequisites. Strong comprehensive vocabulary, reading and study skills. This course meets the L-M science elective requirement.

**Course Description:** This course provides students with the fundamental concepts of human structure and function as it pertains to their bodies.

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### Nature of Science

Course #: SCI260  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Strong comprehensive vocabulary, reading and study skills. This course meets the physical science requirement for graduation.

**Course Description:** This course examines what science is, how it works, and what it can and cannot do. A number of activities and open inquiries look at some fundamental properties and laws of the physical world. These properties include motion, forces, momentum, and energy.

### Advanced Biology

Course #: SCI230  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: General Biology

**Considerations:** See prerequisites. See prerequisites. Strong comprehensive vocabulary, reading and study skills. This course meets the L-M science elective requirement

**Course Description:** This course provides a more in-depth study of many areas of biology. The areas of emphasis include cell processes, energy pathways, genetics, DNA structure, and the regulation of gene expression.

## Compass Electives

### Botany

Course #: AGR230  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Biology I

**Considerations:** See prerequisites. Strong comprehensive vocabulary, reading and study skills. This course meets L-M science elective credit requirement.

**Course Description:** Students will have experiences with a number of plant science concepts with many “hands-on” activities, projects, and problems. Student experiences will involve the study of plant anatomy and physiology, classification, and the planning, planting and caring for a school garden.

### Personal Finance

Course #: BUS110  
 Grade Level: 9-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none

**Considerations:** This course meets all financial literary standards of the Iowa Core.

**Course Description:** This course exposes students to areas of personal finance that they will likely encounter. The curriculum covers, among other topics: consumer awareness, money management, opening bank accounts, managing a checkbook, managing credit, applying for a job and basic information about saving and investing. Information will be presented through projects, activities, guest speakers and multimedia presentations.

### Math for the Building Trades

Course #: MAT425  
 Grade Level: 9-12  
 Credits: 5 Credits per quarter  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: None

**Considerations:** None

**Course Description:** This course is directed toward students who are considering employment in the building trades upon graduation. Students will integrate arithmetic, algebra, and geometry to perform calculations required in all of the major building trades, including construction, carpentry, plumbing, electrical, HVAC, and roofing.

### Teen Insights

Course #: HPE350  
 Grade Level: 9-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

**Considerations:** None

**Course Description:** The class is a combination of notes, chapters from *7 Habits of Highly Effective Teens*, movies, projects, and community speakers including Planned Parenthood and ASAC. Students will explore a variety of topics and issues relevant to teens. Students will research and present on multiple topics throughout the course.

### **Teacher's Assistant**

Course #: ELT100  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Student must have passed the course for which they are the Teacher's Assistant.

**Considerations:** Instructor must approve

**Course Description:** Students will help the teacher with day to day activities.

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### **Introduction to Business**

Course #: BUS120  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** This course will give students an overview of the study of business including: economic decisions, systems, and roles, business structures, economic measurements and leadership, social responsibility and business ethics.

### **Introduction to Business II**

Course #: BUS150  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** None

**Course Description:** This course will continue the overview of the study of business including: International business, small business management, maintaining financial information, human resources, career planning, and the role of the consumer.

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### **Economics I**

Course #: SOC310  
Grade Level: 9 -12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Students should be comfortable working with graphs.

**Course Description:** This course will focus on economic concepts: free enterprise, supply, demand, equilibrium, shifting demand and supply curves, consumers, savers, and investors, and financing.

### **Economics II**

Course #: SOC311  
Grade Level: 9-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Students should be comfortable working with graphs.

**Course Description:** This course will continue to focus on economic concepts: GDP, productivity, the labor force, competition, the government's role in the economy, the money supply, international trade and globalization.

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### **PE**

Course #: HPE300  
Grade Level: 9-12  
Credits: 2.5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Meets on Fridays only

**Course Description:** Students will improve their strength, agility, and speed while participating in activities that will develop lifelong healthy habits.

### **Independent Foods**

Course #: HPE115  
Grade Level: 9-12  
Credits: 2.5  
Length: 1 Quarter  
Format: Block  
Prerequisite: None

**Considerations:** Meets on Fridays only

**Course Description:** Students will explore what goes into budgeting and meal planning. Student will prepare a variety of foods.