

**2022-2023**



**Linn-Mar High School  
Program of Studies**

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

<b><u>Table of Contents</u></b>	<b><u>Page</u></b>
LM High School Program Options.....	4
LM Academic Guidelines.....	6
LM High School.....	11
LM Core.....	12
English.....	13
Foreign Language.....	26
Mathematics.....	33
Science.....	45
Social Studies.....	52
LM Arts.....	57
Art.....	58
Music.....	64
LM Fitness/Health.....	72
Career Clusters.....	79
LM CTE/Exploratory.....	80
Agricultural-Science.....	81
Business.....	85
Design/Engineering/Materials.....	91
Family/Consumer Sciences.....	100
LM Digital Learning.....	107
LM Extension Opportunities.....	110
PLTW.....	111
Venture Academics .....	116
Talented and Gifted.....	119
LM Capstone Options.....	120
Early College Options.....	122
LM Alternative Programming Options.....	124
LM CTE Service Areas and Career Clusters.....	134

# 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



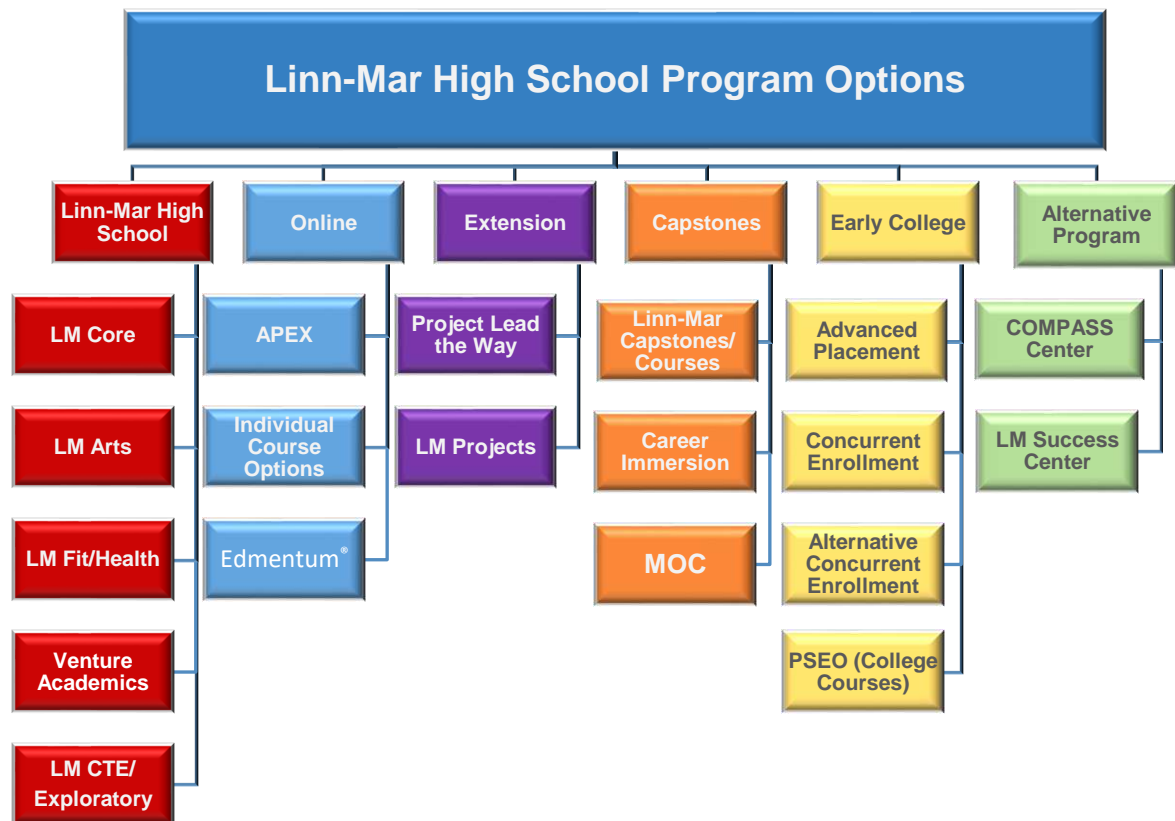
Blended Course

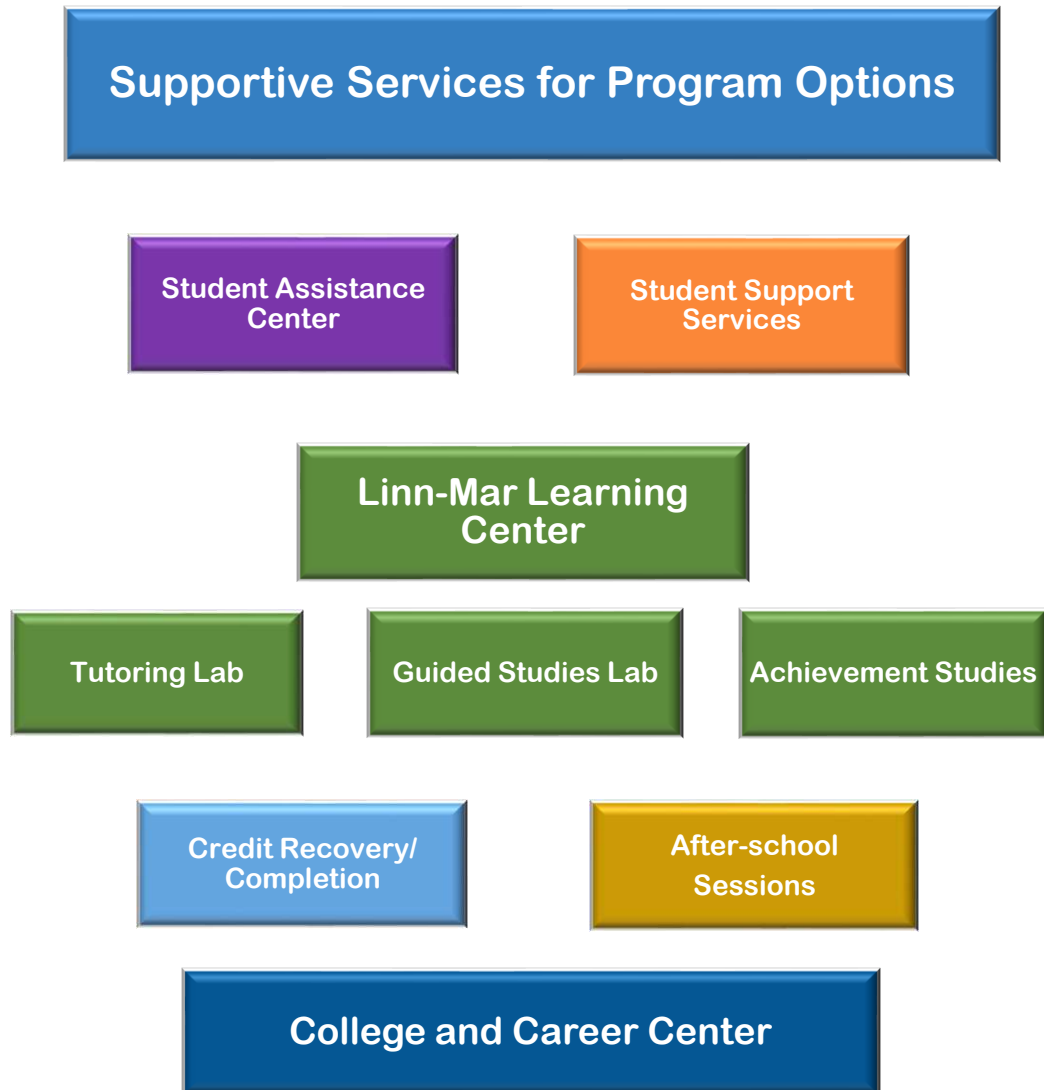


Online Course



Virtual Course





# 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*.

## **Biliteracy Seal**

The Seal of Biliteracy is an award given by Linn-Mar High School and the State of Iowa to recognize students who have attained proficiency in two or more languages to include English, by high school graduation.



The Seal of Biliteracy:

- Values language as an asset
- Recognizes the value of language diversity & cultural identity
- Prepares students with 21st century skills that will benefit them in the labor market and the global society
- Provides employers, universities, and grant/scholarship providers with a method to recognize applicants for their dedication to attainment of biliteracy

To be eligible to be awarded the Iowa Seal of Biliteracy, each student shall demonstrate proficiency in English and one or more World languages. The requirement must be met during the course of a student's high school years.

Any student interested in earning the Biliteracy diploma award seal must register with his or her school counselor by December 20 (for testing in January) or March 20 (for testing in April) of the year of graduation.

## **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 85 minutes per day) are worth five credits per quarter (9 weeks). Most other courses (which meet for 40 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-.

### **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 I or Advanced English I (10 credits each), English II or Advanced English II (may opt out if student passes Advanced English I with a 90% or higher grade), English III or Advanced English III, and one public speaking (rhetoric/speech/acting/communications) course (5 credits).
- **Mathematics – 30 credits.** Must include Algebra 1 (10 credits) or Algebra 1A and Algebra 1B (20 credits). Students who successfully complete both semesters of Algebra 1 may not then take Algebra 1A or Algebra 1B to fulfill the Algebra or three-year Math requirement.
- **Science - 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 Physics and Chemistry (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 Advanced U.S. History 9 (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 Introductory Psychology or market (5 credits).
- **Personal Finance - 5 credits.** Students must receive credit for Personal Finance (5 credits) or complete and demonstrate financial literacy competencies gained through MOC or a designated online financial literacy course.
- **Health/Fitness - 20 credits.** Must include Health I (5 credits). Must include a Lifetime Fitness Course each school year.

Students may meet graduation requirements through successful completion of a combination of in-building, concurrent, alternative concurrent, PSEO, Apex, or Edmentum® offerings.

Fully online students may use Edmentum® coursework to meet LMCSO established graduation requirements. Students not fully online may use Edmentum® coursework to meet Health I, Personal Finance, and Government graduation requirements. Students not fully online may not use Edmentum® coursework to replace additional core graduation requirements with administrative approval.

Graduation requirements for students with an Individual Education Program (IEP) will be in accordance with a prescribed course of study meeting requirements of the Iowa State Board of Education. Specific requirements will include four years of English, three years of math, three years of social studies, three years of science, and completion of District physical education expectations as written in a student's IEP.



### **Standards Reporting and Course Grades**

Linn-Mar High School reports on Priority Standards of the Iowa Core and content standards in subject areas not included in the Iowa Core. Proficiency scales define increasingly complex levels of performance mastery and provide the basis for evaluation of student knowledge and skill on Priority Standards. The Standard Proficiency Scale used by Linn-Mar High School progresses from Level 1 (Beginning) to Level 4 (Exemplary). A mark of INC or NC (Incomplete or No Credit) will be used to indicate insufficient evidence to assess learning. Category titles and descriptions used in the LMHS standard proficiency scale are subject to update. In addition to standards reporting, a traditional course letter grade will be calculated from individual student performance scores and recorded on the student's personal school transcript. The conversion scale on page 10 will be used to calculate the traditional course letter grade.

### **Standard Proficiency Scale**

Score	Level	Description
4	<b>Exemplary</b>	Student shows in-depth inferences and application in class as taught by the teacher in addition to meeting the standard, such as explaining or demonstrating connections between ideas. Examples could include: <ul style="list-style-type: none"> <li>- real-world application</li> <li>- use of information to solve problems in a different context</li> <li>- demonstration of unique insight or complex understanding</li> <li>- use of advanced analysis skills</li> <li>- demonstration of creative application of skills</li> </ul>
3.5		In addition to score 3.0 performance, in-depth inferences and application with partial success.
3	<b>Proficient</b>	Student is able to independently use, apply, and/or demonstrate the standard but may include errors that don't impact demonstration of the standard.
2.5		No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.
2	<b>Approaching</b>	Student can demonstrate foundational processes of the standard.
1.5		No major errors or omissions regarding 1.0 content and partial knowledge of the 2.0 content.
1	<b>Beginning</b>	Student recalls vocabulary and/or understands simpler ideas, skills, and concepts.
INC/NC	<b>Incomplete</b>	No evidence demonstrating knowledge of the standard.

**Proficiency Scale Conversion**

Scale Score	Traditional Score
4	100
3.5	95
3	90
2.5	85
2	75
1.5	65
1	60
INC/NC	INC

**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 Statewide Assessment of Student Progress (ISASP) (required)

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

- Iowa Statewide Assessment of Student Progress (ISASP) (required)
- NWEA MAP test (math and reading assessment) (select)
- PSAT: Pre-SAT (optional) *\*\* fee required*
- PreACT (optional) *\*\* fee required*

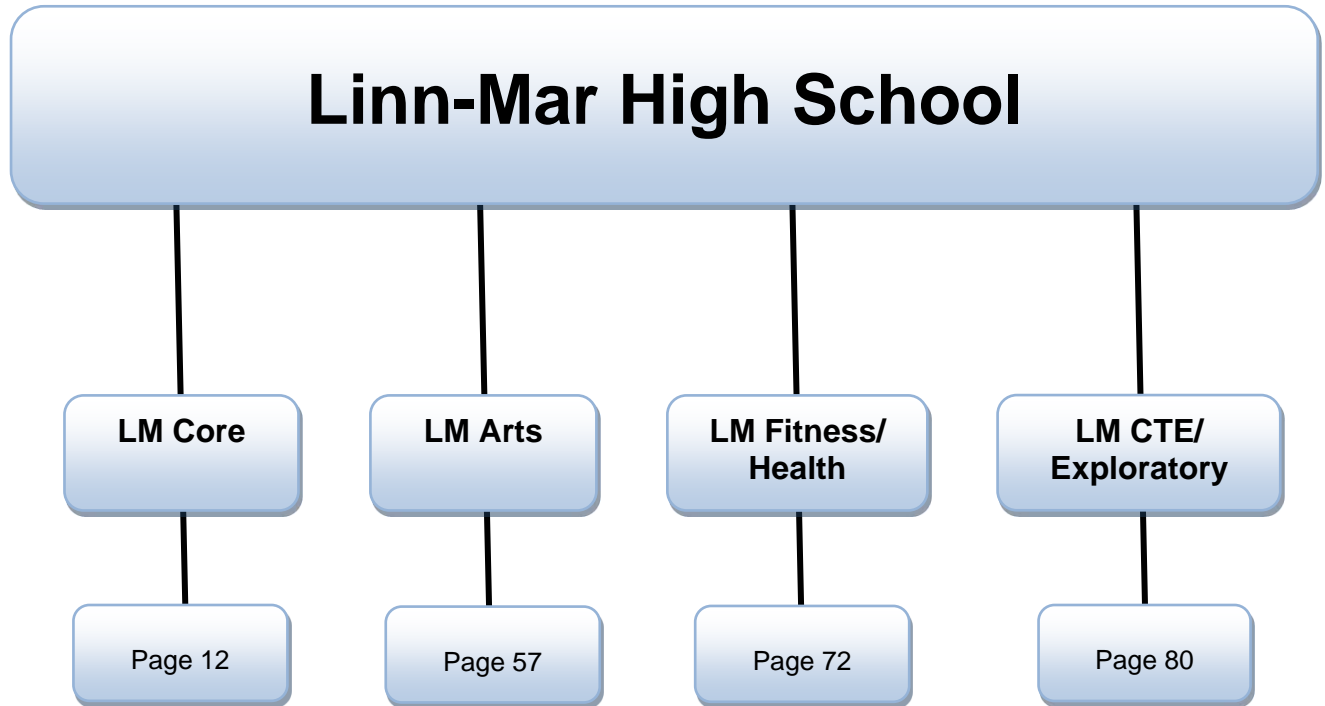
**11<sup>th</sup> Grade**

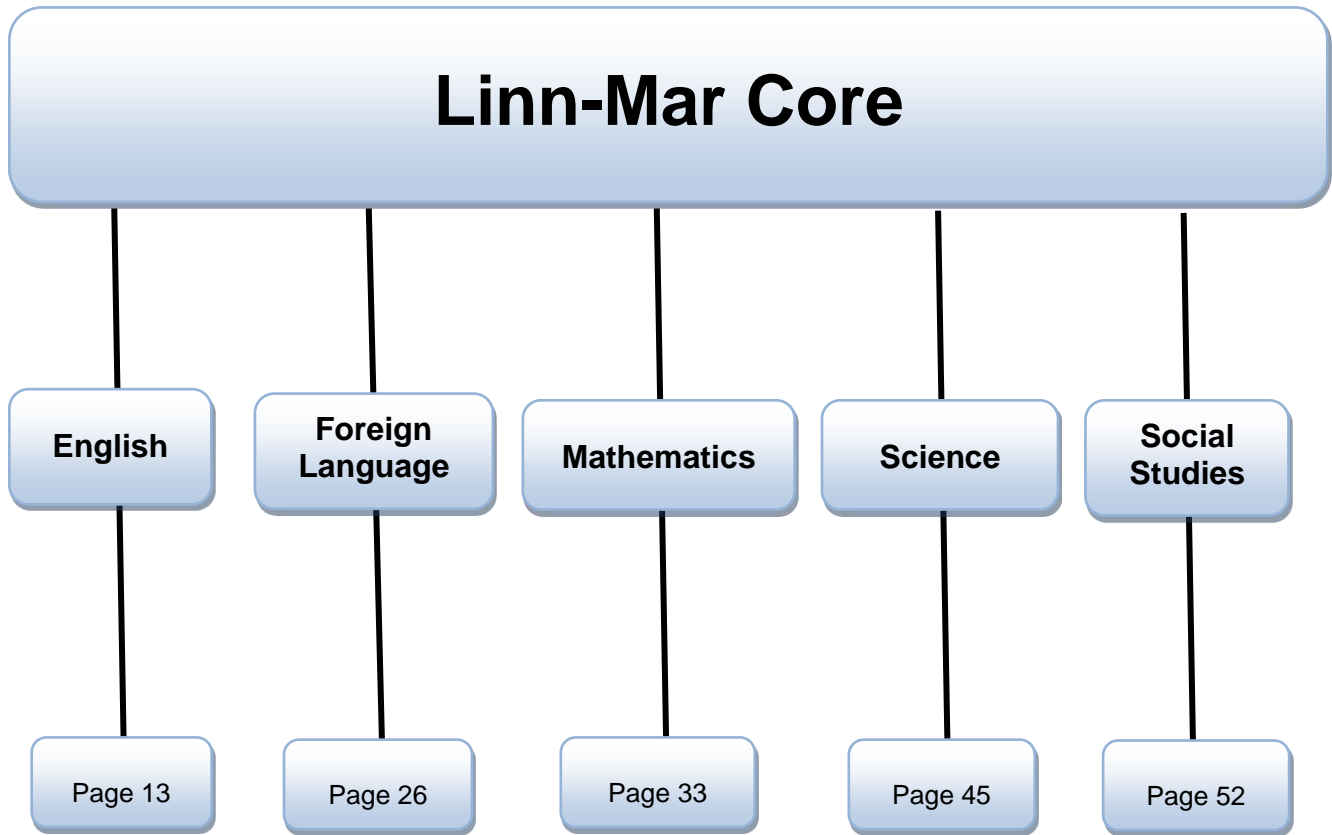
- Iowa Statewide Assessment of Student Progress (ISASP) (required)
- ASVAB – military career inventory (optional)
- ACT (optional) *\*\* fee required*
- SAT (optional) *\*\* fee required*
- PSAT: Pre-SAT/National Merit Scholarship Qualifying Test (optional) *\*\* fee required*

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

- ACT (optional) *\*\* fee required*
- SAT (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.*

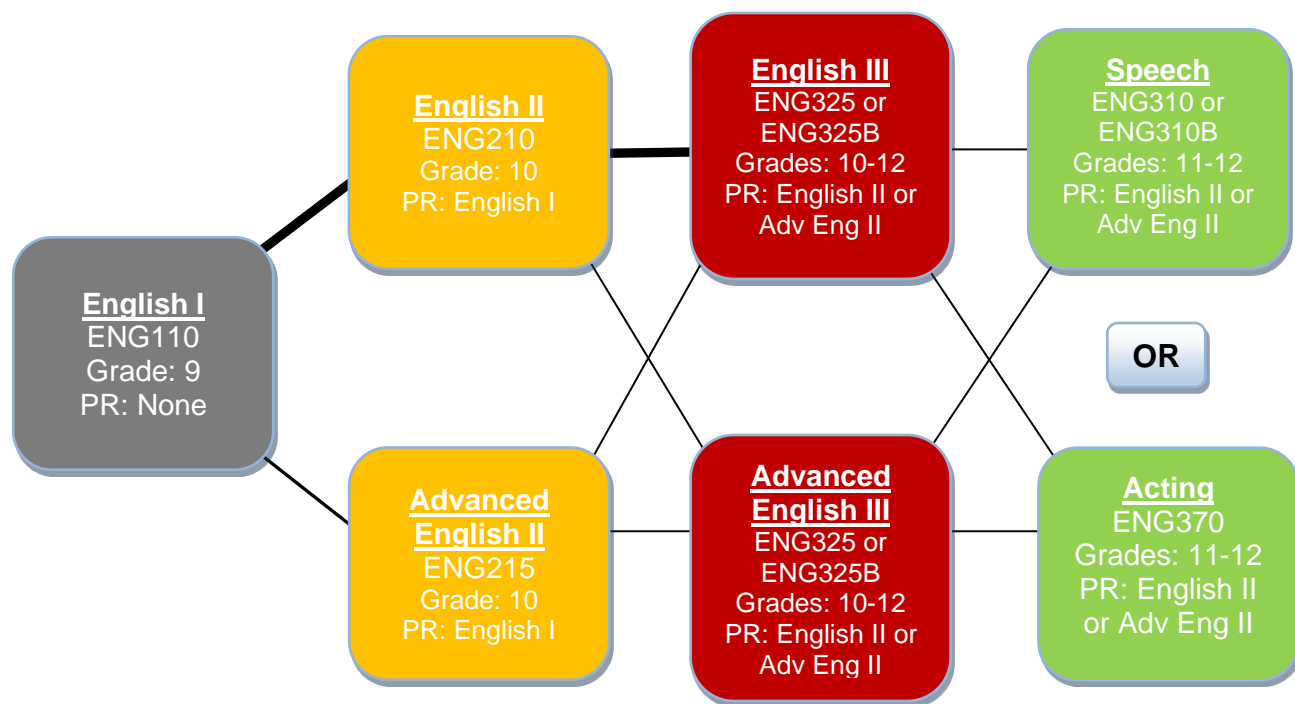




# English

## English I Path

PR=Prerequisite  
Requirement



English Electives p.15

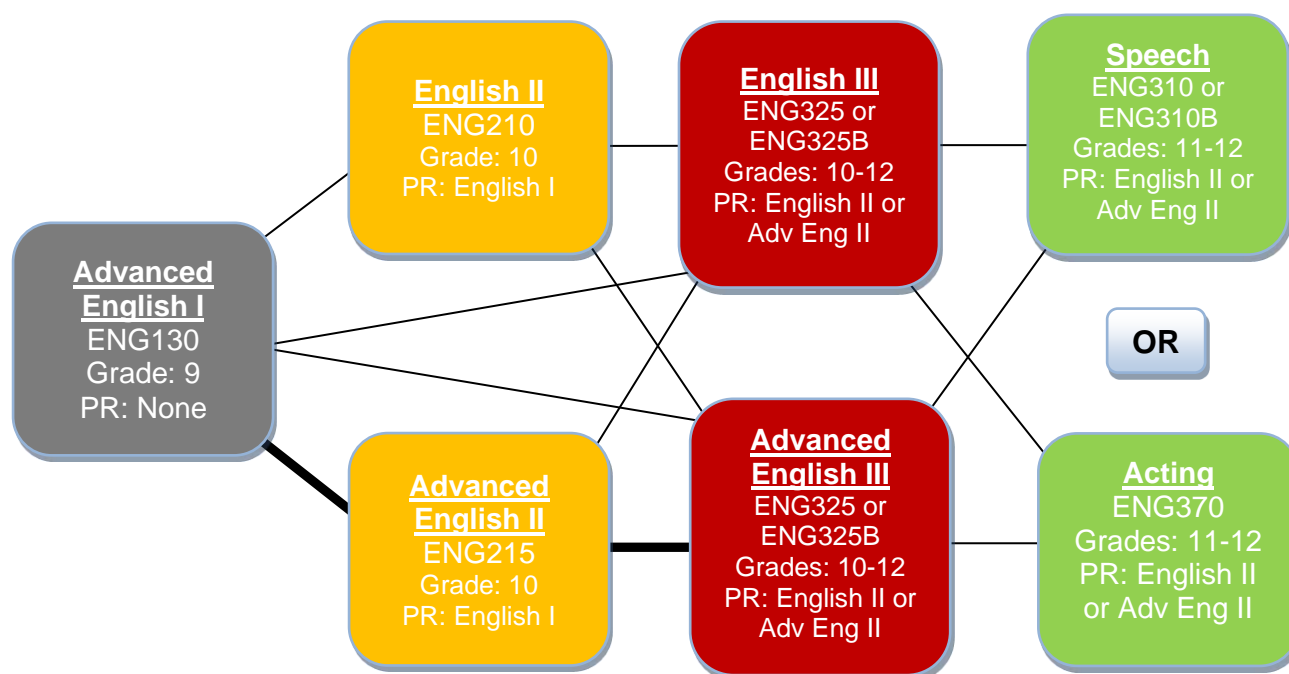
## Graduation Requirements

- 40 credits of English (will include at least 1 elective)
- English I or Advanced English I
- English III or Advanced English III
- Speech or Acting

# English

## Advanced English I Path

PR=Prerequisite



English Electives p.15

### Graduation Requirements

- 40 credits of English (will include at least 1 elective)
- English I or Advanced English I
- English III or Advanced English III
- Speech or Acting

## Linn-Mar Program of Studies

### English Electives

PR=Prerequisite Requirement

#### Academic Literacy I

ENG105  
Grades: 9-10  
PR: Placement

#### Academic Literacy II

ENG205  
Grades: 9-10  
PR: Placement

The above courses may be required for individual students

#### Rhetoric

ENG120  
Grades: 9-12  
PR: None

#### Journalism

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

#### British Literature

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

#### Classics

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

#### Multicultural Literature

ENG355  
Grades: 10-12  
PR: English I or  
Advanced English I

#### Contemporary Literature

ENG360 or ENG360B  
Grades: 10-12  
PR: English II or  
English Dept. Approval

#### Literature of a Selected Author

ENG380  
Grades: 10-12  
PR: English II

#### Creative Writing

ENG410 or ENG410B  
Grades: 10-12  
PR: English I or  
English II

#### College Writing

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

#### College Grammar

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

#### College Reading

ENG450  
Grades: 10-12  
PR: English II or  
English Dept. 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 Literature and Composition

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

### Academic Literacy I

Course #: ENG105  
 Grade Level: 9-10  
 Credits: 5  
 Length: 1 Semester  
 Format: Skinny  
 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 I

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



**Considerations:** English I or Advanced 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.

### Rhetoric

Course #: ENG120  
 Grade Level: 9-12  
 Credits: 5  
 Length: 1 Semester  
 Format: SuperBlock  
 Prerequisite: None



### **Considerations:**

May be used to fulfill the graduation requirement for Speech/Acting through Venture Academics.

Not offered as a standalone class.

**Course Description:** This course is designed for Venture Academics. Students will work on three foundational skills: reading, writing and speaking relative to the strand focus.

### Advanced English I

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



**Considerations:** English I or Advanced English I 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: 9-10  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Academic Literacy I or approval

**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 I or Advanced 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. It includes units in the short story, novel, and drama. It will also introduce various writing styles (literary analysis, narrative, and research.) In English II work continues on student responsibility, respect for each other, intellectual curiosity, and embracing of varying viewpoints.

## Journalism

Course #: ENG220  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II, English III, or English Department approval

**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.



## Advanced English II

Course #: ENG215  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: English I or Advanced English I



**Considerations:** See prerequisite. Fulfills the 10th grade English requirement for graduation.

**Course Description:** This is an accelerated version of English II where students will analyze/interpret a variety of American and global literature with an emphasis on analytical writing and interpreting literary pieces. Students will also write argumentative, 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 texts will be covered in class:

- Selection of short pieces of fiction and nonfiction from American authors and those outside of the global North
- I am Malala
- Love Hate & Other Filters
- Fahrenheit 451
- A literary circle novel (The Fishermen, Under the Udala Trees, No Friend but the Mountains)
- Possible additional texts (Of Mice and Men, House on Mango Street, Shakespeare)

## English III

Course #: ENG315 or ENG315B  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: English II or English Department approval



**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. Students will also write informative, argumentative, research and personal essays. This is a process-oriented class where students will revise and edit their own work. The following text will be covered in class:

- Short pieces of fiction and nonfiction from American authors
- Selections of poetry from Walt Whitman, Emily Dickinson and other American poets
- The Great Gatsby
- The Crucible
- I Know Why the Caged Bird Sings
- A Raisin in the Sun

## Speech



Course #: ENG310 or ENG310B  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II or III, or English Department approval

**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 high marks may ask their counselor to be put on a waiting list for this class. Admission is subject to availability.

## Advanced English III



Course #: ENG325 or ENG325B  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: English II or English Department approval

**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, English III, or English Department approval

**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:

**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.

### Multicultural Literature

Course #: ENG355  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English I or Advanced English I

**Considerations:** See prerequisites. This course earns elective English credit.

**Course Description:** As a course, Multicultural Literature seeks to explore, investigate, and reflect on how writers from underrepresented cultural identities and backgrounds express their experiences through narrative, short story, poetry, film, and more. Students will be presented opportunities to ask (and answer) the questions: how is a person's interaction with and experience in the world impacted by their identities? how are these experiences and interactions reflected in and shared through literature?

### Contemporary Literature



Course #: ENG360 or ENG360B  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II, English III, or English Department approval

**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, English III, or English Department approval

**Considerations:** See prerequisites. Acting or Speech is required for graduation. Acting DOES NOT meet the Board of Regents criteria for the RAI. 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, English III, or English Department approval

**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 Semester  
 Format: SuperBlock  
 Prerequisite: English I or Advanced English I

**Considerations:** May be used to fulfill the graduation requirement for Speech/Acting through Venture Academics (current) or Iowa BIG (former).

**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 or ENG410B  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: English II or English Department approval

**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.

### **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 English  
 Department approval



**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 or ENG460E  
 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 or ENG465E  
 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.

### AP English Literature and Composition

Course #: ENG512  
 Grade Level: 11-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Advanced English III is strongly recommended



**Considerations:** See prerequisite. This two-quarter class will be offered during the first semester of the year and will prepare students to take the AP English Literature and Composition exam in May. Review sessions during semester 2 will be provided.

**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 Fundamentals**

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 English Language Proficiency Assessments.

**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.

---

### **English Language Learners I**

Course #: ENG145  
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 English Language Proficiency Assessments.

**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 and writing, analyzing and interpreting different genres which build academic vocabulary and grammar skills.

### **English Language Learners II**

Course #: ENG245  
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 English Language Proficiency Assessments.

**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 and writing, analyzing and interpreting different genres which build academic vocabulary and grammar skills. This course will also focus on the writing process, a variety of essay styles, and writing research papers.

---

### **English Language Learners III**

Course #: ENG335  
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 English Language Proficiency Assessments.

**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 and writing, analyzing and interpreting different genres which build academic vocabulary and grammar skills. In this course, students will read texts that relate to American history and culture in order to increase students' background on these subjects while honing their reading skills. This course will also focus on the writing process, a variety of essay styles, and writing research papers.



### **English Language Learners Civics and Culture I**

Course #: ELL100  
 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 English Language Proficiency Assessments.

**Course Description:** This course is designed to help English Language Learners develop their academic language while building background knowledge about history, government, and culture in the United States.

---

### **English Language Learners Directed Studies**

Course #: ELL001DS  
 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 English Language Proficiency Assessments.

**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.

### **English Language Learners College Prep**

Course #: ELL001CP  
 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 English Language Proficiency Assessments.

**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 vocabulary, grammar, reading and composition practice. Focus will also be given to the college admissions process, financial aid concerns, scholarship opportunities, personal finance, and career skills.

---

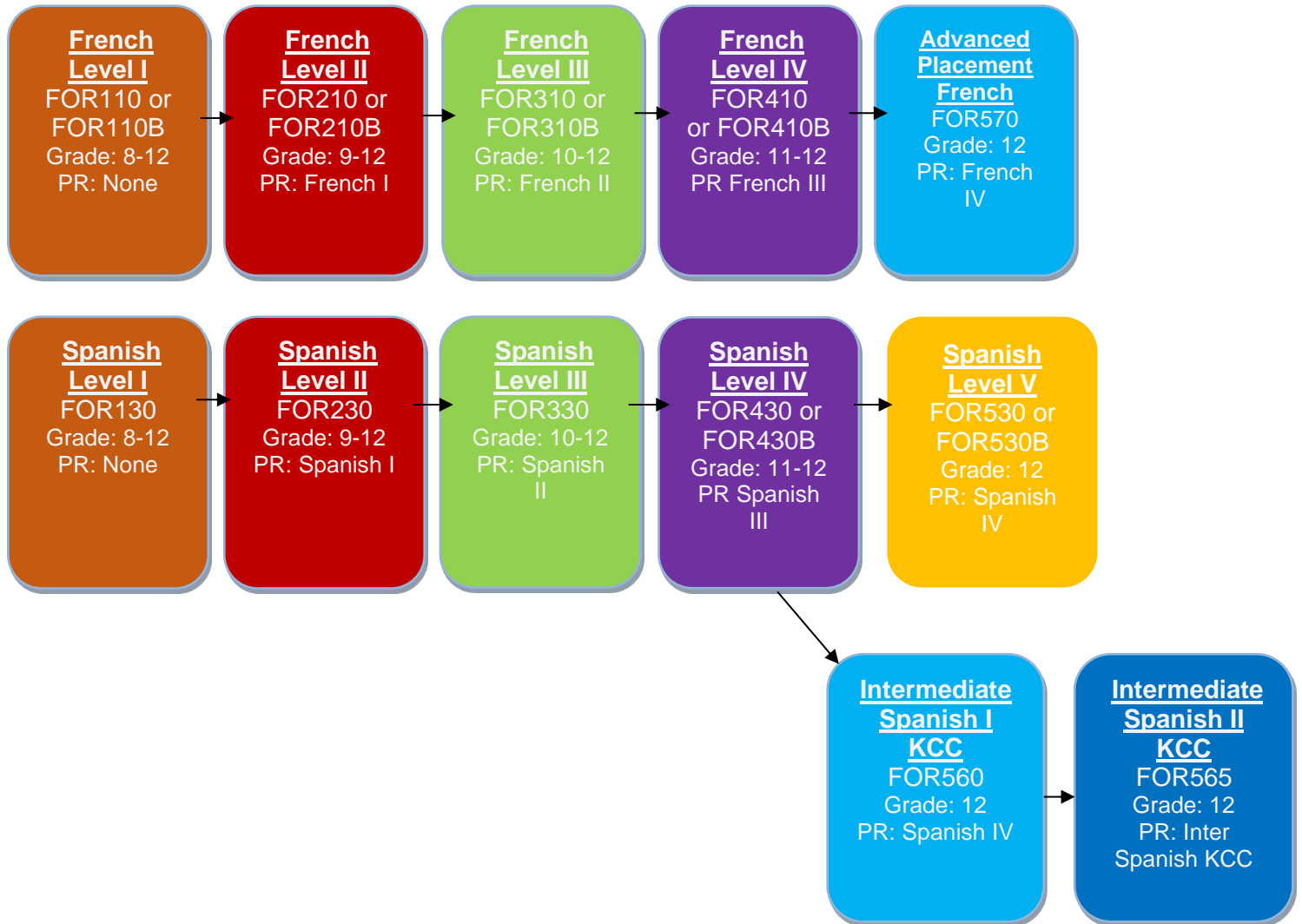
### **Work Experience - Yearbook**

Course #: GUI411  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny- Early Bird (7:45-8:20 AM)  
 Prerequisite: none

**Considerations:** The class is a blended class meeting 2 days a week before school. During blended days students will be covering school events or working on yearbook work assignments on their own time. Though taught through the English Department, credits earned through yearbook are elective only and do not count toward English graduation requirements.

**Course Description:** Yearbook is a project-based class where students will work with the yearbook printing company on real-time deadlines to complete the school yearbook. Students will take photos of school events, write copy, interview students and staff, and design pages for the yearbook. NOTE: Class will be flexible with any interested Marching Band students Q1.

# Foreign Language





### Level I French

Course #: FOR110  
 Grade Level: 8-12  
 Credits: 10  
 Length: 1 or 2 Semester(s)  
 Format: Block or 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: 1 or 2 Semester(s)  
 Format: Block or 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: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: French I

**Considerations:** Second term 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: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: Spanish I



**Considerations:** Second term 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, dormir, pensar, preferir, querer, and decir are introduced.

## **Level III French**

Course #: FOR310  
 Grade Level: 10-12  
 Credits: 10  
 Length: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: French II



**Considerations:** Second term 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: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: Spanish II

**Considerations:** Second term 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: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: French III

**Considerations:** Second term 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  
 Grade Level: 11-12  
 Credits: 10  
 Length: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: Spanish III

**Considerations:** Grade of 60% or higher for second term 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: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: Spanish IV

**Considerations:** Second term 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 Spanish I KCC



Course #: FOR560  
Grade Level: 12  
Credits: 5 (LM), 4 (KW)  
Length: 1 Quarter or 1 Semester  
Format: Block or 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 Quarter or 1 Semester  
Format: Block or 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.

## Advanced Placement French

Course #: FOR570  
 Grade Level: 12  
 Credits: 10  
 Length: 1 or 2 Semester(s)  
 Format: Block or Skinny  
 Prerequisite: French IV

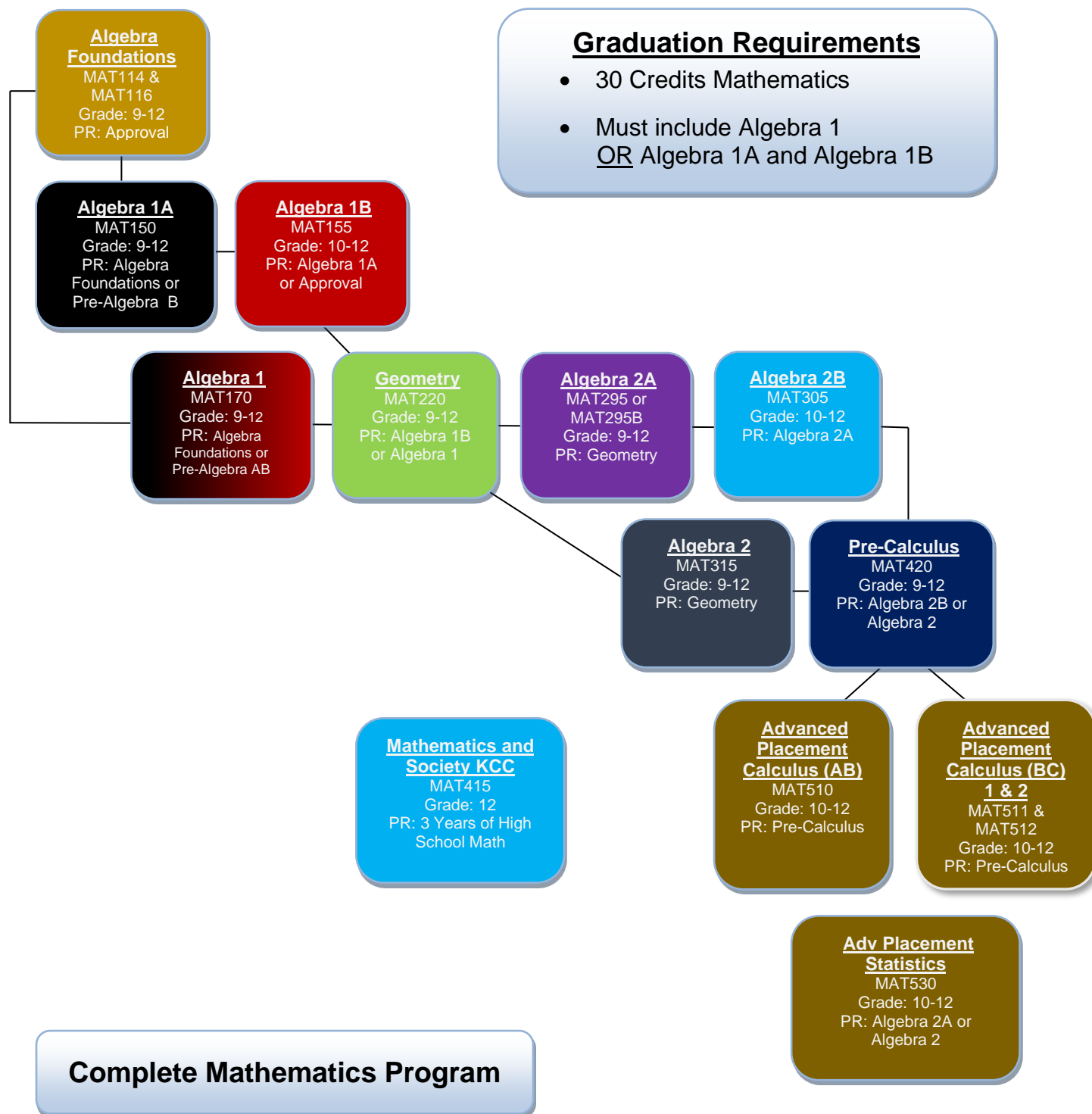


**Considerations:** See prerequisite. Class is conducted in French.

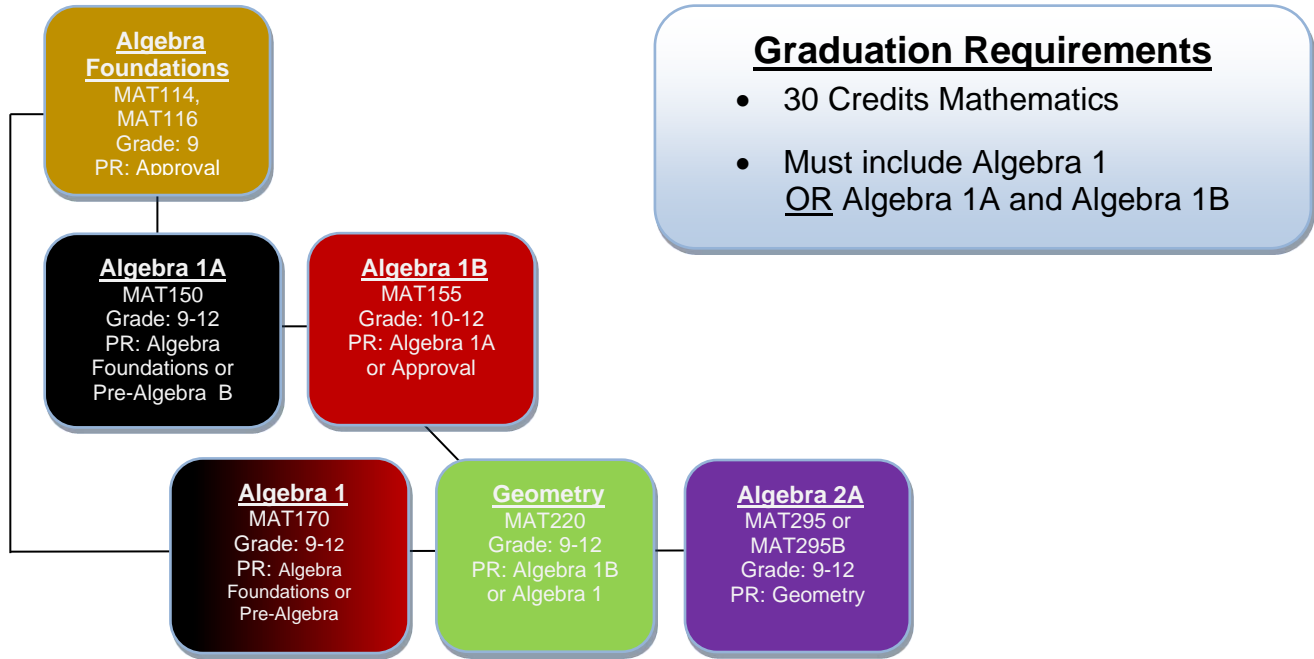
**Course Description:** This course continues to develop the “5 Cs” of second language acquisition (communication, cultures, connections, comparisons, and communities) by providing intensive practice in the fundamental communicative skills of listening, speaking, reading and writing, with a methodic study of different cultural contexts. This class offers the opportunity for language use beyond the sphere of the elementary language 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 are also studied as it is a major portion of the AP exam. This course offers university credit in the form of an AP Exam and therefore is considered a college level class.



# Mathematics



# Mathematics



## Graduation Requirements

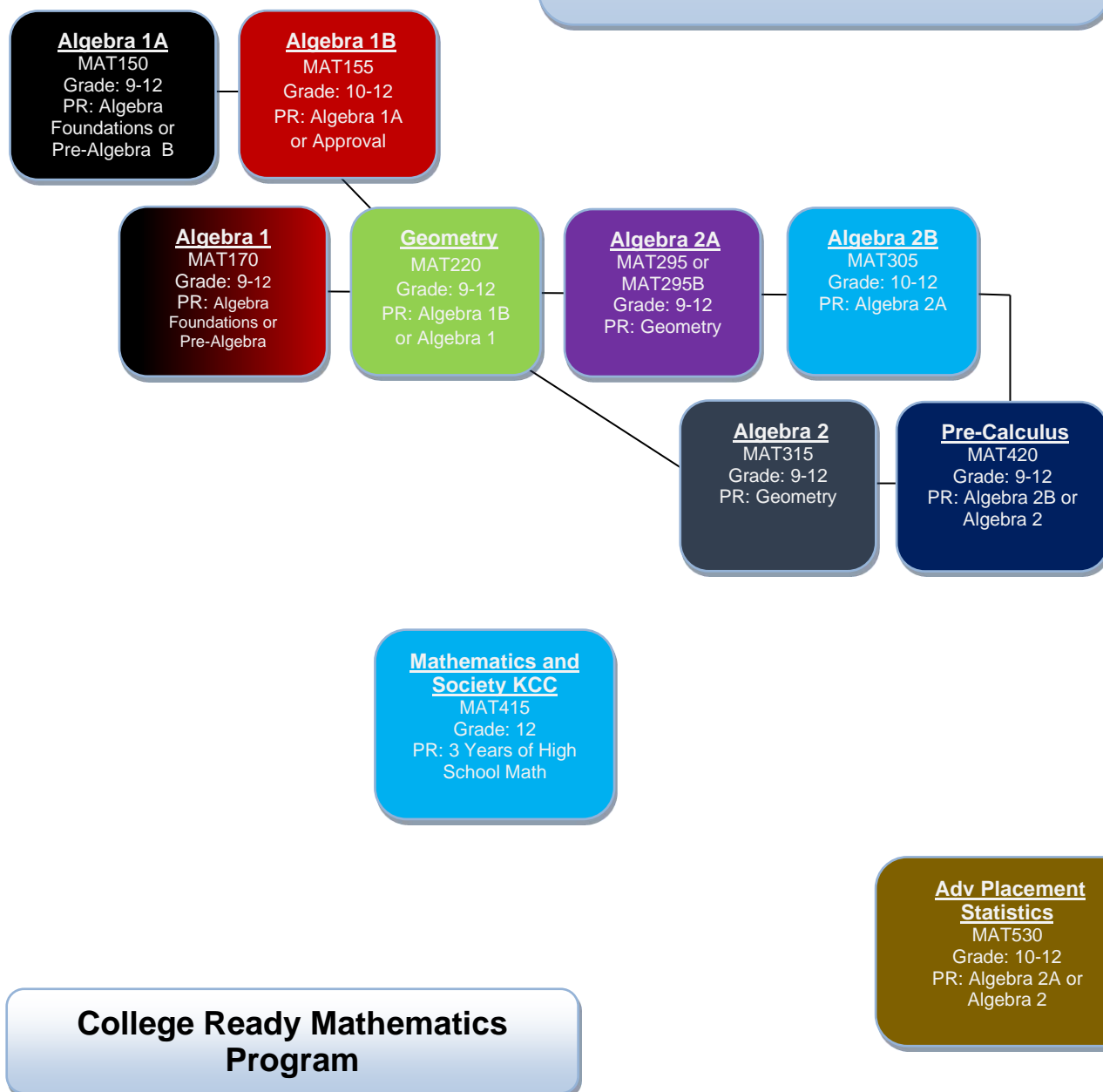
- 30 Credits Mathematics
- Must include Algebra 1  
OR Algebra 1A and Algebra 1B

## Basic Mathematics Program

# Mathematics

## Graduation Requirements

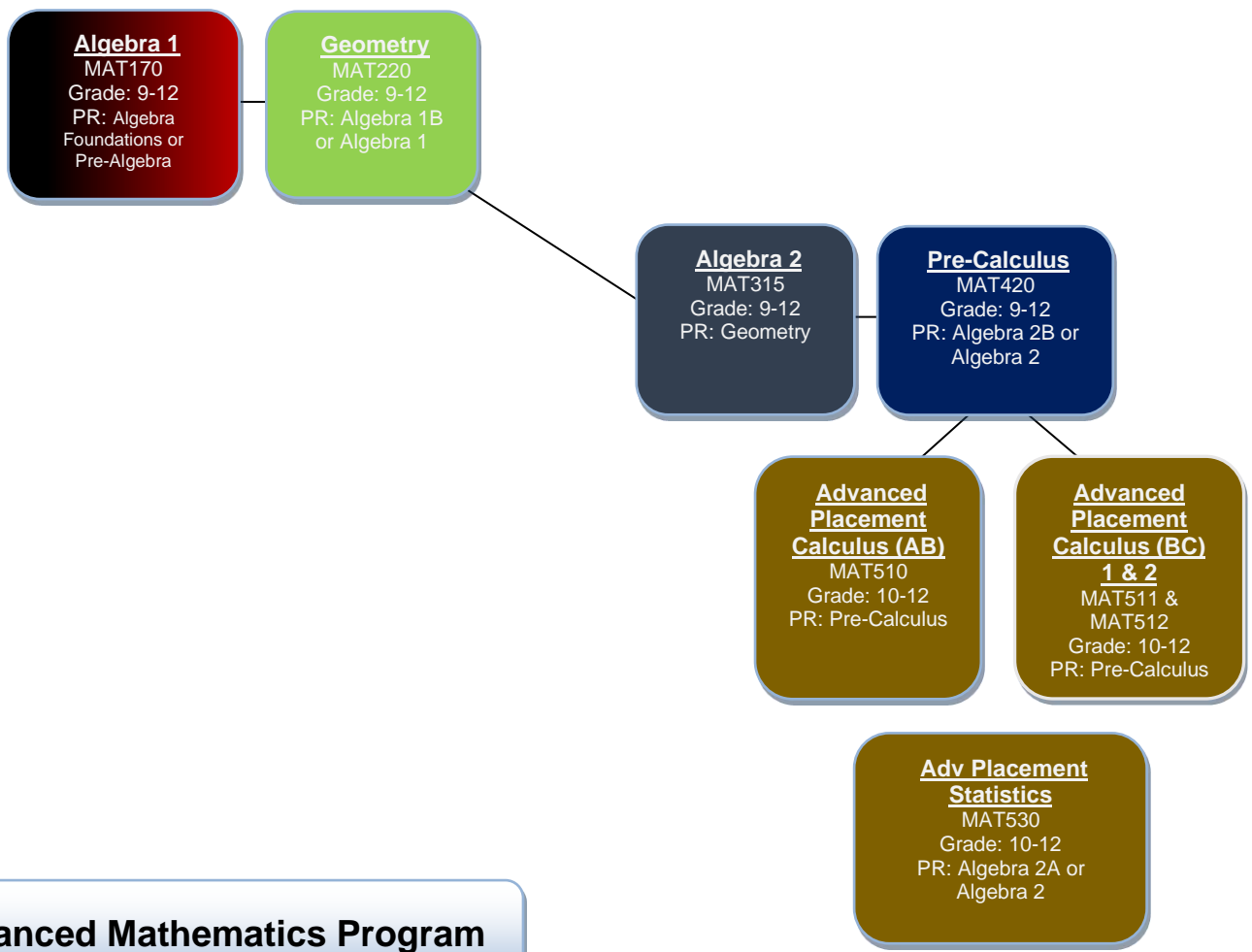
- 30 Credits Mathematics
- Must include Algebra 1  
OR Algebra 1A and Algebra 1B



# Mathematics

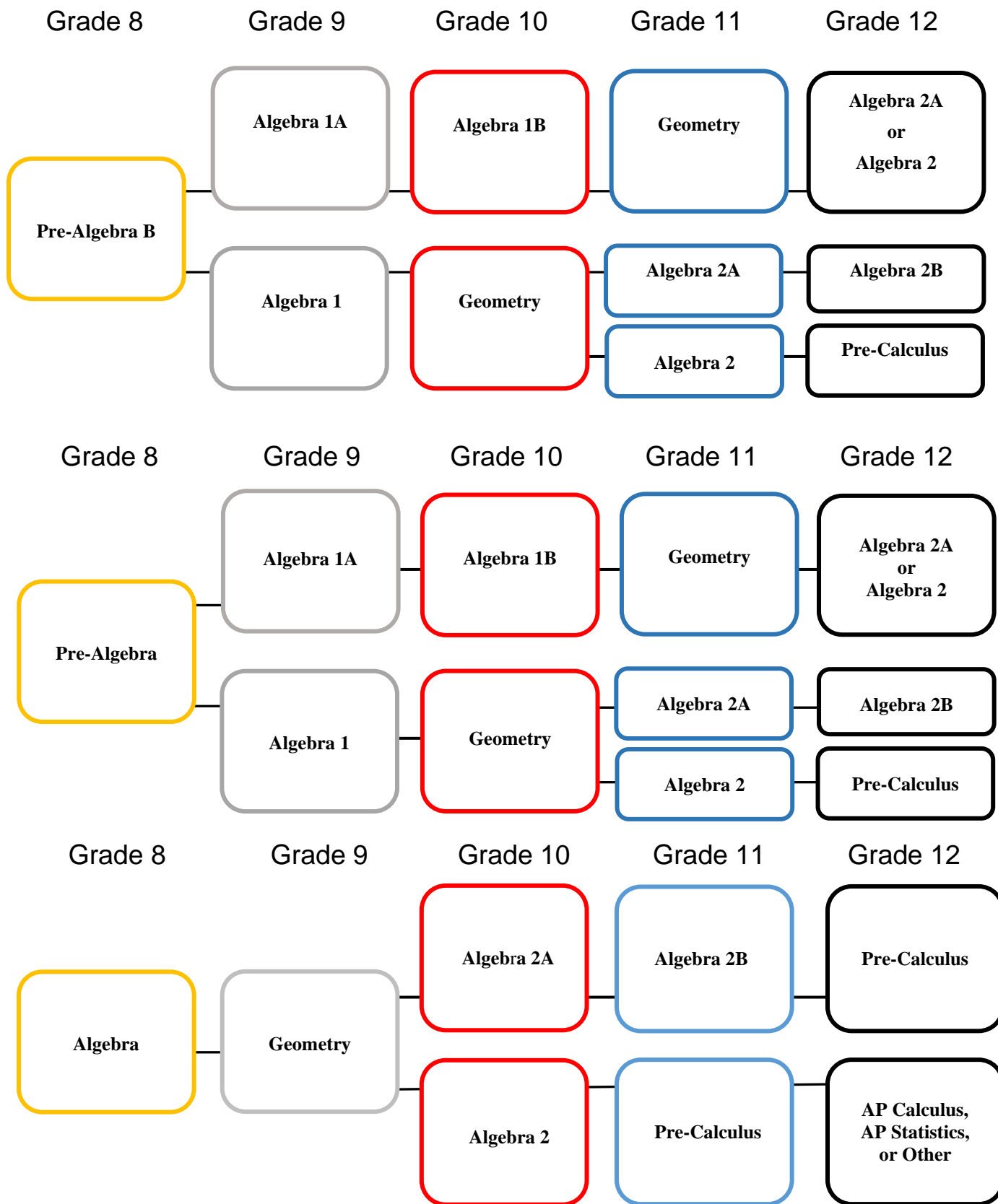
## Graduation Requirements

- 30 Credits Mathematics
- Must include Algebra 1  
OR Algebra 1A and Algebra 1B

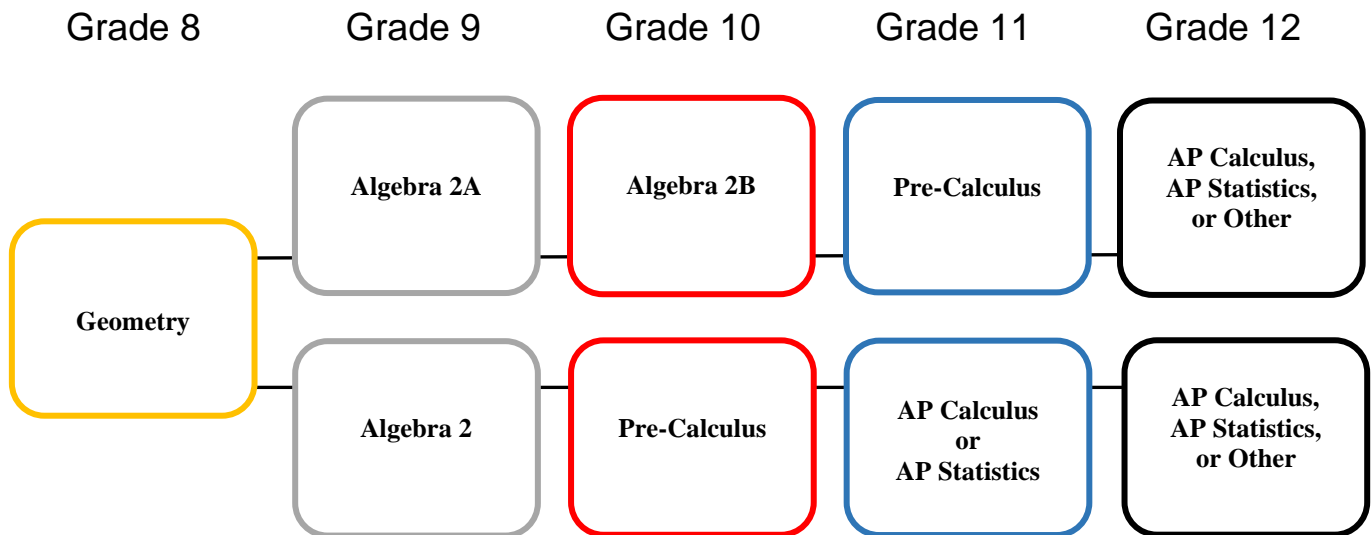


## Advanced Mathematics Program

## Math Pathways



## Math Pathways

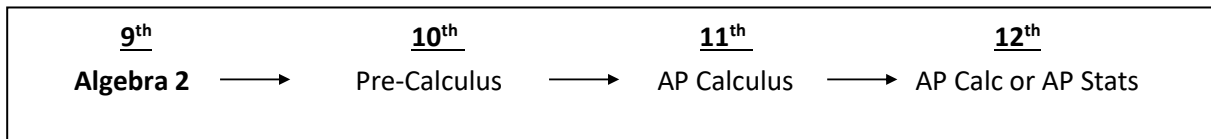


## Algebra 2

This course is a combination of Algebra 2A and Algebra 2B in one course.

### Things to consider before selecting Algebra 2 in 9<sup>th</sup> grade:

Incoming 9<sup>th</sup> grade students taking the Algebra 2 course will be maintaining acceleration in math which can result in serious math pathway concerns if they struggle with Algebra 2, Pre-Calculus, AP Calculus, or AP Statistics (three years of math are required for graduation).



- 1) Math skill level and effort: Students should have earned high level grades for Algebra 1A, Algebra 1B, or Algebra 1, and Geometry.
- 2) Students who struggle in Algebra 2 after the first three days of school must stay in the Algebra 2 course **or** they can drop it and take Algebra 2A 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.
- 3) Please choose the appropriate course based on the student's future math goals and for their passion for the subject matter.

### Algebra Foundations

Course #: MAT114 and MAT116  
 Grade Level: 9  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny, 2 times per day  
 Prerequisite: Teacher recommendation and administrative approval  
 Subsequent: Algebra 1A or Algebra 1

**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 1A or Algebra 1. 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.

### Algebra 1A

Course #: MAT150  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra Foundations, Pre-Algebra or Pre-Algebra B  
 Subsequent: Algebra 1B

**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 1A and Algebra 1B together meet the Algebra graduation requirement.*

**Course Description:** This course is designed to include material covered in the first semester of Algebra 1. Topics include negative numbers, absolute values, opposites, linear equations, and inequalities in word problems.

### Algebra 1B

Course #: MAT155  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra 1A  
 Subsequent: Geometry (recommended) Mathematics and Society

**Considerations:** Students are placed in this course per approval of the math department based on Pre-Algebra and Iowa Assessment scores. A scientific calculator or equivalent is required. Graphing calculators are not allowed in this course. *Algebra 1A and Algebra 1B together meet the Algebra graduation requirement.*

**Course Description:** This course is designed to include material covered in the second semester of Algebra 1. Topics include negative numbers, absolute values, opposites, linear equations, and inequalities in one variable word problems, factoring, graphing, and quadratic equations.

### Algebra 1

Course #: MAT170  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Pre-Algebra, Pre-Algebra B, or Algebra Foundations  
 Subsequent: Geometry

**Considerations:** A scientific or graphing calculator is required.

**Course Description:** Algebra 1 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.



### Algebra Priority Standards

Course #: MAT170PS  
 Grade Level: 9-12  
 Credits: 2.5  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Teacher and/or Counselor Recommendation;  
 Concurrent enrollment in Algebra 1

**Considerations:** Students are placed into this course by recommendation of a mathematics teacher or school counselor. This course is designed for students who struggle with the core concepts of Algebra 1.

**Course Description:** This course develops mathematical skills focused on the priority standards of Algebra 1. These topics include algebraic operations and reasoning, one-variable equations and inequalities, linear equations, exponents, factoring, and quadratics.

“Credit earned for Priority Standards classes does not count toward the 30 credit math graduation requirement.”

### Geometry

Course #: MAT220  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra 1 or Algebra 1B  
 Subsequent: Algebra 2A or Accelerated Algebra 2 or Mathematics & Society



**Considerations:** A scientific or graphing 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 dimensions.



## Geometry Priority Standards

Course #: MAT220PS  
 Grade Level: 9-12  
 Credits: 2.5  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Teacher and/or Counselor Recommendation;  
 Concurrent enrollment in Geometry

**Considerations:** Students are placed into this course by recommendation of a mathematics teacher or school counselor. This course is designed for students who struggle with the core concepts of Geometry.

**Course Description:** This course develops mathematical skills focused on the priority standards of Geometry. These topics include points, lines, planes, polygons, circles, solid figures, and their associated relationships as a mathematical system. Emphasis is placed on the application of knowledge in algebraic and proof contexts.

“Credit earned for Priority Standards classes does not count toward the 30 credit math graduation requirement.”

## Algebra 2A



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

**Considerations:** A graphing calculator is required. TI89 or TI-Nspire calculators are NOT allowed. *Earns 0.5 units of NCAA mathematics credit.*

**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 2B



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

**Considerations:** A graphing calculator is required. TI89 or TI-Nspire calculators are NOT allowed. *Earns 0.5 units of NCAA mathematics credit.*

**Course Description:** This course covers all topics in Algebra 2, not included in Algebra 2A: conic sections, sequences and series, statistics and probability. There is a heavy emphasis on trigonometric functions, trigonometric identities, and trigonometric equations.

## Algebra 2

Course #: MAT315  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra 1 proficiency of Level 3 or higher (greater than or equal to 90%) and 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.

## Pre-Calculus

Course #: MAT420  
 Grade Level: 9-12  
 Credits: 10  
 Length: 2 Semesters  
 Format: Skinny  
 Prerequisite: Algebra 2B or Algebra 2  
 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 2A or Algebra 2  
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

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: Algebra

### AP Environmental Science 1&2

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

## Physics

### Applied Physics and Chemistry

SCI360  
Grade: 10-12  
PR: Algebra

### Physics I

SCI350  
Grade: 10-12  
PR: Geometry

### AP Physics 1 and/or 2

SCI531 and/or  
SCI532  
Grade: 10-12  
PR: Chemistry I and Algebra 2A

## Chemistry

### Chemistry I

SCI320  
Grade: 9-12  
PR: Algebra

## Life Science

### General Biology

SCI210  
Grade: 9-10  
PR: None

### AP Biology 1&2

SCI511 &  
SCI512  
Grade: 10-12  
PR: Chem I

## Science Electives

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

#### Organic Chemistry

SCI330

Grade: 10-12  
PR: 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, B) is a NGSS course based on the completion of NGSS Earth and Space Standards and successful completion will meet the earth science graduation requirement.

**Course Description:** This course is designed to allow students to develop an understanding of Earth's origin and interactions. Students will examine Earth's systems, Earth's place in the universe, and Earth and human activity.

## General Biology

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



**Considerations:** General Biology is a NGSS course based on the completion of NGSS Life Science Standards and successful completion will meet the life science requirement. Students taking this course should have a strong comprehensive vocabulary, reading and study skills.

**Course Description:** This course is designed as a survey class in life science. The themes investigated are: From Molecules to Organisms; Heredity; Biological Evolution; and Ecosystems.

## Chemistry I

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



**Considerations:** Chemistry I is a NGSS course based on the completion of NGSS Physical Science Standards and successful completion will meet the chemistry portion of the physical science requirement. Students taking this course must have completed Algebra. This course is also required for students wishing to take AP Chemistry, AP Biology or AP Environmental Science.

**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 is intended for students with a strong interest in science, math, or engineering careers.

## Organic Chemistry

Course #: SCI330  
Grade Level: 10-12  
Credits: 5  
Length: 1 Quarter  
Format: Block  
Prerequisite: Chemistry I

**Considerations:** See prerequisites.

**Course Description:** This quarter-long course is designed to provide a limited exploration of the concepts essential to college-level Organic Chemistry: Bonding, Isomers, Properties, Naming, Functional Groups and Types of Reactions/ Reaction Mechanisms associated with each – substitution, elimination & addition, as well as an introduction to the limitless applications of organic chemistry throughout agriculture, life sciences, medicine, and issues related to consumers, the environment and society.



### **Earth and Space Science**

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



**Considerations:** Earth and Space Science is based on the completion of NGSS Physical Science Standards and Earth and Space Standards and successful completion will meet the physics portion of the physical science graduation requirement and the earth science graduation requirement. Students taking this course must have completed Algebra.

**Course Description:** This course is designed to help students develop an understanding of the big ideas of the Physics Standards and will be applied through the Earth Science Standards. Physics content includes force, motion, momentum, collisions, energy transformations, electromagnetism, waves and light. Earth Science content includes materials of Earth, its internal and exterior processes, geological history, and how Earth's systems interact, change over time and its role in the universe.

### **Physics I**

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



**Considerations:** Physics I is based on the completion of NGSS Physical Science Standards and successful completion will meet the physics portion of the physical science graduation requirement. Students taking this course must have completed Geometry.

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

### **Applied Physics and Chemistry**

Course #: SCI360  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra



**Considerations:** Applied Chemistry and Physics is based on the completion of NGSS Physical Science Standards and successful completion will meet the physical science graduation requirement. Students taking this course must have completed Algebra.

**Course Description:** This course is designed to allow students to explore the 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:** Bioethics is a science elective course. Students taking this course must have completed General Biology.

**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 Chemistry 1 or Applied Chemistry and Physics



**Considerations:** Geology is a science elective course. Students taking this course must have completed Geometry and Applied Chemistry and Physics or Chemistry I.

**Course Description:** This course is designed to allow students to receive an intense, in-depth look into the core subjects of geology including 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 Applied Chemistry and Physics or Chemistry I



**Considerations:** Astronomy is a science elective course. Students taking this course must have completed Geometry and Applied Chemistry and Physics or Chemistry I.

**Course Description:** This course is designed to allow students to receive an intense, in-depth look at astronomy topics including 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 Applied Chemistry and Physics or Chemistry I



**Considerations:** Meteorology is a science elective course. Students taking this course must have completed Geometry and ACP (Applied Chemistry and Physics) or Chemistry I.

**Course Description:** This course is designed to allow students to 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:** Anatomy & Physiology is a science elective course. Students taking this course must have completed General Biology.

**Course Description:** This course is designed to allow students to study 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. One critical instructional element of anatomy to help foster an understanding of structures and functions is the exploration and dissection of animal tissues, organs, and bodies.

## Advanced Placement Biology 1 & 2

Course #: SCI511 & SCI512  
 Grade Level: 10-12  
 Credits: 15  
 Length: 3 Quarters  
 Format: Block  
 Prerequisite: Chemistry I

**Considerations:** Advanced Placement Biology 1 & 2 is a NGSS course based on the completion of NGSS Life Science Standards and successful completion will meet the life science requirement for graduation. Students MUST sign up for both sections listed above. General Biology is recommended but not required for enrollment in AP Biology. Students taking this course must have completed Chemistry I. Students may take the AP Biology exam in May.

**Course Description:** This course is designed as an in-depth study of the field of biology. Areas of emphasis include energy pathways; the 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:** Students MUST sign up for both sections listed above. Students taking this course must have completed Chemistry I and Advance Algebra IIA. Students may take the Chemistry AP exam in May.

**Course Description:** This course is designed to cover 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

Course #: SCI531  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Chemistry I AND Algebra 2A

**Considerations:** Advanced Placement Physics I is based on the completion of NGSS Physical Science Standards and successful completion will meet the physics portion of the physical science graduation requirement. It is recommended that students sign up for both AP Physics I and AP Physics II. Physics I is NOT a prerequisite for this class. See prerequisites. Students may take the AP Physics 1 exam in May.

**Course Description:** This course covers College Physics I. Students taking this class should have a strong interest in the practical applications of mathematics to real-life scenarios. Areas of emphasis include; experimental design, kinematics, newton's laws, gravitation, electricity, and waves.

## **Advanced Placement Physics 2**

Course #: SCI532  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: AP Physics I or Physics I



**Considerations:** Physics I or AP Physics 1 is a prerequisite for this class. Students may take the AP Physics 2 exam in May.

**Course Description:** This course covers College Physics II. Students taking this course should have a strong interest in the practical applications of mathematics to real-life scenarios. Areas of emphasis include; experimental design, thermodynamics, fluid-mechanics, optics, electric circuits, magnetism, and modern physics.

## **Environmental Sustainability**

(Previously was Biotechnical Engineering)

Course #: SCI620  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra AND General Biology



**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.

## **Advanced Placement Environmental Science 1 & 2**

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



**Considerations:** Advanced Placement Environmental Science 1 & 2 is a NGSS course based on the completion of NGSS Earth Science Standards and successful completion will meet the earth science requirement for graduation. Students MUST sign up for both sections listed above. Students taking this course must have completed General Biology and Algebra. Students MUST sign up for both sections listed above. 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.

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

# Social Studies

PR = Prerequisite Requirement

## Electives

### US History 9

SOC110  
Grade: 9-12  
PR: None

OR

### Advanced US History 9

SOC130  
Grade: 9-12  
PR: None

OR

### AP US History 1 & 2

SOC521 &  
SOC522  
Grade: 9-12

### Economics

SOC310  
Grade: 11-12  
PR: None

### World History

SOC270  
Grade: 10-12  
PR: None

OR

### AP World History 1 & 2

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  
Grade: 11-12  
PR: None

### AP Psychology 1 & 2

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

### Government

SOC400  
Grade: 12  
PR: None

OR

### AP American Government

SOC500  
Grade: 11-12  
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, Advanced US History 9, 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.

## Advanced US History 9

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, Advanced US History 9, 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  
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  
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 classroom 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 or SOC401E  
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: 11-12 or approval  
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: 9-12  
Credits: 15  
Length: 3 Quarters  
Format: Block  
Prerequisite: US History 9 OR  
Advanced US History 9 is  
recommended

**Considerations:** Instructor approval for 9<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: Introductory 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**

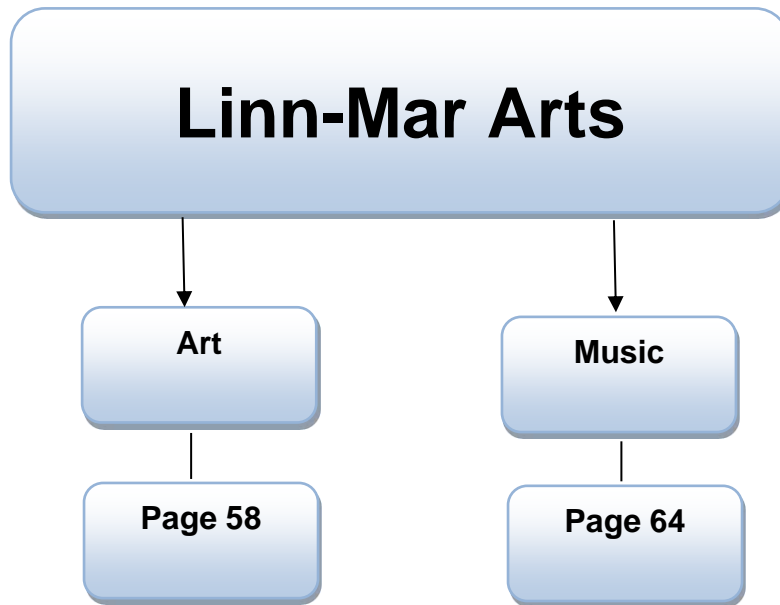


Course #: SOC541 & SOC542  
Grade Level: 10-12  
Credits: 15  
Length: 3 Quarters  
Format: Block  
Prerequisite: none

**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.





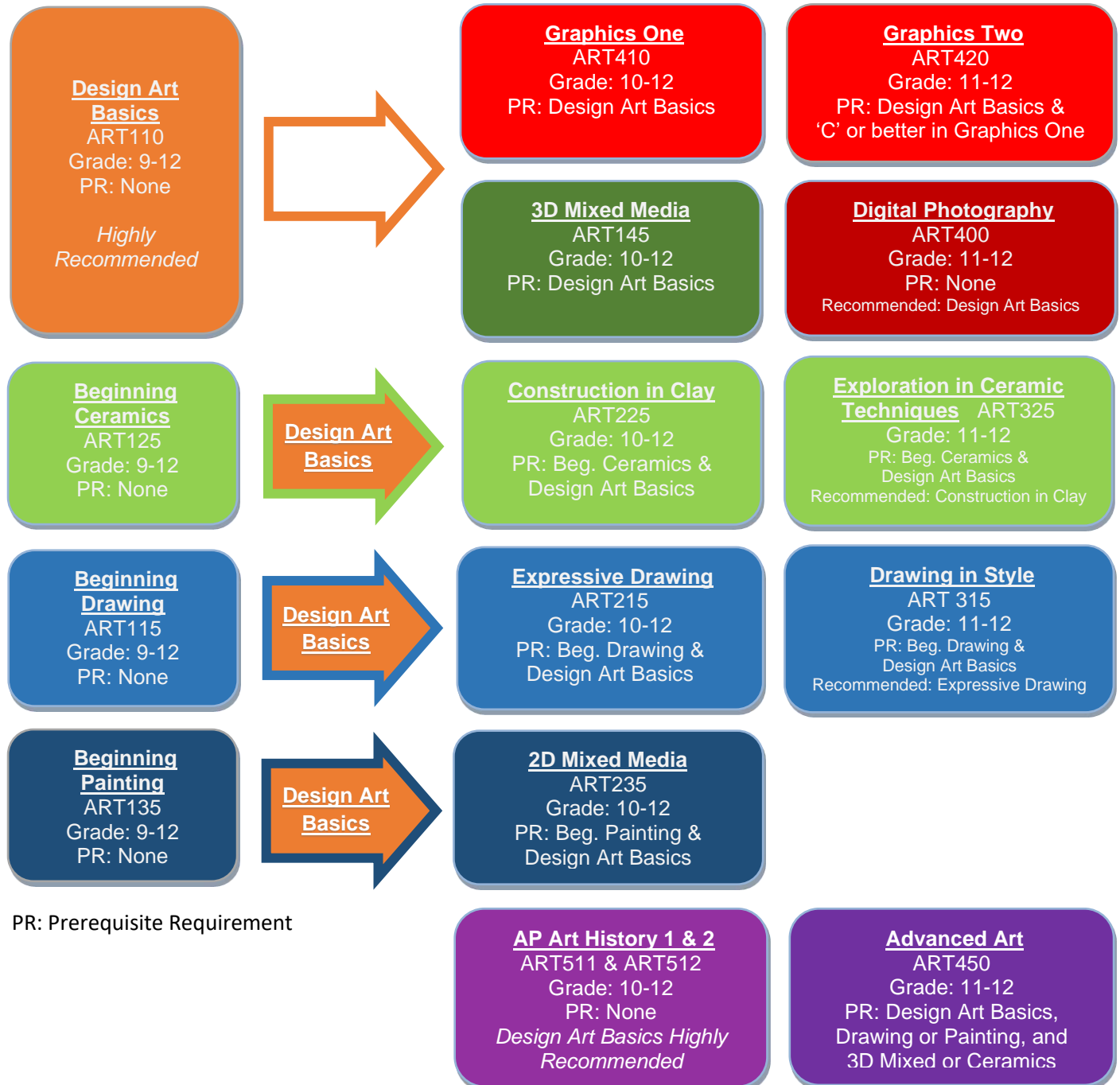
# Visual Arts Program of Studies



## Entry Level

## Intermediate Level

## Advanced Level



PR: Prerequisite Requirement

### **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.

---

### **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.

---

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

Course #: ART145  
Grade Level: 10-12  
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: 10-12  
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: 10-12  
 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.

### 2-D Mixed Media

Course #: ART235  
 Grade Level: 10-12  
 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: 11-12  
 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.

### Exploration in Ceramic Technique

Course #: ART325  
 Grade Level: 11-12  
 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: 10 -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.

## 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

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

W

**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

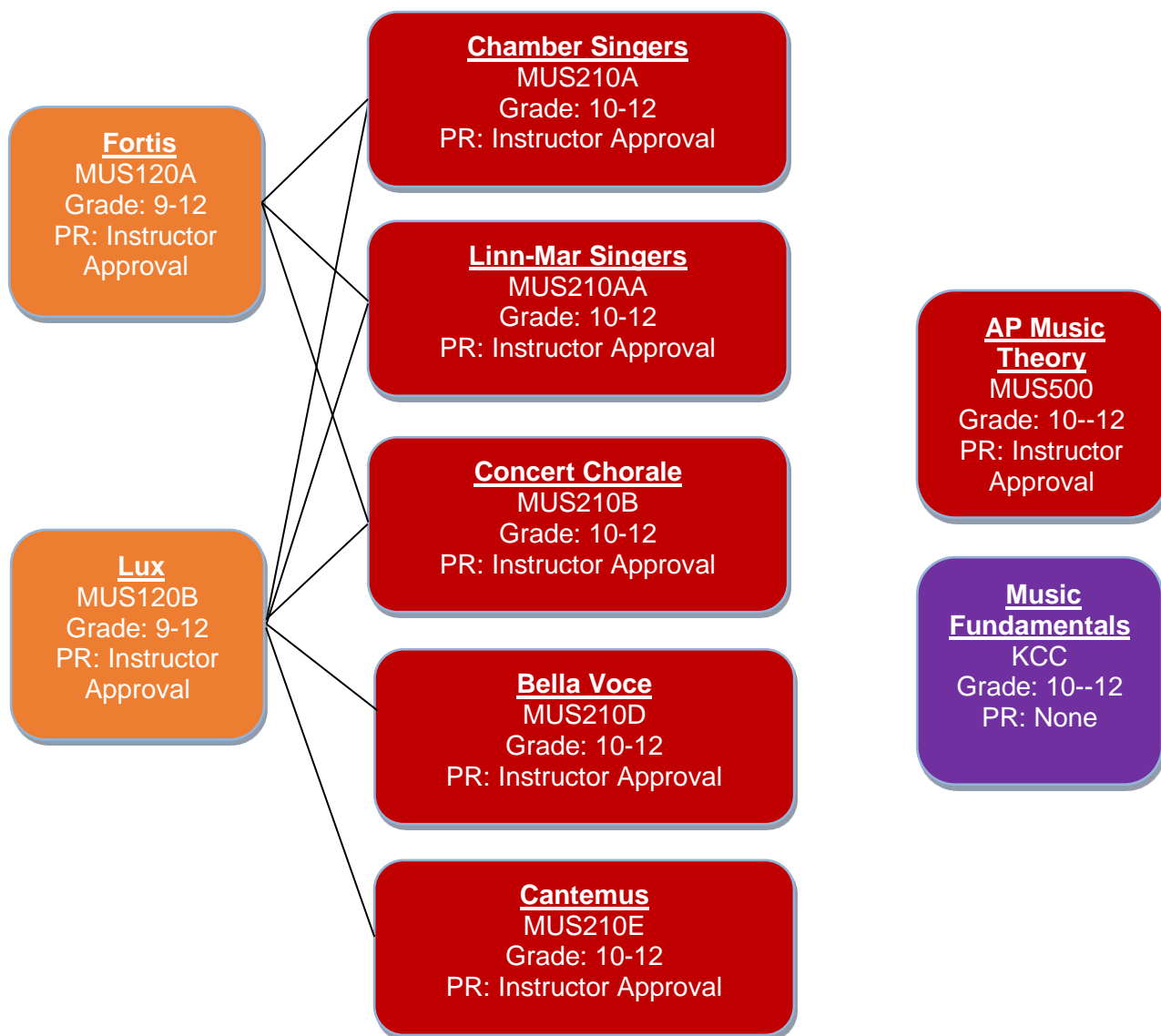
KCC  
Grade: 10--12  
PR: None



# Music

PR=Prerequisite Requirement

## Linn-Mar High School Choral Program



# Music

PR=Prerequisite Requirement

## Linn-Mar High School Orchestra Program

### Concert Orchestra (Red)

MUS230-1

Grade: 9-11

PR: Instructor Placement

### Concert Orchestra (Black)

MUS230-2

Grade: 9-12

PR: Instructor Approval

### Philharmonic Orchestra

MUS290

Grade: 9-12

PR: Instructor Approval

### AP Music Theory

MUS500

Grade: 10--12

PR: Instructor Approval

### Symphony Strings

MUS240

Grade: 9-12

PR: Instructor Placement

### 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.

### **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 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.

### **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.

### **Linn-Mar Singers**

Course #: MUS210AA  
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 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.

---

### **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 (Red)**

Course #: MUS230-1  
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 Bases are provided for daily rehearsal only. Students must provide their own instrument for home use.

**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.

---

### **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.

### **Concert Orchestra (Black)**

Course #: MUS230-2  
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 Bases are provided for daily rehearsal only. Students must provide their own instrument for home use.

**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.

---

### **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.

### **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

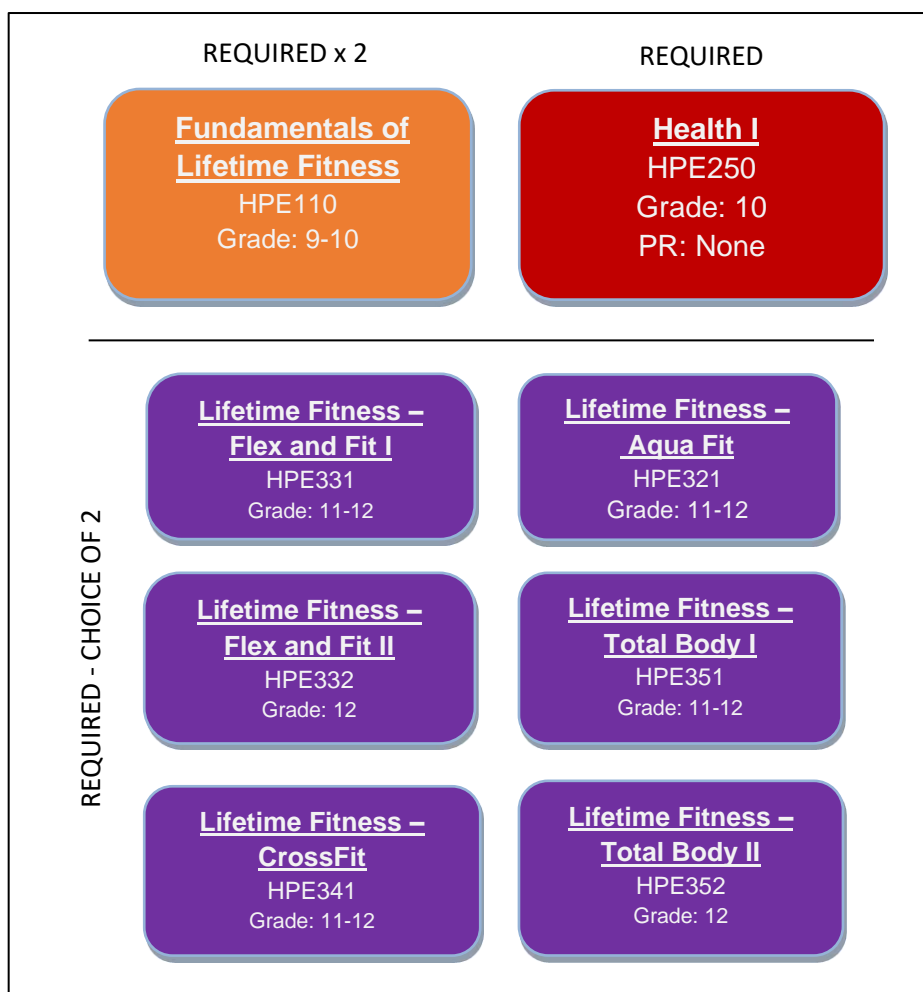


**Considerations:** Students may take the Music Theory AP exam in May. This course is strongly recommended for students considering studying music at the college/university level.

**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. 122)**

# Linn-Mar Fitness/Health



**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

**Principles of Biomedical Science**  
 HPE600  
 Grade: 10-12  
 PR: Health I

## Graduation Requirements

- 20 Credits of Fitness/Health
- Must include **Health I** and CPR
- 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. Students may not enroll in the same Lifetime Fitness course (grades 11 and 12) in consecutive years. A full CPR certification course will be taught to students in each Lifetime Fitness (grades 11 and 12) sections. LMHS students must complete a CPR certification course prior to the end of grade 12 to meet LMHS and State graduation requirements.

## 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; 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.

### **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:** The class emphasis includes; enhancing personal fitness through Activity Labs and Group Games designed to improve Aerobic Capacity, Core Endurance, Muscular Fitness and overall Flexibility. The student will demonstrate a beginning ability to use Goal-Setting Skills to aid in enhancing personal fitness. The student will be encouraged to achieve an improved level of fitness while demonstrating beginning knowledge of fitness concepts and principles. The student will complete and reflect on district-approved fitness assessments for completion of the class.

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

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

**Considerations:** A different Lifetime Fitness course is **required** for the Junior and Senior years.

**Course Description:** This section explores the unique buoyancy, resistance and movement of water to improve overall fitness. The student will design and implement an Individualized Aquatic Fitness Plan. The class emphasis includes: enhancing fitness through Activity Labs designed to improve Aerobic Capacity, Core Endurance, Muscular Fitness and overall Flexibility. The student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness and complete a Life Skills Unit. The student will be challenged to achieve an improved level of fitness while demonstrating knowledge of fitness concepts and principles. The student will complete and reflect on district-approved fitness assessments for completion of the class. CPR training is included in this course.

### Lifetime Fitness - Aqua Fit II

Course #: HPE322  
 Grade Level: 11-12  
 Credits: 2.5  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Lifetime Fitness –  
 Aqua Fit I or Permission  
 Grading: Credit/No credit

**Considerations:** A different Lifetime Fitness course is **required** for the Junior and Senior years.

**Course Description:** This section builds on concepts of fitness through aquatic movement and exercise. The student will design and implement an Individualized Aquatic Fitness Plan. The student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness. The student will be challenged to achieve an improved level of fitness while demonstrating knowledge of fitness concepts and principles. CPR training is included in this course.

### Lifetime Fitness - Flex and Fit I

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

**Considerations:** A different Lifetime Fitness course is **required** for the Junior and Senior years.

**Course Description:** This section is designed for the developing fitness Student and will provide opportunities for the Student to improve their personal fitness and concept knowledge. This section will utilize Group Activity Labs to support functional fitness improvement. The Student will explore ways to design, and adjust a fitness plan tailored to meet their goals. The Student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness, and complete a Life Skills Unit. The Student will be encouraged to achieve an improved level of fitness while demonstrating knowledge of fitness concepts and principles. The Student will complete and reflect on district-approved fitness assessments for completion of the class. CPR training is included in this course.

### Lifetime Fitness - Flex and Fit II

Course #: HPE332  
 Grade Level: 12  
 Credits: 2.5  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Lifetime Fitness – Flex and Fit I or Permission  
 Grading: Credit/No credit

**Considerations:** A different Lifetime Fitness course is **required** for the Senior year.

**Course Description:** This section is designed to provide advanced opportunities for the Student to improve their personal fitness and concept knowledge. This section will utilize Group Activity Labs to support the functional fitness improvement. The Student will create and utilize a Personal Fitness Portfolio to track and reflect on Activity Lab results. The Student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness, and complete a Life Skills Unit. The Student will be challenged to achieve an improved level of fitness while demonstrating advanced knowledge of fitness concepts and principles. The Student will complete and reflect on district-approved fitness assessments for completion of the class. CPR training is included in this course.

### Lifetime Fitness - CrossFit

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

**Considerations:** A different Lifetime Fitness course is **required** for the Junior and Senior years.

**Course Description:** This section will utilize Group Activity Labs to support fitness improvement. The Student will explore ways to design and adjust a CrossFit Fitness Plan tailored to meet their goals. The class emphasis includes; enhancing personal fitness through Activity Labs designed to improve Aerobic Capacity, Core Endurance, Muscular Fitness and overall Flexibility. The Student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness and complete a Life Skills Unit. The Student will be challenged to achieve an improved level of fitness while demonstrating an advanced knowledge of fitness concepts and principles. The Student will complete and reflect on district-approved fitness assessments for completion of the class. CPR training is included in this course.

### Lifetime Fitness - Total Body I

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

**Considerations:** A different Lifetime Fitness course is **required** for the Junior and Senior years.

**Course Description:** This section will focus on Introductory Strength Training concepts, skills and Activity Labs. The Student will explore ways to design a Total Body Strength Program. The Student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness, and complete a Life Skills Unit. The Student will be encouraged to achieve an improved level of Muscular Fitness while demonstrating a beginning knowledge of concepts and principles. The Student will complete and reflect on district-approved fitness assessments for completion of the class. CPR training is included in this course.

### Lifetime Fitness - Total Body II

Course #: HPE352  
 Grade Level: 12  
 Credits: 2.5  
 Length: 1 Quarter  
 Format: Skinny  
 Prerequisite: Lifetime Fitness – Total  
 Body I or Permission  
 Grading: Credit/No credit

**Considerations:** A different Lifetime Fitness course is **required** for the Senior year.

**Course Description:** This section is designed to allow the advanced Student to apply learned Strength Training Principles and Techniques. The Student will be engaged in demonstrations/ discussions and evaluations of lift performances during Activity Labs. The goal will be to improve Muscular Fitness and further knowledge and understanding of Strength Training Theory and Practice. The Student will demonstrate the ability to use Goal-Setting Skills to aid in enhancing personal fitness, and complete a Life Skills Unit. The Student will be challenged to achieve an improved level of Muscular Fitness while demonstrating advanced knowledge of fitness concepts and principles. The Student will complete and reflect on district-approved fitness assessments for completion of the class. CPR training is included in this course.

### 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 at Linn Regional Center by Kirkwood staff.

**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.

### PLTW Principles of Biomedical Science

Course #: HPE600  
 Grade Level: 10-12  
 Credits: 10 credits  
 Length: 1 Semester  
 Format: SuperBlock  
 Prerequisite: Health I, General Biology

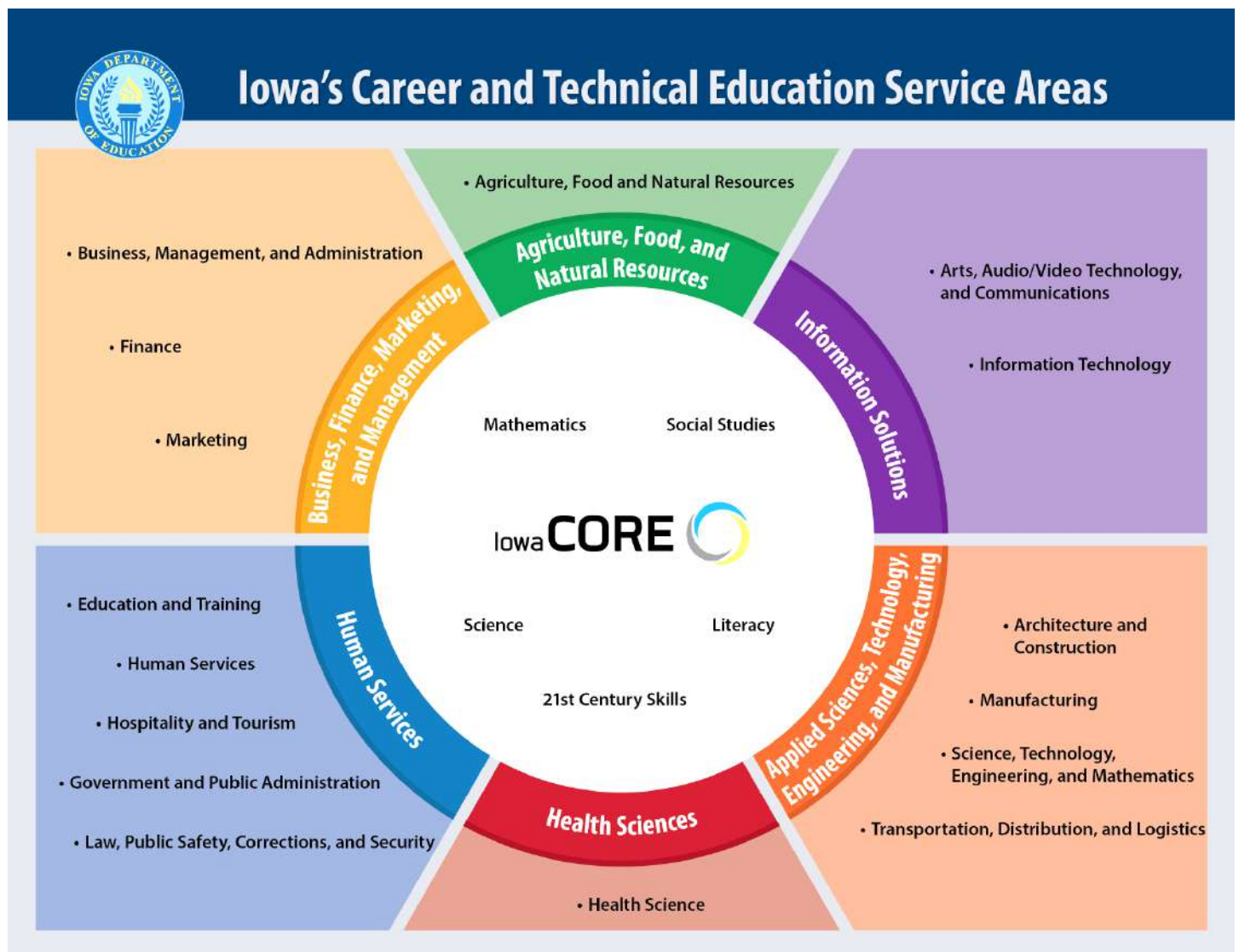


**Considerations:** This is a Project Lead the Way course provided only through Venture Academics. There is no standalone section.

**Course Description:** From design and data analysis to outbreaks, clinical empathy, health promotion, and more, students explore the vast range of careers in biomedical sciences. They develop not just technical skills, but also in-demand, transportable skills that they need to thrive in life and career.

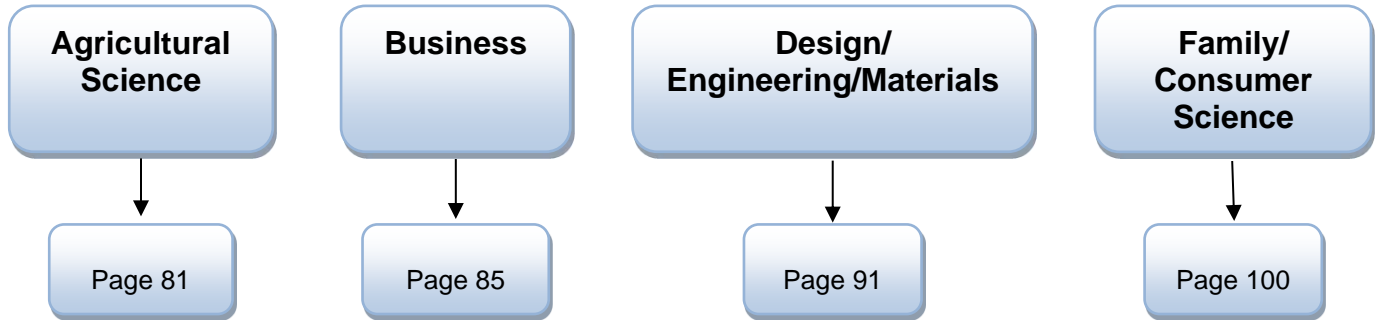
In this course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, to tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems.

# Career and Technical Education Service Areas and Career Clusters



Linn-Mar Career and Technical Education Pathways begin on page 134.

# Linn-Mar CTE/Exploratory





# Agricultural Science

PR=Prerequisite Requirement

## Introduction to Agriculture, Food, and Natural Resources

AGR110  
Grade: 9-10  
PR: None

## Aquaculture Science

AGR225  
Grade: 9-12  
PR: None

## Principles of Agricultural Science- Animal

AGR240  
Grade: 10-12  
PR: None

## Principles of Agricultural Science- Plant

AGR250  
Grade: 10-12  
PR: None

## Natural Resources and Ecology

AGR260  
Grade: 10-12  
PR: None

## Food Science and Safety

AGR270  
Grade: 10-12  
PR: None

## Animal and Plant Biotechnology

AGR280  
Grade: 10-12  
PR: None

## Environmental Science Issues

AGR290  
Grade: 10-12  
PR: None

## Agriculture Power and Technology

AGR300  
Grade: 10-12  
PR: None

## Agricultural Business Foundations

AGR325  
Grade: 10-12  
PR: None

## Agricultural Research and Development

AGR500  
Grade: 10-12  
PR: None

## AFNR – Workplace Experience

AGR550  
Grade: 11-12  
PR: None

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

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



#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Introduction to Agriculture, Food, and Natural Resources (AFNR)* introduces students to the range of agricultural opportunities and the pathways of study they may pursue. Student experiences involve the study of natural resources, plants and animals, food science and agricultural mechanics.

### Principles of Agricultural Science-Animal

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



#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Principles of Agricultural Science-Animal* is a course engaging students in hands-on laboratories and activities to explore the world of animal agriculture. Student experiences involve the study of animal anatomy, physiology, behavior, nutrition, reproduction, health, selection and marketing.

### Aquaculture Science

Course #: AGR225  
 Grade Level: 9-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: None

#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Aquaculture Science* introduces students to the world of animal and plant aquaculture. Students will acquire the skills needed to produce and harvest finfish, freshwater prawn and food plants 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 will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Principles of Agricultural Science-Plant* is a course teaching students the form and function of plant systems. Student experiences include the study of plant anatomy and physiology, classification, and the fundamentals of production and harvesting.

### Natural Resources and Ecology

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



#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Natural Resources and Ecology* is a course that provides students with a variety of experiences in the field of natural resources. Students explore hands-on projects and activities while studying topics such as land use, water quality, stewardship, and environmental agencies.

### Animal and Plant Biotechnology

Course #: AGR280  
 Grade Level: 10-12  
 Credit Hours: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Animal and Plant Biotechnology*, a specialization course, provides students with experiences in industry appropriate applications of biotechnology related to plant and animal agriculture. Students are expected to become proficient at biotechnological skills involving micropipetting, bacterial cultures and transformations, electrophoresis, and polymerase chain reaction.

### Food Science and Safety

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



#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Food Science and Safety* is a course where students complete hands-on activities, projects, and problems that simulate actual concepts and situations found in the food science and safety industry, allowing students to build content knowledge and technical skills.

### Environmental Science Issues

Course #: AGR290  
 Grade Level: 10-12  
 Credit Hours: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: None



#### Considerations:

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### Course Description:

*Environmental Science Issues* is a course where students to research, analyze, and propose sustainable solutions to environmental issues. Students will investigate areas of environmental science including ecosystem management, sustainable agriculture, energy choices, and pollution.

### **Agricultural Power and Technology**

Course #: AGR300  
Grade Level: 10-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: None



#### **Considerations:**

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### **Course Description:**

*Agricultural Power and Technology* is a course to expose students to mechanics, power, technology, and career options in the world of agriculture. Student experiences involve the study of sustainable energy, geographic information & global position systems, drone technology, machines, and structures as it relates to multiple areas of agriculture, including animals, plants, food science, biotechnology, and natural resource management.

### **Agricultural Business Foundations**

Course #: AGR325  
Grade Level: 10-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block, Blended  
Prerequisite: None



#### **Considerations:**

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities in a Blended format.

#### **Course Description:**

*Agricultural Business Foundations* introduces students to business management in agriculture. Student experiences involve the study of starting a business, financial documents required of a business, risk management, and writing a business plan.

### **Agricultural Research and Development**

Course #: AGR500  
Grade Level: 10-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block  
Prerequisite: None



#### **Considerations:**

Students will be introduced to SAE (supervised agricultural experience) and FFA opportunities.

#### **Course Description:**

*Agricultural Research and Development* is the capstone course designed to culminate students' experiences in agriculture, based on the pathway of study they pursued. Woven throughout the course are projects and problems based in practical applications and designed to develop and improve employability skills of students. Students will further enhance research, critical thinking, and teamwork skills as they expand on content knowledge from previous CASE courses. Students completing coursework for all four courses within a specific CASE Pathway are eligible to receive CASE program certification.

### **AFNR – Workplace Experience**

Course #: AGR550  
Grade Level: 11-12  
Credit Hours: 10  
Length: 2 Quarters  
Format: Block, Blended  
Prerequisite: None



#### **Considerations:**

Instructor approval required. SAE (supervised agricultural experience) and FFA opportunities will be provided in a Blended format.

#### **Course Description:**

This Agriculture, Food, and Natural Resources—Workplace Experience course provides work experience in fields related to agriculture, food, and natural resources. Goals are set cooperatively by the student, teacher, and worksite supervisor.

# Business Accounting/Finance

PR=Prerequisite Requirement

## Personal Finance

BUS110 or BUS110E

Grade: 9-12

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: 9-12  
PR: None

## Economics

SOC310  
Grade: 11-12  
PR: None

## Marketing

BUS355  
Grade: 10-12  
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 or BUS110E  
 Grade Level: 9-12  
 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, manage personal finances to achieve financial goals, prepare bank account documents, maintain financial records, manage credit and debt (credit scores/identity theft), career preparation, insurance, saving and investing strategies. Information will be presented through projects, activities, guest speakers, virtual simulations and multimedia presentations.

### **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.

### **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.

### **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.

### 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.

**Course Description:** MOC will provide substantial, meaningful career-related work experience and engagement with structured evaluation/reflection with area business and industry. Student interns work a minimum of 15 hours per week. Work-based learning prepares students for college and career readiness by helping them make informed decisions about their life goals and learning specific career related skills.

### Advanced Accounting

Course #: BUS430  
 Grade Level: 11/12  
 Credits: 1  
 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 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. Active and full participation of students in Future Business Leaders of America (FBLA) career and technical student organization at the local, state, and national levels including leadership and competitive skill events.

**Course Description:** Student will learn career exploration, preparation and application. Life and workplace skills: teamwork, professional development, customer relations, problem-solving, diversity, time management, communication and information management. Consumer awareness, entrepreneurship, management, marketing, operations and labor market information. Financial Analysis: manage personal finances to achieve financial goals, prepare bank account documents, maintain financial records, prepare personal income tax forms, manage credit and debt (credit scores/identity theft), insurance, saving and investing strategies

### **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.

## 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

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

### Advanced Placement 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: 10-12

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

## Computer Aided Design

IND110

Grade: 9-12

PR: None

## Computer Integrated Manufacturing

IND640

Grade: 9-12

PR: Algebra

## Metals: Materials and Processes

IND310

Grade: 11-12

PR: None

## Engineering Design and Development (EDD)

IND680

Grade: 12

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

## Career Immersion

MOC

BUS450

Grade: 12

PR: Application and Interview

### **Computer Aided Design**

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

**Considerations:** None

**Course Description:** This course is designed to teach the practical application of 2- and 3-dimensional computer aided design (CAD). Students will learn to use different types of software to model objects and communicate their ideas in industrial and commercial applications.

---

### **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.

### **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.

### **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.

### **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.

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

**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: Algebra



**Considerations:** It is recommended to have had Introduction to Engineering Design or Principles of Engineering before taking this class. This course articulates credit with Kirkwood Community College.

**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.

### 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.



### **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.

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

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

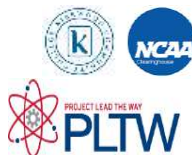


**Considerations:** Students with no prior computer science experience can take this as a first computer science course. Academically confident/motivated students or students with a bit of prior programming experience may skip CSE and sign up for Computer Science Principles (CSP).

**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.

### **Advanced Placement 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:** CSA students will learn fundamentals of the Java programming language and continue on to object oriented programming. Students develop skills in solving computational problems, writing algorithms, testing code, and processing data.

### Aerospace Engineering (AE)

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



**Considerations:** It is recommended that students have prior experience with Autodesk Inventor.

**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: Any two PLTW Engineering courses.

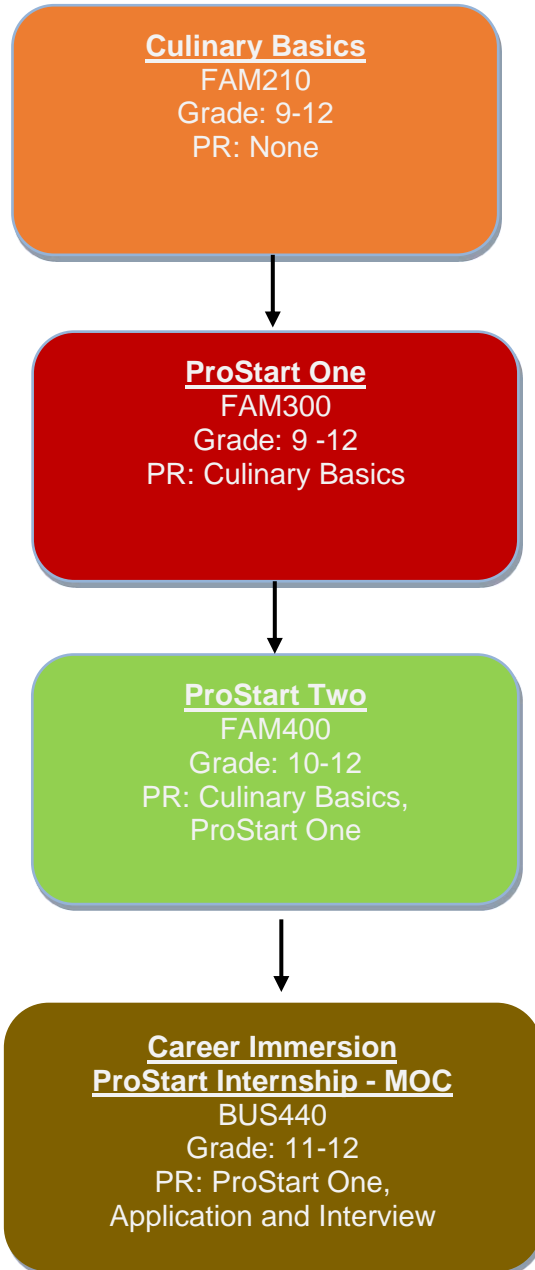


**Considerations:** EDD is a culminating capstone course. In order to have a solid foundation for this course, students need successful completion of the prerequisites of any two PLTW engineering courses which include: Introduction to Engineering Design, Principles of Engineering, Digital Electronics, 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



# Family/Consumer Sciences

## Child Development/Education

PR=Prerequisite Requirement

### Foundations of Living

FAM100

Grade: 9-12

PR: None

### Human Growth and Development

FAM440

Grade: 10-12

PR: None

### KCC Child Growth and Development

FAM425

Grade: 11-12

PR: KCC qualifying  
placement score

### Exploring Teaching

FAM450

Grade: 11-12

PR: KCC qualifying  
placement score and one Growth  
and Development course

### Behavior Management

FAM460

Grade: 11-12

PR: KCC qualifying  
placement score and one Growth  
and Development course

### 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

## Fashion and Sewing / Creative Sewing

FAM220  
Grade: 10-12  
PR: None

## Interior Design

FAM240  
Grade: 9-12  
PR: None

## Advanced Sewing

FAM250  
Grade: 10-12  
PR: Creative Sewing

## 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.

---

### **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.

### **Fashion and Sewing / 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 hands-on project based course. Various tools and equipment will be used to produce a variety of projects. Students will also examine their personal style, apply design principles to clothing and learn about careers in the fashion 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.

### Advanced Sewing

Course #: FAM250  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Fashion & Sewing/  
 Creative Sewing with  
 grade of B or better

**Considerations:** This is an advanced level, project-based class for independent sewers.

**Course Description:** Students in this class will increase sewing machine skills by creating multiple projects with minimal instructor assistance. Also, students will explore other textile production methods such as embroidery, knitting, dyeing, and weaving.

### ProStart One

Course #: FAM300  
 Grade Level: 9 - 12  
 Credits: 10  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: Culinary Basics

**Considerations:** Kirkwood Credits upon completion of ProStart program

**Course Description:** Topics addressed in ProStart One include successful customer relations, food safety, workplace safety, kitchen basics, foodservice equipment, communication, workplace ethics, and careers in the hospitality and tourism industry. Food preparation labs will include the following foods: stocks, soups, sauces, fruits, vegetables, potatoes, and grains.

### ProStart Two

Course #: FAM400  
 Grade Level: 10 - 12  
 Credits: 10  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: Culinary Basics, ProStart One, ProStart Internship (ongoing)

**Considerations:** Kirkwood credits earned upon completion of ProStart program

#### **Course Description:**

Topics include sustainability in the food service industry and global cuisine in America, Europe, the Mediterranean, the Middle East, and in Asia with an emphasis on nutrition and cost control. Food preparation labs will include the following: breakfast foods and sandwiches, salads, garnishing, meat, poultry, seafood, desserts, and baked goods.

### Human Growth and Development

Course #: FAM440  
 Grade Level: 10-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: none

**Considerations:** This is a general comprehensive course of human development. This course combines the two previously taught courses of Child Development and Parenting. Relevant career paths include education, child care, nursing, counseling, therapy, social work, public health, and other service-related fields.

**Course Description:** This course explores the different stages of human life- Prenatal, Infancy, Childhood, Adolescence, and Adulthood. Developmental milestones and major life events of an individual will be examined. This course provides an opportunity to interact with children of various ages to learn about will be practiced.



### KCC Child Growth and Development



Course #: FAM425  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: KCC qualifying placement score

**Considerations:** This is a concurrent course with Kirkwood Community College and is encouraged for those considering careers in education, social work, nursing, therapy, psychology, coaching etc. It is recommended to have taken Human Growth and Development as a foundation but is not required. This is the first course necessary to obtain the Para-Educator Generalist Certification. The second course is Exploring Teaching and the third course is Behavior Management-online.

**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.

### KCC Exploring Teaching



Course #: FAM450  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Human Growth and Development or KCC Child Growth and Development

**Considerations:** This is a concurrent course with Kirkwood Community College and is recommended for those considering careers in education. This is the second course necessary to obtain the Para-Educator Generalist Certification. The third course is Behavior Management.

**Course Description:** This class will promote understanding of the teaching and learning process. Students will be given an introduction to the activities and concerns of beginning teachers. The focus is on developing the skills, knowledge and attitude that will be needed to teach in elementary and secondary classrooms. Microteachings are utilized to simulate actual teaching situations and common teaching problems are discussed through case studies.

### KCC Behavior Management



Course #: FAM460  
 Grade Level: 11-12  
 Credits: 5  
 Length: 1 Quarter  
 Format: Block  
 Prerequisite: Human Growth and Development or KCC Child Growth and Development

**Considerations:** This is a concurrent course with Kirkwood Community College and is recommended for those considering careers in the education field or working with individuals with specific behavior needs. This course is necessary to obtain the Para-Educator Generalist Certification.

**Course Description:** This course develops skills of observation and management of the behavior of others individually and in groups. Students will gain an understanding about the purpose of behavior and will develop strategies necessary to successfully correct and manage behavior. This course meets part of the requirement for the Para-Educator Generalist Certification.

### ProStart Internship

Course #: BUS440  
 Grade Level: 10 - 12  
 Credits: 20  
 Length: 1 Semester  
 Format: Block  
 Prerequisite: Culinary Basics and ProStart One

**Considerations:** Kirkwood credits earned upon completion of ProStart program

**Course Description:** Should be taken between ProStart One and ProStart Two. Must be taken if interested in Kirkwood Community College credit. While classroom experience is necessary to learn the foundational culinary and management skills, nothing beats real-life experience gained by working in the industry. Students must have a minimum of 400 hours of paid work experience. They must complete 52 of 75 competencies from the Student Work Experience Checklist, to be determined by employers.

# 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	Health I
Advanced US History 9	Interior Design
Agricultural Business Foundations	Introductory Psychology
Algebra 2A	Physics I
Anatomy & Physiology	PLTW Computer Science A (CSA)
Applied Chemistry and Physics	PLTW Computer Science Principles (CSP)
Astronomy	Principles of Ag Science - Animal
Contemporary Literature	Sociology
Creative Writing	Spanish III and IV
Digital Photography	Speech
Earth Science	US History 9
English III	Work Experience - Yearbook
French I, II, III, and IV	World History
General Biology	

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.

## **Online Learning**

Linn-Mar Online Learning courses take one of two forms, delivered and conducted online through Schoology or delivered and conducted online through Edmentum®. Students will not attend a class during a set time (asynchronous learning). Students will work online while teachers assign and check work digitally.

Students will be expected to meet requirements for course material, discussions, and activities beginning on and completed by communicated dates. Course standards and expectations will be similar if not the same as Traditional or Blended Learning courses.

## Linn-Mar Program of Studies

**Schoology** Online Learning courses for 2022 – 2023 include Composition I, Composition II, and Personal Finance.

**Edmentum**® Online Learning courses include Personal Finance, Health I, Government, and a variety of electives in several additional content areas. Fully online students may use Edmentum® coursework to meet LMCS D established graduation requirements. Students not fully online may use Edmentum® coursework to meet Health I, Personal Finance, and Government graduation requirements. Students not fully online may not use Edmentum® coursework to replace additional core graduation requirements with administrative approval. See page 108 for a listing of Edmentum® offerings available to Linn-Mar High School students.

Additional Online offerings may be communicated after initial publication of the Program of Studies.

### **Virtual Learning**

Virtual Learning courses will mirror online learning in many ways. At Linn-Mar, the distinction between online learning and virtual learning is that virtual learning will require virtual attendance (for digital group interaction) at set times throughout the term, while online learning will not.

Government is offered as a Virtual Learning course for 2022 – 2023. Additional Virtual offerings may be communicated after initial publication of the Program of Studies.

### **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.



# Course Catalog



## Linn-Mar High School Edmentum Online Offering

### Art

Art History & Appreciation  
Art in World Cultures

### Career & Technical Education

3D Modeling Ia: Introduction  
Animation Ia: Introduction  
Animation Ib: Animating Your Creativity!  
Artificial Intelligence  
Biotechnology Ia: Introduction  
Biotechnology Ib: Unlocking Nature's Secrets  
Careers in Criminal Justice Ia: Introduction  
Careers in Criminal Justice Ib: Finding Your Specialty  
Criminology: Inside the Criminal Mind  
Cybersecurity Ia: Foundations  
Cybersecurity Ib: Defense Against Threats  
Fashion Design  
Law & Order: Introduction to Legal Studies  
Manufacturing: Product Design and Innovation  
Renewable Technologies: Introduction  
Robotics I A/B  
Sports and Entertainment Marketing  
Theater, Cinema, and Film Production Ia: Introduction  
Theater, Cinema, and Film Production Ib: Lights, Camera, Action!

### Business

International Business: Global Commerce in the 21st Century  
Personal and Family Finance

### Electives

Anthropology 1: Uncovering Human Mysteries  
Anthropology 2: More Human Mysteries Uncovered  
Archaeology: Detectives of the Past  
Music Appreciation: The Enjoyment of Listening  
Philosophy: The Big Picture  
Women's Studies: A Personal Journey Through Film  
World Religions: Exploring Diversity

### English

Gothic Literature: Monster Stories  
Mythology and Folklore: Legendary Tales  
The Lord of the Rings: An Exploration of the Films and Their Literary Influences

### Health & PE

Health  
Nutrition and Wellness

### Math

Consumer Mathematics  
Financial Mathematics A/B

### Science

Forensic Science 1: Secrets of the Dead  
Forensic Science 2: More Secrets of the Dead  
Forensics: The Science of Crime  
Foundations of Green Energy  
Great Minds in Science: Ideas for a New Generation  
Marine Science: Secrets of the Blue

### Social Studies

African American History  
Contemporary World A/B  
History of the Holocaust  
Human Geography: Our Global Identity  
World Geography A/B

### World Languages

American Sign Language Ia  
American Sign Language Ib  
American Sign Language 2a  
American Sign Language 2b  
American Sign Language 3a: Community and Culture  
American Sign Language 3b: Conversations and Culture  
Chinese 1 A/B (EdOptions Academy Only)  
Chinese 2 A/B (EdOptions Academy Only)  
German 1 A/B  
German 2 A/B  
Latin 1 A/B (EdOptions Academy Only)  
Latin 2 A/B (EdOptions Academy Only)

## 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. Current extension offerings include the Linn-Mar project-based learning program **Venture Academics**, **Project Lead the Way (PLTW)** program, and, for those students identified for inclusion, 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)
- Principles of Biomedical Science (PBS)
- 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)

**Venture Academics** is a project-based learning program designed to provide real-world context for learning. Students participate in the Venture program for one-half day of one semester at a time earning valuable required and elective course credit through authentic experience.

### **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 Advanced US History 9 and Advanced 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.



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

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

**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.

### **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.

### Digital Electronics (DE)

Course #: IND620  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra



**Considerations:** It is recommended to have had Introduction to Engineering Design or Principles of Engineering before taking this class. This course articulates credit with Kirkwood Community College

**Course Description:** This course studies 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.

### 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.

### 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.



### 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

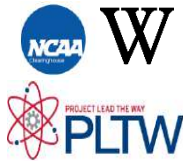


**Considerations:** Students who want a beginner level computer science experience should take Computer Science Essentials (CSE) as their first course. Academically motivated / confident students or students with a bit of prior programming experience may choose to skip CSE and register for CSP.

**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.

### **Advanced Placement 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:** CSA students will learn fundamentals of the Java programming language and continue on to object oriented programming. Students develop skills in solving computational problems, writing algorithms, testing code, and processing data.

### **Aerospace Engineering (AE)**

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



**Considerations:** It is recommended that students have prior experience with Autodesk Inventor.

**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: Any two PLTW Engineering courses.



**Considerations:** EDD is a culminating capstone course. In order to have a solid foundation for this course, students need successful completion of the prerequisites of any two PLTW engineering courses which include: Introduction to Engineering Design, 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.

### **Environmental Sustainability**

Course #: SCI620  
 Grade Level: 10-12  
 Credits: 10  
 Length: 2 Quarters  
 Format: Block  
 Prerequisite: Algebra AND  
 General Biology



**Considerations:** See prerequisites. This is a 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.

### **PLTW Principles of Biomedical Science**

Course #: HPE600  
 Grade Level: 10-12  
 Credits: 10 credits  
 Length: 1 Semester  
 Format: SuperBlock  
 Prerequisite: Health I, General Biology



**Considerations:** This is a Project Lead the Way course provided only through Venture Academics. There is no standalone section.

**Course Description:** From design and data analysis to outbreaks, clinical empathy, health promotion, and more, students explore the vast range of careers in biomedical sciences. They develop not just technical skills, but also in-demand, transportable skills that they need to thrive in life and career.

In this course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, to tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems.



Linn-Mar High School strives to offer a variety of learning paths for students. Venture Academics is the newest addition to our comprehensive program. The goal of Venture Academics is to teach students high school coursework with a strong project component. Students will learn to apply what they are learning to real world applications and develop strong 21st century skills, such as problem-solving, critical thinking, creativity, time management, and the ability to work collaboratively. We build connections with local businesses and professionals for the purpose of students working on projects for businesses, being mentored, and gaining exposure to businesses and careers in this area.

Learning is offered in 10 project-based strands composed of several courses offered at LMHS.

### **BEHAVIORAL SCIENCE**

SOC330 SOCIOLOGY  
SOC340 INTRODUCTORY PSYCHOLOGY  
VENTURE BEHAVIORAL SCIENCE

### **CIVICS**

SOC320 LAW AND THE CONSTITUTION  
SOC400 GOVERNMENT  
SOC701 VENTURE GOVERNMENT AND LAW

### **BUSINESS FOUNDATIONS**

BUS120 INTRODUCTION TO BUSINESS  
BUS355 MARKETING  
BUS701 VENTURE BUSINESS FOUNDATIONS

### **ADVANCED BUSINESS**

BUS360 DIGITAL MARKETING  
BUS460 ENTREPRENEURSHIP  
BUS702 VENTURE ADVANCED BUSINESS

### **EARTH SCIENCE**

SCI125 EARTH SCIENCE  
SCI701 VENTURE EARTH SCIENCE

### **BIOMEDICAL SCIENCE**

HPE600 PLTW PRINCIPLES OF BIOMEDICAL SCIENCE  
HPE702 VENTURE BIOMEDICAL SCIENCE

### **LIFE SCIENCE**

SCI210 GENERAL BIOLOGY  
SCI702 VENTURE LIFE SCIENCE

### **ENGLISH**

ENG315J ENGLISH III  
ENG702 VENTURE ENGLISH

### **DIGITAL DESIGN AND COMMUNICATION**

ART400B DIGITAL PHOTOGRAPHY  
ART410 GRAPHICS ONE  
ART420 GRAPHICS TWO  
ART701 VENTURE DIGITAL DESIGN AND COMMUNICATION

### **ENVIRONMENTAL SCIENCE**

SCI541 AP ENVIRONMENTAL SCIENCE 1  
SCI542 AP ENVIRONMENTAL SCIENCE 2  
SCI703 VENTURE ENVIRONMENTAL SCIENCE

- EACH STRAND EARNS 20 CREDITS FOR INDIVIDUAL EMBEDDED COURSES
- ALL STRANDS OTHER THAN ENVIRONMENTAL SCIENCE AND DIGITAL DESIGN AND COMMUNICATIONS EARNS ENG120/390 RHETORIC OR COMMUNICATIONS CREDIT
- FIRST YEAR VENTURE STUDENTS EARN RHETORIC CREDIT
- SECOND YEAR VENTURE STUDENTS EARN COMMUNICATIONS CREDIT

Each strand will include complementary coursework totaling 15 content-area credits and 5 project-work credits. Projects will often be supported by community partners.

Students will attend to strand learning in semester-long, half-day blocks of time. A sample schedule is shown below:

A day in the life of a Venture student...

	Super Block AM				Super Block PM			
	Block 1		Block 2		Block 3		Block 4	
	P1	P2	P3	P4	P5	P6	P7	P8
Q1	Fundamentals of Lifetime Fitness		Earth and Space Science		Symphonic Winds	Algebra 2B	English II	
Q2	Woods: Materials and Processes							
Q3	VENTURE Business Foundations - Introduction to Business, Marketing, Communications, Venture Project						Sociology	
Q4							Construction II	

Students work to meet content objectives through projects similar to the examples below. (Listing provides only a sample of possibilities; projects will vary by project team.)

#### Advanced Business –

- Design, build, license, and market an innovative new product that solves a problem.
- Research successful entrepreneurs. Apply identified skills and processes entrepreneurs use to create success to a personal business venture.

#### Behavioral Science –

- Work with local government and non-profit organizations to explore the social constructs/ institutions that dominate American culture.
- Journal and reflect on terms/ideas of personality development, individual roles within society, and social norms, and publish findings.

#### Business Foundations –

- Work with a local business to create and execute a marketing plan to increase sales of existing products.
- Collaborate with local businesses. Review business plans and assist with refinement and execution of modifications.

Digital Design and Communication –

- Acquire advanced understanding and application of industry standard design tools through project-based learning. Utilize conventional design aesthetics and processes to visually engage and communicate. Experience relevant job roles and responsibilities including idea conceptualization, design, communication, collaboration, and project implementation.

Earth Science –

- Create or improve a process for energy capture and conversion for carbon-free power.
- Earth Science – Research the Iowa Department of Agriculture’s Mines and Minerals Bureau to learn about abandoned mined (coal) land reclamation in the State. Educate the public about restoration of abandoned mining sites.

English –

- Influence a cause about which you are passionate through serial publication of persuasive writing.
- Writing – Work with a local business or government agency to provide research on a topic of mutual interest. Write formally and informally to communicate findings to business and community.

Environmental Science –

- Monitor the level of contaminants in area waterways. Develop and implement methods to decrease pollutants through the natural filtering of run-off.
- Design, build, and test a reinvention or innovation for a material that is typically discarded at the end of its use.

Government and Law –

- Analyze current methods of political polling, hypothesize improvements, recreate, and pilot a new system to improve polling accuracy.
- Prepare for and participate in a mock Constitutional Convention to debate and clarify our Bill of Rights.

Health –

- Collect information, analyze, and form factual generalizations about local diet. Use the information to educate residents about community dietary health.
- Create and deliver a public service campaign on the dangers of specific substance use and abuse.

Life Science –

- Prepare and perform a study on a local ecosystem. Collect and present data on changes to the ecosystem over time.
- Research examples of natural selection and adaptation. Prepare a presentation describing the influence of genetic variation and survival on the population of species.


Venture learning projects will emphasize the Iowa Core Universal Constructs of Critical Thinking, Collaboration, Complex Communication, Flexibility and Adaptability, Creativity, and Productivity and Accountability.



## LMHS Talented and Gifted




### **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.


### **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:	10	
Length:	1-2 Semesters	
Prerequisite:	Instructor Approval	

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

**Course Description:** Independent study options are limited to AP MACROECONOMICS and AP ENGLISH LANGUAGE AND COMPOSITION. Courses are offered through the Iowa Online AP Academy. You need at least one skinny in your schedule. Limited enrollment.

# Linn-Mar Capstone Options

**Linn-Mar  
Capstone  
Courses**

**Career  
Immersion**

## **Linn-Mar Capstone Courses**

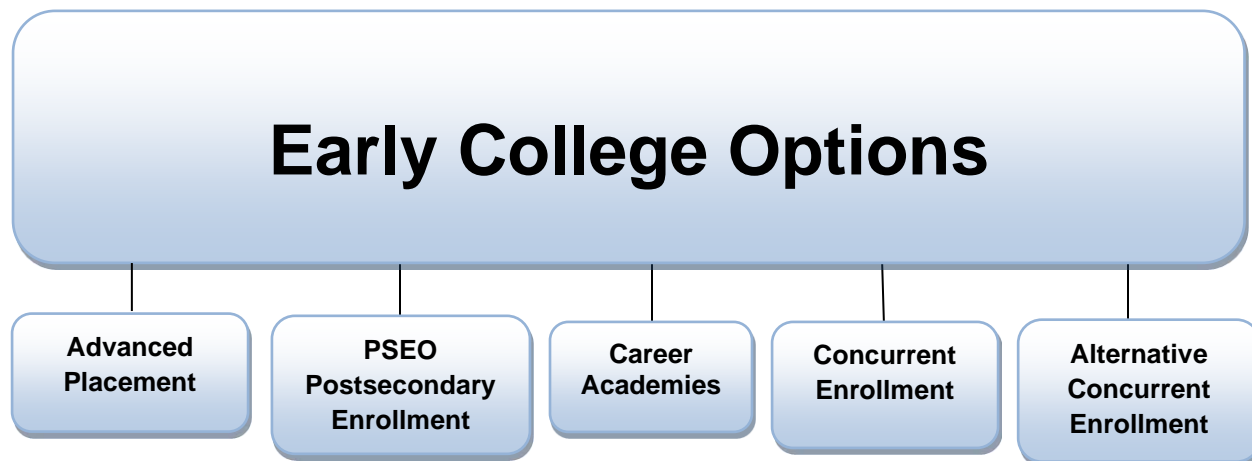
A “capstone” experience is an in-school immersion into the actual work environment of a particular job/subject area. These application opportunities allow a student to be trained in the specific skills of a particular work environment, as well as to be provided with experience in the career area. The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

- Building Trades
- LM Store
- ProStart I & II
- 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.





### **Advanced Placement**

Linn-Mar High School offers Advanced Placement (AP) courses in Art History, Calculus (AB and BC), Statistics, Biology, Chemistry, Environmental Science, Physics (1 & 2), Computer Science A, English Literature and Composition, French, 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.

### **Career Academies**

Career 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 with Robotics and Welding
- Architecture, Construction, and Engineering (ACE)
- Automotive Collision Repair and Restoration
- Automotive Technology
- CAD/Mechanical Engineering Technology
- Criminal Justice
- Dental
- Emergency Medical Technician (EMT) and Fire Science
- Patient Care Exploration
- Pre-Med, Nursing, and Professional Health Careers
- Technology Career Academy

### **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.

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 28E 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:

Behavior Management	Environmental Sustainability
Childhood Growth and Development	Exploring Teaching
Civil Engineering and Architectural Design	Intermediate Spanish I
Composition I	Intermediate Spanish II
Composition II	Intro to Engineering Design
Computer Integrated Manufacturing	Mathematics and Society
Computer Science Principles	Principles of Engineering
Digital Electronics	

### **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 or online:

American Sign Language I, II, III, IV	Introduction to Sociology
Art Appreciation	Marriage and Family
Calculus III	Mass Media
Criminal Investigations	Medical Terminology
Cultural Anthropology	Music Fundamentals
Encounters in Humanities	Nurse Aide
Exploring Health Careers	Nutrition
Fundamentals of Oral Communication	Personal Finance
Holocaust/Genocide: Mem & Lit	Police and Society
How College Works	Popular Culture
Human Anatomy I	Principles of Macroeconomics
Human Anatomy II	Professionals in Health
Human Relations in Management	Project Management Basics
Intro to 3D Printing	Social Problems
Intro to Parametric Solid Modeling	Survey of World Religions
Intro to Criminal Justice	Topics in Education
Introduction to Business	US History Since 1877
Introduction to Ethics	US History to 1877
Intro to Human Services	Working in America

# 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.

---

### **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.

---

### **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.

### **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.

### **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.

---

### **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 or BUS110E  
 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.

---

### **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.

---

### **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.

---

## **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

# Career and Technical Education Service Areas and Career Clusters

## **Agricultural, Food, and Natural Resources**

Agricultural, Food, & Natural Resources.....p. 135

## **Applied Science, Technology, Engineering, and Manufacturing**

Architecture.....p. 136

Manufacturing.....p. 147

Science, Technology, Engineering & Math.....p. 150

Transportation.....p. 149

## **Arts, Communication, and Information Systems**

Arts.....p. 137

Information Technology.....p. 145

## **Business, Finance, Marketing, and Management**

Business, Management, and Administration.....p. 138

Finance.....p. 140

Marketing.....p. 148

## **Health Science**

Health Sciences.....p. 141

## **Human Services**

Education and Training.....p. 139

Human Services.....p. 144

Hospitality and Tourism.....p. 143

Government and Public Administration.....p. 142

Law, Public Safety, Corrections, and Security.....p. 146



2022-2023

## Career Pathway: Agriculture



A career in agriculture, food, and natural resources requires certain skills and education depending on job requirements. Skills include promotion, processing, marketing, distribution, financing, and development of agricultural commodities including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

### Exposure Pathways

#### High School Courses

Introduction to Ag., Food & Nat. Resources	Food Science & Safety
Aquaculture Science	Animal & Plant Biotechnology
Principles of Ag. Science-Animal	Ag. Business Foundations
Principles of Ag. Science-Plant	Ag. Research & Development
Natural Resources & Ecology	AP Environmental Science
Environmental Science Issues	Environmental Sustainability

#### High School Clubs & Organizations

FFA

#### Venture Academics

Venture Environmental Science (AP Environmental Science, Venture)

Venture Earth Science (Earth Science, Rhetoric/Communications, Venture)

#### Job Shadows & Internships

Ag Mechanic	Landscaper
Agriculture Sales	Microbiologist
Agronomist	Naturalist
Botanist	Veterinarian Tech
Conservationist	Wastewater Mngt.
Floral Designer	Park Ranger
Geologist	Pet Groomer
Golf Course & Turfgrass Management	Veterinarian
GPS/GIS Specialist - Agriculture	



Learn more &amp; apply

### Pursuit Pathways

#### Certificates/Diplomas

Ag Production	Water Environmental Technology
Pet Grooming	Water Treatment Specialist
Golf Course & Athletic Turfgrass Mgmt	Wastewater Specialist
Veterinary Asst	Ag Geospatial Technology
Animal control Asst	Water Environmental Technology
Landscape Construction & Design	

#### Careers & Median Salary Information

Animal Care Worker \$54,000	Recycling Coordinator \$56,000
Food Science Technician \$46,000	Geothermal Technician \$38,000
Agricultural Inspector \$45,000	Heavy Equipment Mechanic: \$51,000

#### Associate Degrees

Ag Geospatial Technology	Veterinary Technology
Ag Business	Humane Officer
Ag Production Mgmt	Landscape Construction & Design
Diesel Ag Technology	Parks & Natural Resources
Golf Course & Athletic Turfgrass Mgmt	Water Environmental Technology

#### Careers & Median Salary Information

Veterinary Technologist \$33,500	Chemical Technician \$41,500
Landscaping & Groundskeeping \$40,100	

#### Bachelor Degrees

Environmental Studies
Food Science
Animal Science

#### Careers & Median Salary Information

Food Scientist \$62,500	Greenhouse Manager \$42,000
Aquacultural Manager \$42,000	Environmental Scientist \$68,000



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023



## Career Pathway: *Architecture*



A career in architecture and construction requires certain skills and education depending on job requirements. Skills include designing, planning, managing, building, and maintaining the built environment.

### Exposure Pathways

#### High School Courses

Mechanical Drawing	Metals
Residential Construction 1	Building Trades
Residential Construction 2	PLTW Civil Engineering & Architect
Woods	Design
Cabinetmaking	Interior Design

#### High School Clubs & Organizations

Robotics      Femineers

#### Job Shadows & Internships

Civil Engineer	Project Engineer
Construction	Project Management
Pre-Fabrication	CAD Design
Architecture	



[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

Civil Engineering and Architectural Design

#### Kirkwood Career Academies

[Architecture, Construction & Engineering \(ACE\) Academy](#)

### Pursuit Pathways

#### Certificates/Diplomas

CAD/Mechanical Engineering Tech.	Construction Estimator
Carpentry	Construction Supervision Certificate
HVAC Installer	
Plumbing Pre-Apprenticeship	



#### Careers & Median Salary Information

Solar Energy Installation \$60,000	Pipe Fitter & Steamfitter \$55,700
Plumber \$55,700	Crane Operator \$53,600

#### Associate Degrees

Architecture Technology	Construction Management
CAD/Mechanical Engineering Tech.	Interior Design



#### Careers & Median Salary Information

Electronic Drafter \$57,000	Survey Technician \$51,000
Mechanical Drafting \$54,000	

#### Bachelor Degrees

Architecture	Industrial Engineer
Civil Engineering	Construction Management
Industrial Design	



#### Careers & Median Salary Information

Commercial & Industrial Designer \$60,000	Commercial Designer \$60,000
Surveyor \$54,500	Landscape Architect \$46,700



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region



2022-2023

# Career Pathway: Arts, Audio/Visual Technology, and Communications



A career in arts, audio/visual technology and communications requires certain skills and education depending on job requirements. Skills include designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

## Exposure Pathways

### High School Courses

Design: Art Basics	Drawing in Style	Fashion & Sewing
Beginning Painting	Exploration in Ceramic	Advanced Sewing
Beginning Drawing	Technique	Journalism
Beginning Ceramics	Digital Photography	Creative Writing
3-D Mixed Media	Graphics One	College Grammar
Expressive Drawing	Graphics Two	Intro to College Writing
Construction in Clay	Advanced Art	Speech
2-D Mixed Media	Interior Design	Acting

### High School Clubs & Organizations

Art Club	Student Newspaper
Anime Club	LMTV
Yearbook	

### Venture Academics

Venture Digital Design & Communications (Graphics One, Graphics Two, Digital Photography, Venture)  
 Venture English (English III, Rhetoric/Communications, Venture)

### Job Shadows & Internships

Graphic Designer	Photography
Events Assistant	News & Broadcast
Production Assistant	Radio
Marketing	Writing
Sports	Community Engagement

[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

Art Appreciation	Fundamentals of Oral Comm.
Composition 1	Mass Media
Composition 2	

## Pursuit Pathways

### Certificates/Diplomas

Social Media Marketing	Web Design
Web Development	

### Careers & Median Salary Information

Fine Artist \$19,200	Floral Designer \$26,000
Broadcast Technician \$31,660	Printing Press Operator \$32,700

### Associate Degrees

Graphic Communication Technology	Web Design
Web Development	

### Careers & Median Salary Information

Desktop Publisher \$40,000	Camera Operator \$28,800
Fashion Designer \$41,220	

### Bachelor Degrees

Broadcasting	Theater
English	

### Careers & Median Salary Information

Proofreader \$24,500	Talent Director \$42,500
Stage Director \$42,500	Editor \$41,200



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023



## Career Pathway: *Business Management*



A career in business management and administration requires certain skills and education depending on job requirements. Skills include planning, organizing, directing, and evaluating business functions essential to productive business operations.

### Exposure Pathways

#### High School Courses

Accounting	Marketing
Advanced Accounting	Business/Consumer Law
theROARstore	Entrepreneurship
Introduction to Business	Agriculture Business Foundations
Economics	

#### High School Clubs & Organizations

FBLA (Future Business Leaders of America)  
Student Council

#### Venture Academics

Venture Business Foundations (Intro to Business, Marketing, Rhetoric/Communications, Venture)  
Venture Advanced Business (Digital Design, Entrepreneurship, Rhetoric/Communications, Venture)

#### Job Shadows & Internships

Business Management	Operations
Clerical Assistant	Publications
Hockey Operations	Safety & Loss
Hospital Administration	Administrative
Human Resources	Business Development
Marketing	



Learn more & apply

### Experience Pathways

#### College CTE Courses in High School

Introduction to Business  
Human Relations in Management

### Pursuit Pathways

#### Certificates/Diplomas

Office Assistant	Entrepreneurship
Medical Coding	Human Resources
Medical Transcription	Project Management
Technical Accounting	Medical Transcription
Global Perspectives in Business	



#### Careers & Median Salary Information

Admin. Assistant \$35,800	Tax Preparer \$38,300
Data Entry \$32,500	Bookkeeping \$37,800
Payroll Clerk \$42,100	

#### Associate Degrees

Business Admin.: Accounting	Administrative Management
Business Admin.: Financial Services	Health Information Technology
Business Admin.: Management	Business Admin. w/ Transfer Option



#### Careers & Median Salary Information

Executive Secretary \$50,000	Legal Secretary \$35,900
---------------------------------	-----------------------------

#### Bachelor Degrees

Business	Business Management
Business Administration	Human Resources
Business Information Systems	



#### Careers & Median Salary Information

Marketing Manager \$91,600	Technical Writer \$57,300
Search Marketing Strategist \$71,300	Human Resources Manager \$95,700



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023



## Career Pathway: *Education & Training*



A career in education and training requires certain skills and education depending on job requirements. Skills include planning, managing, and providing education and training service, and related learning support services.

### Exposure Pathways

#### High School Courses

Human Growth and Development	KCC Child Growth and Development
Introductory Psychology	Exploring Teaching
AP Psychology	

#### High School Clubs & Organizations

LM Buddies	TRY (Teens Reaching Youth)
Ok Without Drugs and Alcohol	Student Ambassadors

#### Venture Academics

Venture Behavioral Science (Intro to Psychology, Sociology, Rhetoric/Communications, Venture)

#### Job Shadows & Internships

Counselor	Librarian
Child Development Specialist	Teacher & Classroom Assistant
High School Athletic Director	Youth Ministry
Hockey Assistant Coaching	Tutorial Admin. Assistant



[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

KCC Child Growth and Development	Intro to Human Services
Exploring Teaching	Behavior Management

### Pursuit Pathways

#### Certificates/Diplomas

Early Childhood Paraeducator	Early Childhood Education
------------------------------	---------------------------

#### Careers & Median Salary Information

Library Assistant \$22,400	Special Education Teacher \$44,400
Vocational Education Teacher \$73,150	Teacher Assistant \$26,400

#### Associate Degrees

Early Childhood Education	Liberal Arts: Ed. w/ Transfer Option
Exercise Science and Wellness	

#### Careers & Median Salary Information

Education Administrator,  
Preschool & Childcare Center  
\$31,200

#### Bachelor Degrees

Elementary Education	Organizational Leadership
Secondary Education	Athletic Training

#### Careers & Median Salary Information

Kindergarten Teacher \$63,100	Special Education Teacher \$57,300
Physical Education Teacher \$59,400	Middle School Teacher \$55,400



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region



2022-2023

## Career Pathway: *Finance*



A career in finance requires certain skills and education depending on job requirements. Skills include planning services for financial and investment planning, banking, insurance, and business financial management.

### Exposure Pathways

#### High School Courses

Personal Finance	Marketing
Accounting	Business/Consumer Law
Advanced Accounting	Entrepreneurship
Economics	Agriculture Business Foundations
AP Microeconomics	Introduction to Business
The ROAR store	

#### Venture Academics

Venture Business Foundations  
(Intro to Business, Marketing, Rhetoric/Communications, Venture)

Venture Advanced Business  
(Digital Design, Entrepreneurship, Rhetoric/Communications, Venture)

#### Job Shadows & Internships

Accounting	Finance & Sales
Finance	<a href="#">? Learn more &amp; apply</a>

#### High School Clubs & Organizations

FBLA (Future Business Leaders of America)

### Experience Pathways

#### College CTE Courses in High School

Mathematics and Society

### Pursuit Pathways

#### Certificates/Diplomas

Technical Accounting

#### Careers & Median Salary Information

Statement Clerk \$40,200	Loan Counselor \$33,000
Bill & Account Collector \$36,000	Bank Teller \$28,200

#### Associate Degrees

Business Administration: Accounting

Business Administration: Financial Services

#### Careers & Median Salary Information

Insurance Appraiser  
\$34,200

#### Bachelor Degrees

Accounting

Finance

Financial Counseling and Planning

#### Careers & Median Salary Information

Financial Analyst \$73,800	Budget Analyst \$70,300
Financial Examiner \$73,000	Actuary \$83,800



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023



## Career Pathway: *Health Sciences*



A career in health sciences requires certain skills and education depending on job requirements. Skills include planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

### Exposure Pathways

#### High School Courses

Anatomy & Physiology	Chemistry I	Health II
General Biology	AP Biology	
Physics	AP Chemistry	

#### High School Clubs & Organizations

HOSA	Science Club
Red Cross Club	

#### Venture Academics

Venture Health (PLTW Principles of Biomedical Science, Rhetoric/Communications, Venture)

#### Job Shadows & Internships

Chiropractic & Wellness	Oncology
Nursing	Optician
Dental	Physical Therapy
Dietary	Personal Trainer
Dermatology	Radiology
Occupational Therapy	Physician Assistant



[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

Human Anatomy I	Nutrition
Human Anatomy II	Medical Terminology

#### Kirkwood Career Academies

[Emergency Medical Tech.\(EMT\)](#) [Pre-Prof. Health Careers Academy](#)  
[Patient Care Academy](#)  
[Pharmacy Technician Academy](#)

### Pursuit Pathways

#### Certificates/Diplomas

Dental Assisting	Pharmacy Technician
Medical Coding	Surgical Technology
Medical Assisting	Medical Transcription
Medical Transcription	Nurse Aide
Practical Nursing (LPN)	EMT

#### Careers & Median Salary Information

Licensed Practical & Licensed Vocational Nurse	Dental Lab Tech
\$42,100	\$41,200
Ophthalmic Medical Tech	Dental Assistant
\$41,500	\$40,300

#### Associate Degrees

Dental Assisting	Exercise Science & Wellness	Occupational Therapy
Dental Hygiene	Health Information Tech.	Paramedic
Dental Technology	Medical Assisting	Physical Therapy Assistant
Diagnostic Assistant (Rad. Tech.)	Medical Laboratory Tech.	Respiratory Therapist
Electroneurodiagnostic Tech.	Associate Degree Nursing, RN	Surgical Technology

#### Careers & Median Salary Inf.

Dental Hygienist	Registered Nurse
\$69,100	\$69,100
Diagnostic Medical Sonographer	Histotechnologist
\$62,800	\$48,400

#### Bachelor Degrees

Biology	Culinary Food Science,
Dietetics	Diet and Exercise
Healthcare Administration	Food Science & Global Health Studies
Nursing	

#### Careers & Median Salary Information

Clinical Research Coordinator	Natural Science Manager
\$111,800	\$111,700
Clinical Data Manager	Recreational Therapist
\$65,200	\$52,200



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region



2022-2023

## Career Pathway: Government



A career in government and public administration requires certain skills and education depending on job requirements. Skills include planning and performing government functions at the local, state, and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

### Exposure Pathways

#### High School Courses

Law and Constitution	AP Comparative Government
Government	Business/Consumer Law
AP Government	

#### Job Shadows & Internships

City Clerk	Presidential Campaign
Congressional Campaign	Civil Rights



#### High School Clubs & Organizations

Young Democrats	Model UN
Young Republicans	

### Experience Pathways

#### College CTE Courses in High School

Introduction to Criminal Justice	Social Problems
----------------------------------	-----------------

#### Venture Academics

Venture Civics (Government, Law & the Constitution, Rhetoric/Communications, Venture)

### Pursuit Pathways

#### Certificates/Diplomas

Office Assistant
------------------



#### Careers & Median Salary Information

Administrative Service Manager	Postmaster
\$83,900	\$49,900
Postal Service Mail Carrier	Meter Reader
\$50,000	\$36,000

#### Associate Degrees

Business Administration	Administrative Management
Business Administration: Management	Water Environmental Technology



#### Careers & Median Salary Information

Assessor
\$73,200

#### Bachelor Degrees

Urban Planning	Accounting
Public Administration	



#### Careers & Median Salary Information

Statistical Assistant	Legislator
\$51,100	\$22,100
Social and Community Service Manager	Financial Examiner
\$54,300	\$72,900



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023



## Career Pathway: *Hospitality & Tourism*



A career in hospitality and tourism requires certain skills and education depending on job requirements. Skills include management, marketing, and operations of restaurants and other culinary arts services, lodging, attractions, recreation events, and travel related services.

### Exposure Pathways

#### High School Courses

Culinary Basics	ProStart Two
Foundations of Living	Food Science and Safety
ProStart One	

#### Job Shadows & Internships

Cafe Line Cook	Special Events
Chef Assistant	Travel Agent
Cosmetology	



[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

ProStart One	ProStart Two
--------------	--------------

### Pursuit Pathways

#### Certificates/Diplomas

Baking & Pastry Arts	Hospitality Management
----------------------	------------------------



#### Careers & Median Salary Information

Gaming Manager \$57,600	Tour Guide \$28,800
Animal Trainer \$31,500	Hotel, Motel, & Resort Desk Clerk \$21,400

#### Associate Degrees

Culinary Arts	Hospitality Management
---------------	------------------------



#### Careers & Median Salary Information

Travel Agent \$4,700	Chef & Head Cook \$37,000
-------------------------	------------------------------

#### Bachelor Degrees

Hospitality Management	Event Management
Business Administration	



#### Careers & Median Salary Information

Lodging Manager \$36,000	Interpreter & Translator \$35,000
Residential Advisor \$23,800	Meeting, Convention & Event Planner \$42,000



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023

## Career Pathway: *Human Services*



A career in human services requires certain skills and education depending on job requirements. Skills include preparing individuals that relates to family and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

### Exposure Pathways

#### High School Courses

Introductory Psychology	Human Growth and Development
Sociology	KCC Child Growth and Development
AP Psychology	Exploring Teaching

#### Job Shadows & Internships

Activity Coordinator	Therapist Assistant
Event Planning	Waypoint Ambassador
Medical Clinic	Volunteer Coordinator

[Learn more & apply](#)

#### High School Clubs & Organizations

Best Buddies	TRY (Teens Reaching Youth)
SODA (Students Ok Without Drugs and Alcohol)	Student Ambassadors

### Experience Pathways

#### College CTE Courses in High School

Marriage and Family	KCC Child Growth and Dev.
Social Problems	Exploring Teaching
Introductory to Sociology	Behavior Management
Introduction to Criminal Justice	

### Pursuit Pathways

#### Certificates/Diplomas

Early Childhood Paraeducator	Early Childhood Education
------------------------------	---------------------------

#### Careers & Median Salary Information

Preschool Teacher \$26,000	Nanny \$19,300
Childcare Worker \$19,300	Fitness Trainer \$37,700

#### Associate Degrees

Early Childhood Education	Human Services
---------------------------	----------------

#### Careers & Median Salary Information

Funeral Service Manager \$54,000
-------------------------------------

#### Bachelor Degrees

Social Work	Psychology
Elementary Education	

#### Careers & Median Salary Information

Social & Community Service Manager \$54,300	Elementary Teacher \$52,000
Religious Activities & Education \$42,000	Social & Community Service Officer \$54,300



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region



2022-2023



## Career Pathway: *Information Technology*



A career in information technology requires certain skills and education depending on job requirements. Skills include building linkages in IT occupations for entry level, technical and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

### Exposure Pathways

#### High School Courses

<a href="#">PLTW Computer Science Essentials</a>	<a href="#">PLTW Computer Science Applications</a>
<a href="#">PLTW Computer Science Principles</a>	<a href="#">PLTW Digital Electronics</a>

#### High School Clubs & Organizations

<a href="#">Technology Club</a>	<a href="#">Robotics</a>
---------------------------------	--------------------------

#### Job Shadows & Internships

<a href="#">Quality Analyst</a>	<a href="#">Software Development</a>
<a href="#">Computer Technician</a>	<a href="#">Technology Support</a>
<a href="#">Information Tech</a>	<a href="#">Web Development</a>
<a href="#">IT/Help Desk</a>	



[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

<a href="#">PLTW Computer Science Essentials</a>	<a href="#">PLTW Computer Science Applications</a>
<a href="#">PLTW Computer Science Principles</a>	<a href="#">PLTW Digital Electronics</a>

#### Kirkwood Career Academies

[Computer Software Development \(Coding\)](#)

### Pursuit Pathways

#### Certificates/Diplomas

<a href="#">Database Technologies</a>	<a href="#">Web Design</a>
<a href="#">Java Programming</a>	<a href="#">Network Security</a>
<a href="#">Mobile App Development</a>	<a href="#">Network and System Administration</a>
<a href="#">.NET Programming</a>	<a href="#">PC Technician</a>
<a href="#">Healthcare IT Technician</a>	<a href="#">Desktop Customer Service</a>
<a href="#">Web Development</a>	

#### Careers & Median Salary Information

<a href="#">Statement Clerk</a> \$40,200	<a href="#">Loan Counselor</a> \$33,000
<a href="#">Bill &amp; Account Collector</a> \$36,000	<a href="#">Bank Teller</a> \$28,200

#### Associate Degrees

<a href="#">Computer Software Development</a>	<a href="#">Web Technologies</a>
<a href="#">Computer Support Specialist</a>	<a href="#">Network and System Administration</a>
<a href="#">Graphic Communication Technology</a>	

#### Careers & Median Salary Information

[Computer Operator](#)  
\$46,200

#### Bachelor Degrees

<a href="#">Technology</a>	<a href="#">Business Analytics &amp; Information Systems</a>
<a href="#">Technology and Engineering Education</a>	<a href="#">Technical Communication</a>
<a href="#">Technology Management</a>	

#### Careers & Median Salary Information

<a href="#">Computer &amp; Info. Systems Manger</a> \$123,600	<a href="#">Database Administrator</a> \$80,000
<a href="#">Computer Hardware Engineer</a> \$85,600	<a href="#">Software Developer</a> \$88,000



[Explore other Education & Training in the ICR Region](#)



[Explore other Careers in the ICR Region](#)

2022-2023



## Career Pathway: *Law*



A career in law, public safety, corrections, and security requires certain skills and education depending on job requirements. Skills include planning, managing, and providing legal, public safety, protective services, and homeland security, including professional and technical support services.

### Exposure Pathways

#### High School Courses

Government	AP Comparative Government
Law & the Constitution	Sociology
AP American Government	

#### High School Clubs & Organizations

Debate Club	Republicans of Linn-Mar
Democrats of Linn-Mar	Model United Nations

#### Job Shadows & Internships

Legal Administrative Assistant	Receptionist & Security
Legal Support	Safety & Security
Police Officer	



[Learn more & apply](#)

### Experience Pathways

#### College CTE Courses in High School

Introduction to Criminal Justice	Introduction to Sociology
Social Problems	

#### Kirkwood Career Academies

[Emergency Medical Technician](#)

#### Venture Academics

Venture Civics (Government, Law & the Constitution, Rhetoric/Communications, Venture)

### Pursuit Pathways

#### Certificates/Diplomas

Entry-Level Firefighter	Entry-Level Firefighter
Emergency Medical Technician	



#### Careers & Median Salary Information

Legal Secretary \$36,000	Fire Inspector \$70,000
Correctional Officer \$50,700	Fire Fighter \$67,600

#### Associate Degrees

Criminal Justice	Paralegal Studies
Entry-Level Firefighter	Paramedic



#### Careers & Median Salary Information

Paralegal  
\$44,000

#### Bachelor Degrees

Public Health	Linguistics
Criminology	



#### Careers & Median Salary Information

Private Detective \$75,000	Intelligence Analyst \$58,000
Loss Prevention Manager \$63,400	Arbitrator, Mediator & Conciliator \$81,500



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region



2022-2023



## Career Pathway: *Manufacturing*



A career in manufacturing requires certain skills and education depending on job requirements. Skills include planning, managing, and performing the process of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.

### Exposure Pathways

#### High School Courses

PLTW Computer Integrated Man.	PLTW Principles of Engineering
Mechanical Drawing	Woods
Metals	Digital Electronics
PLTW Intro to Engineering	Cabinetmaking

#### Job Shadows & Internships

Welding



[Learn more & apply](#)

#### High School Clubs & Organizations

Robotics

### Experience Pathways

#### College CTE Courses in High School

Introduction to Criminal Justice	Introduction to Sociology
Social Problems	

#### Kirkwood Career Academies

[Advanced Man. with Robotics & Welding](#)

[Energy, Electrical, and Automation Academy](#)

### Pursuit Pathways

#### Certificates/Diplomas

Industrial Robotics Certificate	CAD/Mechanical Engineering Tec.
Entry-Level Welding	HVAC Installer
CNC Machining Technology	Electromechanical Technology
Electronics Engineering Technology	Plumbing Pre-Apprenticeship

#### Careers & Median Salary Information

Radio Mechanic \$77,000	Industrial Machinery Mechanic \$53,300
Elevator Installer \$57,200	Tool and Die Makers \$45,000

#### Associate Degrees

Advanced Manufacturing & Robotics Tech.	Electronics Engineering Tech.
Advanced Welding Tech.	CAD/Mechanical Engineering Tech.
Automation & Instrumentation Tech.	Energy Production & Distribution Tech.
CNC Machining Tech.	Industrial Maintenance

#### Careers & Median Salary Information

Robotic Technician \$49,000	Methane/Landfill Gas Generation System Technicians \$55,000
Computer, Automated Teller, and Office Machine Repairer \$36,000	

#### Bachelor Degrees

Aerospace Engineering	Manufacturing Technology
Mechanical Engineering	

#### Careers & Median Salary Information

Industrial Production Manager \$91,000	Industrial Engineers \$79,000
Quality Control Systems Managers \$91,000	Environmental Engineering Technicians \$41,000



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023



## Career Pathway: *Marketing*



A career in marketing requires certain skills and education depending on job requirements. Skills such as anticipating, planning, managing, and performing marketing activities to reach organizational objectives such as advertising and promotion techniques, business communication, and business development.

### Exposure Pathways

#### High School Courses

Personal Finance	Business/Consumer Law
Accounting	Entrepreneurship
Advanced Accounting	Agriculture Business Foundations
Economics	Graphics One
AP Microeconomics	Graphics Two
theROARstore	Introduction to Business
Marketing	

#### Job Shadows & Internships

Business Development & Event Promotions

Market Research Analyst

Marketing & Communications



[Learn more & apply](#)

#### High School Clubs & Organizations

Future Business Leaders of America

### Experience Pathways

#### College CTE Courses in High School

Introduction to Business

#### Venture Academics

Venture Business Foundations (Intro to Business, Marketing, Rhetoric/Communications, Venture)

Venture Advanced Business (Digital Design, Entrepreneurship, Rhetoric/Communications, Venture)

### Pursuit Pathways

#### Certificates/Diplomas

Retail Marketing	Social Media Marketing
Sales	Office Assistant



#### Careers & Median Salary Information

Demonstrators & Product Promoters	Parts Salespersons
\$24,000	\$34,000
Real Estate Sales Agents	Telemarketers
\$48,000	\$28,600

#### Associate Degrees

Business Administration: Marketing Management	Apparel Merchandising
---	-----------------------



#### Careers & Median Salary Information

Procurement Clerks	Assessors
\$42,000	\$73,000

#### Bachelor Degrees

Marketing	Communication Studies
Advertising and Digital Media	



#### Careers & Median Salary Information

Online Merchants	Sales Engineers
\$59,000	\$87,000
Sales Managers	Appraisers, Real Estate
\$98,000	\$73,000



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region



2022-2023

# Career Pathway: *Transportation*



A career in transportation, distribution, and logistics requires certain skills and education depending on job requirements. Skills include planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistic services, mobile equipment and facility maintenance.

## Exposure Pathways

### High School Courses

Mechanical Drawing  
Metals

### Job Shadows & Internships

Auto Mechanic Assistant      Flight Operations  
Diesel Technician



[Learn more & apply](#)

### High School Clubs & Organizations

Robotics

## Experience Pathways

### Kirkwood Career Academies

[Automotive Technology & Collision Repair](#)

## Pursuit Pathways

### Certificates/Diplomas

Automotive Collision Repair

### Careers & Median Salary Information

Transportation Vehicle, Equipment and Systems Inspectors \$83,000	Cargo and Freight Agents \$33,000 Traffic Technicians \$31,000
Customs Brokers \$59,000	

### Associate Degrees

Automotive Technology      Diesel Truck Technology  
Diesel Ag Technology

### Careers & Median Salary Information

Aviation Inspectors \$83,000	Signal and Track Switch Repairers \$36,000
---------------------------------	--

### Bachelor Degrees

Finance      Supply Chain Management  
Business Administration

### Careers & Median Salary Information

Transportation Managers \$81,000	Logistics Managers \$81,000
Storage and Distribution Managers \$81,000	Airline Pilots, Copilots, and Flight Engineers \$76,000



Explore other Education & Training in the ICR Region



Explore other Careers in the ICR Region

2022-2023

## Career Pathway: Science, Technology, Engineering & Math



A career in science, technology, engineering, and mathematics requires certain skills and education depending on job requirements. Skills include providing, planning, and managing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

### Exposure Pathways

#### High School Courses

Algebra 1A	General Biology	Animal and Plant Biotechnology	Bioethics
Algebra 1B	Chemistry I	Agricultural Research & Dev.	AP Environmental Science
Algebra 1	Earth and Space Science	Environmental Sustainability	PLTW Environmental Sustainability
Geometry	Applied Chemistry & Physics	PLTW Engineering Design & Dev.	PLTW Intro to Eng.
Algebra 2A	Mechanical Drawing	Physics	PLTW Principles of Eng.
Algebra 2B	Int. to Agriculture, Food & Natural Res.	AP Chemistry	PLTW Aerospace Eng.
Algebra 2	Aquaculture Science	AP Biology	PLTW Civil Engineering & Architect Design
Pre-Calculus	Principles of Ag. Science-Animal	AP Physics	PLTW Computer Integrated Manufacturing
AP Calculus AB	Principles of Ag. Science-Plant	Anatomy & Physiology	PLTW Digital Electronics
AP Calculus BC	Natural Resources & Ecology	Geology	
AP Statistics	Environmental Science Issues	Astronomy	
Earth Science	Food Science & Safety	Meteorology	

#### Job Shadows & Internships

Analytical Chemistry Research	Conservation Biology Research
CAD Design	Organic Chemistry Assistant
Chemistry Lab	Wastewater Plant Operations & Maintenance
Civil & Electrical Engineering	

#### High School Clubs & Organizations

Femineers	Science Club
Robotics	Math Club



#### Venture Academics

Venture Earth Science (Earth Science, Rhetoric/Communications, Venture)
Venture Life Science (General Biology, Rhetoric/Communications, Venture)
Venture Environmental Science (AP Environmental Science, Venture)

### Experience Pathways

#### College CTE Courses in High School

Math and Society	Human Anatomy I
Nutrition	Human Anatomy II

#### Kirkwood Career Academies

<a href="#">Adv.Man.with Robotics &amp; Welding</a>	<a href="#">Computer Programming &amp; Web Development</a>
<a href="#">Architectural &amp; Engineering Design (Pre-Apprenticeship)</a>	<a href="#">Pre-Professional Health Careers</a>

### Pursuit Pathways

#### Certificates/Diplomas

Industrial Robotics	Network Security
Database Technologies	Network & System Admin.
Java Programming	PC Technician
Mobile App Development	CAD/Mechanical Eng. Tech.
.NET Programming	Desktop Customer Service
Healthcare IT Technician	Electromechanical Tech.



#### Careers & Median Salary Information

Civil Engineering Technicians \$50,000	Food Science Technicians \$46,000
---	--------------------------------------



2022-2023

## Career Pathway: *Science, Technology, Engineering & Math*

### Associate Degrees

Advanced Manufacturing & Robotic Tech.	Exercise Science & Wellness
CAD/Mechanical Engineering Tech.	Industrial Maintenance
Computer Software Development	Network & System Administration
Computer Support Specialist	Water Environmental Tech.
Energy Production & Distribution	

### Careers & Median Salary Information

Chemical Technicians \$41,500	Fuel Cell Technicians \$54,000
Surveying Technicians \$51,000	

### Bachelor Degrees

Bio Chemistry	Applied Physics
Actuarial Science	Civil Engineering
Seed Science	Industrial Technology
Ag Engineering	Software Engineering
Electrical Engineering	Graphic Technology
Microbiology	Bio Medical Engineering
Physics	Computer Engineering
Geo Science	Management and Information Systems,
Ag and Life Sciences Education	Statistics
Environmental Science	Military Science
Nutritional Science	Business Analytics & Information Systems
Bio Chemistry	Construction Engineering
Technology and Engineering Education	Materials Engineering
Animal Science	Technical Communication
Family & Consumer Science Education	Movement and Exercise Science
Physics	Mortuary Science
Communication Sciences & Disorder	Culinary Food Science
Technology Management	Mathematics
Biological Systems Engineering	Biology
Food Science	Science Education
Political Science	Nuclear Medicine Technology
Computer Science	Dairy Science
Technology	Mechanical Engineering
Chemical Engineering	Chemistry
Industrial Engineering	Social Science
Seed Science	Radiation Sciences
Earth Science	

### Careers & Median Salary Information

Chemical Engineers \$88,000	Civil Engineers \$76,000
Chemists \$79,000	Marine Engineers \$64,000
Materials Engineers \$75,400	
Biochemical Engineers \$71,000	

