



# EAST

COURSE  
CATALOG

SPRING 2017



Think. Learn. **Grow.**

[www.dmschools.org](http://www.dmschools.org)

# Introduction

Des Moines Public Schools are committed to setting students on a path to meaningful, fulfilling choices for future study and employment. This catalog provides a comprehensive guide to the various courses that can give you the experiences and opportunities needed to prepare you for whatever path you choose. Please take time to review the catalog and conference with your family and school counselor to begin the process of selecting the courses that are meaningful to you and will help you meet your personal learning goals.

## Educational Philosophy

### Vision

Becoming the model for urban education in the United States.

### Mission Statement

The Des Moines Public Schools Exist So That Graduates Possess the Knowledge, Skills and Abilities to Be Successful at the Next Stage of Their Lives.

### Student Expectations

**Students demonstrate proficiency and understanding of a rigorous core curriculum:**

- They demonstrate proficiency in reading, writing, speaking and listening
- They demonstrate proficiency in mathematics, including algebra and geometry
- They demonstrate financial and economic literacy
- They demonstrate an understanding of the value of fine and performing arts in society
- They demonstrate proficiency in technological and information literacy
- They demonstrate proficiency in science, including life, earth and physical science

**Students possess the knowledge and skills to be self-directed and autonomous:**

- They demonstrate critical thinking and problem solving skills
- They exercise sound reasoning in making complex choices
- They exhibit creative, innovative and entrepreneurial thinking
- They understand the attributes of physical and mental well-being

**Students have world awareness:**

- They learn from and work with individuals representing diverse cultures and religions in a spirit of mutual respect in school, work and community
- They understand the rights and obligations of citizenship at local, state, national, and global levels
- They are actively engaged in community life
- They will be exposed to languages and cultures of the world

# Graduation Requirements and Planning

## Required Credits for Graduation

REQUIREMENTS	UNITS OF CREDIT
<b>Social Studies</b> REQUIRED: US History, US Government, Economics or Microeconomics, and 1.0 additional credit in history	<b>3.0</b>
<b>English</b> REQUIRED: English I, II, and English III or AP Lang and Comp, and 1.0 additional credit in English	<b>4.0</b>
<b>Mathematics</b> REQUIRED: Semester 1 and 2 of Algebra I (or higher level math course)	<b>3.0</b>
<b>Science</b> HIGHLY RECOMMENDED: Biology, Chemistry, Physics, Earth Science	<b>3.0</b>
<b>Applied/Fine Arts</b>	<b>1.5</b>
<b>Physical Education</b> REQUIRED: In compliance with Iowa law, students must be enrolled in physical education at least 1 semester each year while in high school, and must complete CPR training.	<b>1.0</b>
<b>Electives</b>	<b>7.5</b>
<b>TOTAL</b>	<b>23</b>

For students in the Classes of 2017-2020, the following credits must be fulfilled to graduate and earn a diploma.

## Post-Secondary Readiness Requirements

There are several paths that students can choose from for success after completing high school. The guide below can help students and their families have conversations with school counselors as they make decisions about their goals for after graduation and the choices they need to make in high school to reach those goals.

Subject	High School Diploma	Career & Technical, Apprenticeship, and Industry Certification Programs	Regents Institutions (U of I, UNI, ISU)	Highly Selective Colleges & Universities
<b>English</b>	English I, II, and English III or AP Lang and Comp, and 1.0 additional credit in English	English I, II, and English III or AP Lang and Comp, and 1.0 additional credit in English	Four years with an emphasis on the communication skills of writing, reading and listening, and the analysis and interpretation of literature. In addition, courses in journalism and media literacy will be valuable.	Four years with an emphasis on the communication skills of writing, reading and listening, and the analysis and interpretation of literature, including AP credit. In addition, courses in journalism and media literacy will be valuable.  Extracurricular activities in debate, speech, newspaper, and yearbook will further develop essential competencies.
<b>Math</b>	Semester 1 and 2 of Algebra I (or higher level math course), and 2.0 additional credits in Math.	Semester 1 and 2 of Algebra I (or higher level math course), and 2.0 additional credits in Math.	Four years, one in each year of high school. While advanced courses like calculus and statistics are good, it's more important that you gain a complete understanding of advanced algebra and trigonometry.	Four years, one in each year of high school, including advanced math courses like calculus and statistics.
<b>Science</b>	3.0 credits in Science.	3.0 credits in Science.	Three years, one in each year of high school. To be really prepared, take at least one year each of biology, chemistry, and physics.	Four years, one in each year of high school. To be really prepared, take at least one year each of biology, chemistry, and physics, and an AP Science course.
<b>Social Studies</b>	US History, US Government, Economics or Microeconomics, and 1.0 additional credit in history	US History, US Government, Economics or Microeconomics, and 1.0 additional credit in history	Three years are essential, but four is better. Take at least one year each of U.S. history and world history.  Additional courses in anthropology, economics, political sci., psychology, and sociology provide important understandings.	Four years, one in each year of high school. Take at least one year each of U.S. history and world history, and an AP Social Studies course.  Additional courses in anthropology, economics, political sci., psychology, and sociology provide important understandings.
<b>Applied/Fine Arts</b>	1.5 credits in the Applied or Fine Arts.	1.5 credits in the Applied or Fine Arts.	1.5 credits in the Applied or Fine Arts.	1.5 credits in the Applied or Fine Arts.
<b>World Languages</b>	World Languages count toward the 7.5 required elective credits.	World Languages count toward the 7.5 required elective credits.	World Languages count toward the 7.5 required elective credits.	World Languages count toward the 7.5 required elective credits.

<b>Physical Education</b>	At least one semester each year of high school, and must complete CPR training.	At least one semester each year of high school, and must complete CPR training.	At least one semester each year of high school, and must complete CPR training.	At least one semester each year of high school, and must complete CPR training.
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## Ready-To-Graduate Course Planner

All students must complete a set of required courses in English, Social Sciences, Mathematics, Science, Applied/Fine Arts and Physical Education, plus elective credits. The planner below is designed to help students, families and counselors determine a plan of study with the goal of graduation.

		9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
<b>English</b>	4.0 credits	English I  <input type="checkbox"/> completed	English II  <input type="checkbox"/> completed	English III or AP Comp  <input type="checkbox"/> completed	Choose from an additional English credit course.  <input type="checkbox"/> completed
<b>Math</b>	3.0 credits	Algebra I  <input type="checkbox"/> completed	Math Course:  <input type="checkbox"/> completed	Math Course:  <input type="checkbox"/> completed	Math Course (if less than 3.0 credits are earned)  <input type="checkbox"/> completed
<b>Science</b>	3.0 credits	Science Course (Biology recommended):  <input type="checkbox"/> completed	Science Course (Chemistry recommended):  <input type="checkbox"/> completed	Science Course (Conceptual Physics or AP Physics recommended):  <input type="checkbox"/> completed	Science Course (if less than 3.0 credits are earned):  <input type="checkbox"/> completed
<b>Social Studies</b>	3.0 credits	20 <sup>th</sup> Cent. World History  <input type="checkbox"/> completed	US History or SS Elective  <input type="checkbox"/> completed	US History or Economics SS Elective or  <input type="checkbox"/> completed	US Government  <input type="checkbox"/> completed
<b>Physical Education</b>	1.0 credit	At least one semester each year: 9 <sup>th</sup> <input type="checkbox"/> 10 <sup>th</sup> <input type="checkbox"/> 11 <sup>th</sup> <input type="checkbox"/> 12 <sup>th</sup> <input type="checkbox"/> <input type="checkbox"/> completed CPR training			
<b>Fine/Applied Arts</b>	1.5 credits	Courses:  <input type="checkbox"/> completed	Courses:  <input type="checkbox"/> completed	Courses:  <input type="checkbox"/> completed	Courses:  <input type="checkbox"/> completed
<b>Electives &amp; 21<sup>st</sup> Century Requirements</b>	7.5 credits	Financial Literacy Course: _____ <input type="checkbox"/> completed Health Literacy Course: _____ <input type="checkbox"/> completed Technology Literacy Course: _____ <input type="checkbox"/> completed Employability Skills Course: _____ <input type="checkbox"/> completed <i>Beginning with the class of 2021</i> Family Life/Consumer Sciences Course: _____ <input type="checkbox"/> completed Additional Electives to reach 7.5 credits: _____ <input type="checkbox"/> completed _____ <input type="checkbox"/> completed _____ <input type="checkbox"/> completed _____ <input type="checkbox"/> completed _____ <input type="checkbox"/> completed			

## English and Language Arts

To prepare our students for 21st century literacy skills to be used in post-secondary education and the workplace, Des Moines Public Schools provides a guaranteed and viable curriculum at the appropriate developmental level.

As our students grow and develop, we provide the opportunities to grapple with texts of exceptional craft and thought across a wide range of genres, cultures, and time periods. Our teachers believe these works offer insight into the human condition and can be a model for our students' thinking, writing, and problem-solving. We value wide and deep reading of both literature and non-fiction texts.

Our goal is to steadily increase the complexity and sophistication of the content and the structure of our analysis to grow our students into critical readers and writers.

### English I S1 (LA103)

PREREQUISITE: NONE Offered: Fall.5 credit English I develops basic structures of reading and writing, using a variety of works from diverse authors to increase student interest, awareness, appreciation, and understanding of a variety of genre as well as opportunities to apply the writing process to promote communication through written expression. Students will come to understand that personal expression and the way we express ourselves is influenced by society and culture through literary analysis, reflective writing, persuasive writing and character analysis.

### Intro to Debate S1 (LA125)

PREREQUISITE: NONE Offered: Fall.5 credit Students will learn to recognize and utilize logic, organization, critical thinking, public speaking, evaluation and research. Students will investigate current events/topics, participate in presentations, defend both sides of issues, use evidence effectively, evaluate sources and speeches, and apply debate techniques effectively.

### Modern Expression (LA141)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit This one-semester course will focus on issues and topics relevant to modern life. Students will be asked to question the way they experience the world around them through text, film, art, and so forth. Various activities surrounding such works will lead to direct, personal connections with the issues covered. Through personal, analytical, and argumentative discussion and writing, students will increase their ability to think and write critically about the world around them.

### English I S2 (LA104)

PREREQUISITE: LA103 Offered: Spring.5 credit English I develops basic structures of reading and writing, using a variety of works from diverse authors to increase student interest, awareness, appreciation, and understanding of a variety of genre as well as opportunities to apply the writing process to promote communication through written expression. Students will come to understand that personal expression and the way we express ourselves is influenced by society and culture through literary analysis, reflective writing, persuasive writing and character analysis.

### Intro to Debate S2 (LA126)

PREREQUISITE: LA125

Offered: Spring.5 credit Students will learn to recognize and utilize logic, organization, critical thinking, public speaking, evaluation and research. Students will investigate current events/topics, participate in presentations, defend both sides of issues, use evidence effectively, evaluate sources and speeches, and apply debate techniques effectively

### Intro to Spoken Word (LA151)

Spoken word poetry continues to grow in popularity in the age of social media, social justice education, and art as activism. Over the past six years, Movement 515, the DMPS spoken word writing and performance program within RunDSM, has been incredibly successful in establishing safe and brave spaces for students to positively self-express while simultaneously cultivating contemporary school cultures and climates. As a result, RunDSM believes that even more youth and schools would be positively impacted if access and opportunity to the art form was available during the school day as an elective course for study. The goal of the course is for students to dig deeper into readings and works of others with the objective of enhancing their own writing, performance, and artistic techniques of self-expression.

### English II S1 (LA205)

PREREQUISITE: NONE

Offered: Fall.5 credit English II continues the development of the structures of communication with an emphasis on the language arts of speaking and listening. Through the communication of ideas in both writing and speaking, students will learn to use information responsibly, accurately, and ethically. Students will communicate through a variety of mediums, including technology, to recognize the role evaluation and response have on oral communication.

### Journalism 1 (LA213)

PREREQUISITE: LA105 Offered: Fall.5 credit Journalism allows students to explore the fundamental concepts behind the communications industry, including print, broadcast and advertising and the Internet. Students will study history, writing, editing, law and the packaging process, as well as obtain the understanding of deadlines and interviewing through practical application. Prerequisite for newspaper and yearbook practicum.

### Competitive Debate S1 (LA225)

PREREQUISITE: LA126 Offered: Fall.5 credit Students will learn to recognize and utilize logic, organization, critical thinking, public speaking, evaluation and research. Students will investigate current events/topics, participate in presentations, defend both sides of issues, use evidence effectively, evaluate sources and speeches, and apply debate techniques effectively.

### Speech (LA227)

PREREQUISITE: NONE

Offered: Fall or Spring.5 credit This course emphasizes critical thinking and effective communication through a variety of approaches, including public speaking and interpersonal, relational, intercultural, and nonverbal communication. Students analyze a range of verbal communications, from daily interactions and speeches by public officials to texts distributed through the mass media, and apply their analyses to practice and improve their own verbal communication styles and techniques.

### Creative Writing 1 (LA303) 9<sup>th</sup> grade class. 10<sup>th</sup> recovery

PREREQUISITE: NONE Offered: Fall or Spring.5 credit Creative Writing is a valuable course for those who have an interest in writing. The goal is to achieve a greater appreciation of literature by creating one's own fiction and by reading and responding to others' work while attending to structure and style. Students will be encouraged to select their own topics with the support and guidance of the instructor.

### English II S2 (LA206)

PREREQUISITE: NONE

Offered: Spring.5 credit English II continues the development of the structures of communication with an emphasis on the language arts of speaking and listening. Through the communication of ideas in both writing and speaking, students will learn to use information responsibly, accurately, and ethically. Students will communicate through a variety of mediums, including technology, to recognize the role evaluation and response have on oral communication.

### Competitive Debate S2 (LA226)

PREREQUISITE: LA225 Offered: Spring.5 credit Students will learn to recognize and utilize logic, organization, critical thinking, public speaking, evaluation and research. Students will investigate current events/topics, participate in presentations, defend both sides of issues, use evidence effectively, evaluate sources and speeches, and apply debate techniques effectively.

### Graphic Novels (LA241)

PREREQUISITE: NONE

Offered: Fall or Spring.5 credit Students will read literary works that have been constructed or adapted in a graphic novel format, enabling deeper analysis of the text involved. This course will be a collaborative learning community in which the students will explore the graphic novel medium as a mode of communicating stories, using the various texts as a way to enhance, practice, and master traditional and new literacies. Graphic novels are a rich and varied form of literature and students will analyze the structure, research the history and growth of the popular culture phenomenon of graphic novels, and look closely at the effects created in sequential art narrative.

### English III S1 (LA305)

PREREQUISITE: NONE Offered: Fall .5 credit English III builds on the structures of reading and writing, using a variety of materials representing different literary forms and authors. An emphasis on American literature through a global perspective will support critical analysis of author's style, character motivation, point of view, mood, and tone. Composition will focus on synthesizing new understandings with background knowledge and gain insight into the author's craft while adhering to conventions generally established in conventions, usage, syntax, and style.

### Mass Comm / Mass Media (LA315)

Mass Communication will provide students with the history behind, theory of, technologies involved in, and the practice of mass media in our society. The focus will be on radio, television, film, broadcasting, advertising, music, and podcasting. We will briefly examine the history of each medium and will focus on what we see in the media today and how it affects our daily lives. Students will become digital-savvy by the end of course and they will learn and perform the different forms of writing in each medium. Students will also be asked to create new media to share with East High Community.

### Newspaper S1 (LA321)

PREREQUISITE: LA221 Offered: Fall .5 credit Repeatable. Newspaper is a hands-on laboratory course that allows students to apply the fundamental theories explored through journalism. Students will write, edit, package, produce and distribute the school's newspaper. Concepts emphasized include leadership, prioritizing, deadline meeting, interviewing, people-skill building, and business skills.

### Yearbook S1 (LA323)

PREREQUISITE: LA223 Offered: Fall .5 credit Yearbook is a hands-on laboratory course that allows students to apply the fundamental theories explored through journalism in a real-world setting. Students will write, edit, package, produce and distribute the school's yearbook. Concepts emphasized include leadership, prioritizing, deadline meeting, interviewing, editing, teamwork and business skills.

### English IV S1 (LA403)

PREREQUISITE: NONE Offered: Fall .5 credit English IV (formerly known as World Literature) includes a survey of world literature studied in a thematic approach to critically evaluate information based on relevancy, objectivity, and reliability. Students will write several compositions using expository and argumentative techniques, including a research project. This project will include an articulated research question or thesis statement, and incorporate findings while adhering to a consistent format for documentation.

### English III S2 (LA306)

PREREQUISITE: NONE Offered: Spring .5 credit English III builds on the structures of reading and writing, using a variety of materials representing different literary forms and authors. An emphasis on American literature through a global perspective will support critical analysis of author's style, character motivation, point of view, mood, and tone. Composition will focus on synthesizing new understandings with background knowledge and gain insight into the author's craft while adhering to conventions generally established in conventions, usage, syntax, and style.

### Newspaper S2 (LA322)

PREREQUISITE: LA222 Offered: Spring .5 credit Newspaper is a hands-on laboratory course that allows students to apply the fundamental theories explored through journalism. Students will write, edit, package, produce and distribute the school's newspaper. Concepts emphasized include leadership, prioritizing, deadline meeting, interviewing, people-skill building, and business skills.

### Yearbook S2 (LA324)

PREREQUISITE: LA224 Offered: Spring .5 credit Yearbook is a hands-on laboratory course that allows students to apply the fundamental theories explored through journalism in a real-world setting. Students will write, edit, package, produce and distribute the school's yearbook. Concepts emphasized include leadership, prioritizing, deadline meeting, interviewing, editing, teamwork and business skills.

### English IV S2 (LA404)

PREREQUISITE: NONE Offered: Spring .5 credit English IV (formerly known as World Literature) includes a survey of world literature studied in a thematic approach to critically evaluate information based on relevancy, objectivity, and reliability. Students will write several compositions using expository and argumentative techniques, including a research project. This project will include an articulated research question or thesis statement, and incorporate findings while adhering to a consistent format for documentation.

### Writing 12 (LA409)

PREREQUISITE: LA308 Offered: Fall or Spring .5 credit

This composition course stresses practice in writing through daily writing pieces as well as several compositions throughout the semester. Writing skills include supporting ideas with valid reasons and evidence, effectively organizing written pieces, connecting ideas from multiple sources, and writing about literature and informational texts.

### Lit & Comp A: Contemporary Lit (LA415)

PREREQUISITE: NONE Offered: Fall or Spring .5 credit  
Literature and Composition: Contemporary explores issues presented in modern fiction and nonfiction and emphasizes discussion and writing about materials read. Success in this course will require significant time devoted to reading and writing.

### Lit & Comp B: Sports Lit (LA416)

PREREQUISITE: NONE Offered: Fall or Spring .5 credit  
Literature and Composition: Sports Literature, students will examine both classic and contemporary sports writing. Classes include guest speakers, group projects, discussion, writing sports-related blogs, documentaries, interviews, creative writing, and research-based assignments. Student will be required to focus not just on sports but issues that surround sports as well -- these topics include race, politics, class, and current issues. Success in this course will require significant time devoted to reading and writing.

### Lit & Comp C: Multicultural Lit (LA417)

PREREQUISITE: NONE Offered: Fall or Spring .5 credit  
Literature and Composition: Multi-Cultural Literature, students will examine literary and informational texts by authors from all over the world and a variety of cultures. The literature represents many different time periods and broad spectrum of world views. Classes include guest speakers, group projects, discussion, film, documentaries, and current issues. Students will be required to participate in literature circles and small group book clubs. Major student assessments will include narrative writing, research papers, literary analyses, interviews, research application, and persuasive writing. Success in this course will require significant time devoted to reading and writing.

### Lit & Comp D: Science Fiction (LA418)

PREREQUISITE: NONE Offered: Fall or Spring .5 credit  
Literature and Composition: Science Fiction is the study of literature and media that explore the human condition through elements of the unreal. Ranging in scope from high fantasy to complex science fiction and contemporary tales of superheroes, Science Fiction tackles the entire field of Speculative Fiction and breaks it down for students to enjoy, savor, and create. Success in this course will require significant time devoted to reading and writing.

### Lit & Comp E: Women and Lit (LA419)

PREREQUISITE: NONE Offered: Fall or Spring .5 credit  
Literature and Composition: Women and Literature students examine literary and informational texts by and about women; the emphasis is on works not read in other English classes. The literature represents several centuries and cultures. Classes include group projects, discussion, film, documentaries, and current issues. Each student keeps a journal, and the class has its own library. Major student assessments will include narrative writing, research papers, literary analyses, interviews, ethnographic research, and persuasive writing. Success in this course will require significant time devoted to reading and writing.

### Creative Writing 2 (LA411) sem 1

PREREQUISITE: LA303 Offered: Fall or Spring. 5 credit Creative Writing 2 is a valuable course for those who have an interest in writing. The goal is to achieve a greater appreciation of literature by creating one's own fiction and by reading and responding to others' work while attending to structure and style. Students will be encouraged to select their own topics with the support and guidance of the instructor.

### \*College Creative Writing (LA526) sem 2

PREREQUISITE: LA206 Offered: Spring .5 credit College Creative Writing is a year-long, dual-credit class. Though it is taken at Hoover High School and students receive elective credit, DMACC competencies for ENG 221 will be assessed for college credit; in essence, this is a collegiate class. This course will focus on the processes of writing when creating fiction and poetry by applying the elements of both those genres into the practice of composition. Students will study the elements of poetry and fiction through samples of professional writers and their peers and apply these techniques when composing their own pieces. The class will culminate in a writing portfolio in which students will keep their writings along with analyses of where these ideas came from and some of the techniques used when composing.

### \*College AP Lit & Comp S1 (LA529)

PREREQUISITE: LA206 Offered: Fall .5 credit AP English Literature and Composition with college credit is a one-year high school course equivalent to two semesters of college course work designed to engage students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students can deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students should consider a work's structure, style, and themes, as well as such smaller-scale elements as the use of figurative language, imagery, symbolism, and tone. The composition instruction ranges from basic principles to more refined and advanced matters of style, requiring several compositions ranging from the imaginative and personal to the formal and detached. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Lit & Comp S2 (LA530)

PREREQUISITE: LA529 Offered: Spring .5 credit AP English Literature and Composition with college credit is a one-year high school course equivalent to two semesters of college course work designed to engage students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students can deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students should consider a work's structure, style, and themes, as well as such smaller-scale elements as the use of figurative language, imagery, symbolism, and tone. The composition instruction ranges from basic principles to more refined and advanced matters of style, requiring several compositions ranging from the imaginative and personal to the formal and detached. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Lang & Comp S1 (LA531)

PREREQUISITE: LA206 Offered: Fall. 5 Credit AP Language and Composition is a dual-credit course that enables a student to be an effective writer at the postsecondary level. Students read, analyze, and practice a variety of discursive prose. Through the organized study of language skills and the structures of sentences, paragraphs, and expository patterns, students analyze and implement the resources of the English language. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Lang & Comp S2 (LA532)

PREREQUISITE: LA531 Offered: Spring. 5 Credit AP Language and Composition is a dual-credit course that enables a student to be an effective writer at the postsecondary level. Students read, analyze, and practice a variety of discursive prose. Through the organized study of language skills and the structures of sentences, paragraphs, and expository patterns, students analyze and implement the resources of the English language. Completion of the AP exam is an expectation for all AP courses.

### College Composition I S1 (LA536)

PREREQUISITE: LA206 Offered: Fall. 5 credit This course introduces students to college writing. Students will construct and revise a series of writings, primarily expository but not excluding persuasive. Students will practice effective reading and research techniques that may include library and computer-based research skills. The literature component concentrates on a variety of literature from around the world. Students study major writers and selections that are classics. In addition to the selections found in the class text, students may be expected to read supplementary works as an individual assignment and as a class assignment.

### \*College Composition I S2 (LA537)

PREREQUISITE: LA536 Offered: Spring. 5 credit This course introduces students to college writing. Students will construct and revise a series of writings, primarily expository but not excluding persuasive. Students will practice effective reading and research techniques that may include library and computer-based research skills. The literature component concentrates on a variety of literature from around the world. Students study major writers and selections that are classics. In addition to the selections found in the class text, students may be expected to read supplementary works as an individual assignment and as a class assignment.

## Mathematics

Mathematics is a tool we use to understand and interpret our world. In our increasingly technological economy, those who understand and know how to apply mathematics have significantly enhanced opportunities in continuing education and later in life. The key to opening the door to these opportunities is a deep understanding of important mathematical concepts and procedures.

The goal of the Des Moines Public Schools K-12 mathematics program is for all students to achieve mathematical proficiency by developing an understanding of math concepts and a fluency in skill procedures. Students who understand a concept can identify examples and non-examples; describe the idea with words, symbols, tables, graphs, and models; and apply the concept in problem-solving situations. Procedural proficiency includes recall of basic facts (addition, multiplication, subtraction, and division) and the use of algorithms - step-by-step mathematical procedures - to produce a solution.

The end result is the ability to think and reason mathematically and use mathematics to solve problems in authentic contexts.

### Algebra I S1 (MTH111)

PREREQUISITE: NONE Offered: Fall.5 Credit

Algebra is the foundation of higher mathematics. Students will explore functional relationships, use algebraic systems and properties, represent patterns of change, and apply equations and inequalities to solve the problems. Special emphasis is placed on application of skills and concepts through problem solving.

### Geometry S1 (MTH211)

PREREQUISITE: MTH111/112 Algebra I S1/S2 Offered: Fall.5 credit

Geometry is the study of shape. Students will develop deductive reasoning skills as they consider properties of and relationships among shapes, location of shapes, transformation of shapes, and special shapes such as circles and triangles. Technology is used to enhance geometric experimentation and situations.

### Algebra II S1 (MTH311)

PREREQUISITE: MTH111/112 Algebra I S1/S2 Offered: Fall.5 credit This course extends basic algebraic skills developed in Algebra I. Students study complex numbers, explore sequences and series, work with logarithmic functions, and investigate trigonometric functions.

### Introduction to Statistics (MTH321)

PREREQUISITES: MTH111/112 Algebra I S1/S2 and MTH211/212  
Geometry S1/S2 Offered: Both 0.5 credit Introduction to Statistics is a one-semester class designed primarily for seniors. Topics of study include but are not limited to methods of data collections, various means of organizing and describing data, interpreting charts and graphs, and probability. Students will be using real-life data as part of their learning. Students are expected to work outside of class gathering data for in-class projects and will be expected to read articles during class as needed.

### Algebra I S2 (MTH112)

PREREQUISITE: MTH111 Algebra I S1

Offered: Spring.5 credit

Algebra is the foundation of higher mathematics. Students will explore functional relationships, use algebraic systems and properties, represent patterns of change, and apply equations and inequalities to solve problems. Special emphasis is placed on application of skills and concepts through problem solving.

### Geometry S2 (MTH212)

PREREQUISITE: MTH211

Geometry S1 Offered: Spring.5 credit Geometry is the study of shape. Students will develop deductive reasoning skills as they consider properties of and relationships among shapes, location of shapes, transformation of shapes, and special shapes such as circles and triangles. Technology is used to enhance geometric experimentation and situations.

### Algebra II S2 (MTH312)

PREREQUISITE: MTH311 Algebra II S1 Offered: Spring.5 credit This course extends basic algebraic skills developed in Algebra I. Students study complex numbers, explore sequences and series, work with logarithmic functions, and investigate trigonometric functions.

### Intro to Trigonometry (MTH413)

PREREQUISITE: MTH111/112 Algebra I S1/S2 and MTH211/212

S1/S2 Offered: Both 0.5 credit

By the end of the course, students will have experienced critical thinking and enhanced their problem solving skills. The students will be expected to recognize patterns and develop and evaluate plausible solutions to real world situations. Topics include: the unit circle, trigonometric functions (definitions, graphs and inverses), right triangles, oblique triangles, trigonometric identities, trigonometric equations, the trigonometric form of complex numbers, two-dimensional vectors, polar coordinates, and parametric equations.

**\*Pre-Calculus S1 (MTH401)**

PREREQUISITE: MTH311/312 Algebra II S1/S2 Offered: Fall.5 credit  
Pre-Calculus is the post-algebra class to bridge students to Calculus topics. Students explore complex numbers, logarithmic functions, trigonometry, combinatorics, polar coordinates, and beginning calculus concepts.

**\*AP Calculus AB S1 (MTH501)**

PREREQUISITE: MTH402 Offered: Fall.5 credit

The AP Calculus course follows the Advanced Placement syllabus and prepares students for the AP test in the spring. Course study includes properties of functions, limits, differential calculus, and integral calculus. Use of the graphing calculator is an integral part of this course and its use is required on the advanced placement test. Completion of the AP exam is an expectation for all AP courses.

**\*Pre-Calculus S2 (MTH402)**

PREREQUISITE: MTH401 Pre-Calculus S1 Offered: Spring.5 credit  
Pre-Calculus is the post-algebra class to bridge students to Calculus topics. Students explore complex numbers, logarithmic functions, trigonometry, combinatorics, polar coordinates, and beginning calculus concepts.

**\*AP Calculus AB S2 (MTH502)**

PREREQUISITE: MTH501 AP Calculus S1 Offered: Spring.5 credit

The AP Calculus course follows the Advanced Placement syllabus and prepares students for the AP test in the spring. Course study includes properties of functions, limits, differential calculus, and integral calculus. Use of the graphing calculator is an integral part of this course and its use is required on the advanced placement test. Completion of the AP exam is an expectation for all AP courses.

**\*AP Computer Sci Principles S1 (TEC551)**

PREREQUISITES: MTH111/112 Algebra I S1/S2 Offered: Fall.0.5 credit  
This course introduces students to the central ideas of computer science, instilling the ideas and practices of computational thinking and inviting students to understand how computing changes the world. The rigorous course promotes deep learning and computational content, develops computational thinking skills, and engages students in the creative aspects of the field.

**\*AP Computer Sci Principles S2 (TEC552)**

PREREQUISITE: TEC551 AP Computer Sci Principles S1 Offered: Spring.0.5 credit  
This course introduces students to the central ideas of computer science, instilling the ideas and practices of computational thinking and inviting students to understand how computing changes the world. The rigorous course promotes deep learning and computational content, develops computational thinking skills, and engages students in the creative aspects of the field.

## Social Studies

The interconnected nature of the world makes in depth, relevant social studies instruction essential for all students. Our goal is to provide all students with academic and authentic learning opportunities that spark interest in the social studies and enhance students' abilities to understand the global world.

Des Moines Public Schools offers a comprehensive and well-rounded approach to learning in the social studies with courses in areas such as history, government, economics, and contemporary studies. All of our courses are aligned to standards from both the state and national levels.

Our goal is to graduate students who are informed, active, and responsible citizens in their communities - from the school community to the neighborhood, city, state, nation and world.

### History's Mysteries (SOC121)

**PREREQUISITE:** NONE **Offered:** Fall or Spring **.5 credit** The purpose of History's Mysteries is to develop a greater understanding of how different groups of historical peoples dealt with the challenges that they faced. The course will focus on the political, economic, religious, social and cultural institutions that formed in different historical civilizations and empires across the globe. Students will have an opportunity to select an area of study and analyze historical patterns, change, and continuity. The History's Mysteries course is designed to develop the skills of studying, document analysis, discussion, critical thinking, and writing. These skills are essential for success in 20th Century World History and Advanced Placement courses in the Social Studies.

### 20th Cent World Hist (WH1) (SOC111)

**PREREQUISITE:** NONE **Offered:** Fall **.5 credit** This unique 20th Century World History course is a change not only in what we teach, but in how we teach history. This course is a focused study of the 20th Century for all ninth-graders. 20th Century World History focuses on key issues, events and people of the 20th Century and helps students build the connections into the past to understand why things came to be that way. In no way will this course simply be a chronological march through time, but instead an in-depth look at historical themes from a global perspective. The course will include instructional units on imperialism, the world wars, the post-colonial world, conflict and genocide. The course concludes with a synthesis project in which students have guided choice to investigate a historical topic from the 20th Century. The 20th Century World History course provides students with an opportunity to develop skills such as, but not limited to, interpreting primary sources, developing academic vocabulary related to topics and eras studied, making connections between history and geography, establishing an historical context for topics, people and events studied by organizing information gathered from secondary sources, connecting historical topics, people and events to the present day, and extending their learning through additional resources provided by instructor.

### US History S1 (SOC201)

**PREREQUISITE:** NONE **Offered:** Fall **.5 credit** The United States History course provides students with the analytical skills and factual knowledge to deal critically with the problems and materials in our nation's history. Instructional units invite students to travel from the events leading to the Revolutionary War through the present day. Students learn to assess historical materials, their relevance to a given problem, reliability, and importance and to weigh the evidence and interpretations presented in historical scholarship. Students will also develop the skills to present reasons and evidence clearly and persuasively in writing.

### 20th Cent World Hist (WH2) (SOC112)

**PREREQUISITE:** SOC111 **Offered:** Spring **.5 credit** This unique 20th Century World History course is a change not only in what we teach, but in how we teach history. This course is a focused study of the 20th Century for all ninth-graders. 20th Century World History focuses on key issues, events and people of the 20th Century and helps students build the connections into the past to understand why things came to be that way. In no way will this course simply be a chronological march through time, but instead an in-depth look at historical themes from a global perspective. The course will include instructional units on imperialism, the world wars, the post-colonial world, conflict and genocide. The course concludes with a synthesis project in which students have guided choice to investigate a historical topic from the 20th Century. The 20th Century World History course provides students with an opportunity to develop skills such as, but not limited to, interpreting primary sources, developing academic vocabulary related to topics and eras studied, making connections between history and geography, establishing an historical context for topics, people and events studied by organizing information gathered from secondary sources, connecting historical topics, people and events to the present day, and extending their learning through additional resources provided by instructor.

### US History S2 (SOC202)

**PREREQUISITE:** SOC201 **Offered:** Spring **.5 credit** The United States History course provides students with the analytical skills and factual knowledge to deal critically with the problems and materials in our nation's history. Instructional units invite students to travel from the events leading to the Revolutionary War through the present day. Students learn to assess historical materials " their relevance to a given problem, reliability, and importance " and to weigh the evidence and interpretations presented in historical scholarship. Students will also develop the skills to present reasons and evidence clearly and persuasively in writing.

### Psychology (SOC205)

PREREQUISITE: 1.0 credits of history Offered: Fall or Spring.5 credit This course is designed to provide students with a basic understanding of human behavior and social relationships. The purpose is to create an awareness of the uniqueness of the individual and help students apply psychological principles to the solution of personal problems. Psychology will help students identify personal needs, values, and goals to assist them as they make career choices and family decisions. This course will also provide students with an understanding of the learning process and an appreciation of psychology as a field of knowledge based on scientific methods of research. The course is composed of the following instructional units: history and methods of psychology, the biology of psychology, cognitive psychology, human development, social psychology, and variations (psychological disorders and treatments).

### Contemporary World Affairs (SOC315)

PREREQUISITE: 2.0 credits of history Offered: Fall or Spring.5 credit Contemporary World Affairs is a one-semester social studies elective course designed for students who have a strong interest in exploring present-day global issues. Students examine political, economic and social issues, as well as the role of the United States in world affairs. Various topics are explored in depth in order to gain an understanding of the historical context of the issue, as well as attempts made to resolve global issues. Topics include, but are not limited to, responding to terrorism, human rights and foreign policy, international relations, global economics, etc. The historical background for major world issues and conflicts will help students identify the underlying causes of most global conflicts.

### Government (SOC405)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit The ultimate goal of this one semester course is active, responsible citizenship. The course provides students with multiple opportunities to develop an analytical perspective on government and politics in the United States, to develop civic commitment and capacity, and to build a well-informed, thoughtful response to the course driving question: What is the proper role of government in a democratic society? This question will be used throughout the course. Students return to it frequently, revising and deepening their understanding and responses in light of the concepts they are learning such as the foundation of U.S. government, political beliefs/behaviors, elections and voting, and policy making institutions. This course includes both the study of general concepts used to interpret U.S. politics and the analysis of specific examples

### \*AP US History S1 (SOC501)

PREREQUISITE: NONE Offered: Fall.5 credit The AP U.S. History course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in U.S. history. The course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence, and interpreting and synthesizing historical narrative) and an understanding of content learning objectives organized around seven themes. The themes include: identify, peopling, and America in the world, along with others. This course is in line with college and university U.S. history survey courses' increased focus on early and recent American history and decreased emphasis on other areas (special attention is given to 1491 to 1607 and from 1980 to the present). AP courses are college level courses taken in high school.

### Sociology (SOC209)

PREREQUISITE: 1.0 credits of history Offered: Fall or Spring.5 credit This course is designed to provide students with a basic understanding of the society in which they live by analyzing and evaluating the function of major social institutions, the effects of social change, and the origin and impact of prejudice, discrimination, stereotyping, and social stratification. This course will help students develop a broad understanding of culture and the ability to think objectively as they seek solutions to current social problems.

### America in the 1960s (SOC321)

PREREQUISITE: 1.0 credits of history Offered: Fall or Spring.5 credit This one-semester project-based course is an exploration of the 1960s in the United States with events that changed America. Political and military issues such as the presidents that guided the nation during these decades, the Cuban Missile Crisis, and Vietnam will be examined along with cultural and social issues that influenced future generations and still remain a dominant force today. Topics include the hippie movement and other Counter Cultures that emerged, the vocal minority who took a stand with Civil Rights and the anti-war protest, the influence of rock and roll, and the rebellion of youth, fashion, and much more.

### Economics (SOC403)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit The study of economics is a study of choices, a matter of decision-making. This course provides students with an opportunity to develop sound decision-making procedures, based on his/her values, and to evaluate alternative solutions to economic problems. Economics will help students understand how our economy works and how economic incentives influence consumers, business owners, investors, and government employees. Many of the important issues of our country and the world "recession, inflation, urban and ecological decline and decay, racial discrimination and poverty" have economic roots. By developing an awareness and perception of economics as it is interwoven in other areas of existence, students gain insight and understanding of business, government and themselves. This course introduces high school students to economics concepts through a combination of practical problems, analysis, and economic philosophy.

### \*AP US History S2 (SOC502)

PREREQUISITE: SOC501 Offered: Spring.5 credit The AP U.S. History course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in U.S. history. The course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence, and interpreting and synthesizing historical narrative) and an understanding of content learning objectives organized around seven themes. The themes include: identify, peopling, and America in the world, along with others. This course is in line with college and university U.S. history survey courses' increased focus on early and recent American history and decreased emphasis on other areas (special attention is given to 1491 to 1607 and from 1980 to the present). AP courses are college level courses taken in high school. A national exam is given in May of each year and

### \*AP Government S1 (SOC507)

PREREQUISITE: 2.0 credits of history Offered: Fall.5 elective credit In the year-long AP U.S. Government and Politics course, students move together through five project cycles that address the six AP topics specified by the College Board for success on the Advanced Placement exam. The course is designed using the problem-based learning approach and developed with the support of the George Lucas Educational Foundation and the University of Washington, Seattle. Student-centered learning is at the heart of this course that has students participating in five project cycles: Founders' Intent, Election 2012, Government in Action, 112th Congress, and Supreme Court of the United States. Students in AP US Government and Politics will know important facts, concepts, and theories pertaining to U.S. government and politics. Students will understand typical patterns of political processes and behavior and their consequences (including the components of political behavior, the principles used to explain or justify various

### \*AP Macroeconomics (SOC511)

PREREQUISITE: 2.0 credits of history Offered: Fall or Spring.5 credit The purpose of an AP course in macroeconomics is to give students a thorough understanding of the principles of economics that apply to an economic system as a whole. Such a course places particular emphasis on the study of national income and price-level determination and also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth and international economics. An additional purpose of this course is to give students a thorough understanding of the principles of economics that apply to an economic system as a whole. This course places particular emphasis on the study of the major macroeconomic goals of economic growth, full employment, and price stability. It also develops a student's familiarity with economic performance measures; national income and price determination, the study of which includes aggregate supply, aggregate demand, the circular flow of money, fiscal policy, and

### \*AP Human Geography S1 (SOC519)

PREREQUISITE: 1.0 credit of history Offered: Fall.5 credit The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of earth's surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their science and practice. The particular topics studied in an AP Human Geography course should be judged in light of the following five college-level goals that build on the National Geography Standards developed in 1994: perspectives in geography, population, cultural patterns and processes; political organization of space; agricultural and rural land use; industrialization and economic development; and cities and urban land use.

### \*AP Government S2 (SOC508)

PREREQUISITE: SOC507 Offered: Spring.5 credit (government credit for graduation) In the year-long AP U.S. Government and Politics course, students move together through five project cycles that address the six AP topics specified by the College Board for success on the Advanced Placement exam. The course is designed using the problem-based learning approach and developed with the support of the George Lucas Educational Foundation and the University of Washington, Seattle. Student-centered learning is at the heart of this course that has students participating in five project cycles: Founders' Intent, Election 2012, Government in Action, 112th Congress, and Supreme Court of the United States. Students in AP US Government and Politics will know important facts, concepts, and theories pertaining to U.S. government and politics. Students will understand typical patterns of political processes and behavior and their consequences (including the

### \*AP Psychology (SOC513,514 Full Year)

This year-long college-level course covers in depth all topics in introductory psychology. The course syllabus follows the model for psychology developed by the American Psychological Association. The course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students study the facts, principles, and phenomena associated with each of the major subfields within psychology. They also learn about the methods psychologists use in their science and practice.

### \*AP Human Geography S2 (SOC520)

PREREQUISITE: SOC519 Offered: Spring.5 credit The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of earth's surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their science and practice. The particular topics studied in an AP Human Geography course should be judged in light of the following five college-level goals that build on the National Geography Standards developed in 1994: perspectives in geography, population, cultural patterns and processes; political organization of space; agricultural and rural land use; industrialization and economic development; and cities and urban land use. AP courses are college level courses taken in high school.

## Science

Des Moines Public Schools seeks to provide a rigorous academic and quality laboratory experience for all students. Science education cultivates a natural curiosity that leads to investigations and interpretations about one's environment. Through experimentation, inquiry, critical thinking and team-work, all students will be provided with the experiences necessary to become responsible decision makers in an increasingly technological world.

Our curriculum fosters an appreciation for science and its technological applications and emphasizes the connection between the classroom and the scientific community. Through ongoing partnerships with Iowa State University our students and staff connect with field scientists and researchers throughout the year.

Our courses are aligned with nationally recognized standards and are delivered in an environment that provides rich opportunities for all students to access content information, through laboratory experiences and real world problems. Our goal is to graduate students who are informed, aware, scientifically literate citizens.

### Environmental Science S1 (SCI201)

**PREREQUISITE:** SCI203/SCI204 **Offered:** Fall.5 credit Environmental Science is a course designed to explore underlying causes and effects of earth's natural and man-made environmental problems. The interrelationships between all living things and the interactions between living things and their non-living environment will be the framework for this study of the earth and its environment. This course combines principles of biology and earth science, and would be appealing to students interested in either of these disciplines. There are many different opinions regarding the causes and effects of environmental problems. Therefore, students will be expected to practice and display a range of problem solving and critical thinking skills to examine scientific evidence and propose and conduct investigations.

### Biology S1 (SCI203)

**PREREQUISITE:** NONE **Offered:** Fall.5 credit Biology is the study of life. This lab-based course provides a survey of life science topics with a special focus on science processes and inquiry, the cell, the molecular basis of heredity, evolution, interdependence of organisms, living systems, and behavior of organisms. Integration of these topics allows students to practice scientific thinking skills and apply them to in-class investigations. Biology serves as a prerequisite for several advanced life science courses including Environmental Science, AP Biology, and Marine Biology.

### Conceptual Physics S1 (SCI205)

**PREREQUISITE:** NONE **CO-REQUISITE:** MTH111 is strongly suggested **Offered:** Fall.5 credit This course examines physics concepts without emphasizing high level mathematics. Basic Algebra skills are used to increase students' understanding of these concepts. Designed to make physics available to a wider audience, this course will provide students with an intellectual foundation for the study of biology and chemistry later in their high school education. Concepts such as straight-line motion, forces, energy and mechanical waves will be studied. This course will help to prepare a student to take AP Physics 1 during his/her junior or senior year, and should not be viewed as a substitute for an upper level Physics course.

### Environmental Science S2 (SCI202)

**PREREQUISITE:** SCI201 **Offered:** Spring.5 credit Environmental Science is a course designed to explore underlying causes and effects of earth's natural and man-made environmental problems. The interrelationships between all living things and the interactions between living things and their non-living environment will be the framework for this study of the earth and its environment. This course combines principles of biology and earth science, and would be appealing to students interested in either of these disciplines. There are many different opinions regarding the causes and effects of environmental problems. Therefore, students will be expected to practice and display a range of problem solving and critical thinking skills to examine scientific evidence and propose and conduct investigations.

### Biology S2 (SCI204)

**PREREQUISITE:** SCI203 **Offered:** Spring.5 credit Biology is the study of life. This lab-based course provides a survey of life science topics with a special focus on science processes and inquiry, the cell, the molecular basis of heredity, evolution, interdependence of organisms, living systems, and behavior of organisms. Integration of these topics allows students to practice scientific thinking skills and apply them to in-class investigations. Biology serves as a prerequisite for several advanced life science courses including Environmental Science, AP Biology, and Marine Biology.

### Conceptual Physics S2 (SCI206)

**PREREQUISITE:** SCI205 **CO-REQUISITE:** MTH112 is strongly suggested **Offered:** Spring.5 credit This course examines physics concepts without emphasizing high level mathematics. Basic Algebra skills are used to increase students' understanding of these concepts. Designed to make physics available to a wider audience, this course will provide students with an intellectual foundation for the study of biology and chemistry later in their high school education. Concepts such as straight-line motion, forces, energy and mechanical waves will be studied. This course will help to prepare a student to take AP Physics 1 during his/her junior or senior year, and should not be viewed as a substitute for an upper level Physics course.

### Earth Science S1 (SCI207) 9<sup>th</sup> Only

PREREQUISITE: NONE Offered: Fall.5 credit This interdisciplinary course, consisting of a study of the earth and space, is an integral part of the science sequence. Topics of study include geology, space and astronomy, meteorology and oceanography. Laboratory investigations, which involve students in the inquiry processes of science, are incorporated into the course. This course is part of the sequence of science courses students should consider for a strong, diversified academic program in science.

### Chemistry S1 (SCI301)

PREREQUISITE: MTH111/MTH112 Offered: Fall.5 credit The nature of matter and its relationship to chemical changes is emphasized in this course. Matter is examined through a study of elements, atoms and molecules, the periodic table, chemical behavior, and energy changes. Laboratory investigations are used extensively to enable students to discover and reinforce these concepts while challenging students to use good scientific thinking and reasoning skills.

### Forensic Science (SCI303)

PREREQUISITE: SCI203/SCI204 and SCI301/302 Offered: Fall or Spring.5 credit Forensic Science is an innovative and unique one semester course that develops critical thinking and problem-solving skills. Fingerprinting identification, hair analysis, and trace evidence examination are only a few of the many topics discussed. This course is rich in lab work and is a natural vehicle for students to practice science as inquiry. Forensic science is multidisciplinary; it is an applied science that encompasses the sciences, technology, mathematics, social studies, and language arts.

### Zoology (SCI307)

PREREQUISITE: SCI203/SCI204 Offered: Fall or Spring.5 credit Zoology is the study of animals. In this course, students with an interest in animals will have opportunities to practice skills of inquiry as they study relationships among animal groups and their environment, classification and life cycles of animal groups, and relationships between animal groups. Laboratory investigations are regularly incorporated.

### Astronomy (SCI311)

PREREQUISITE: SCI205/SCI206 or SCI207/SCI208 Offered: Fall or Spring.5 credit A one-semester course devoted to the study of astronomy. Units of study will include: objects that can be observed in the sky with the unaided eye such as the sun, planets, and stars; equipment that is used to further our knowledge of the universe; the relation between the earth and the other objects in the sky; the properties and lives of stars; the origins of our universe and solar system.

### Earth Science S2 (SCI208) 9<sup>th</sup> Only

PREREQUISITE: SCI207 Offered: Spring.5 credit This interdisciplinary course, consisting of a study of the earth and space, is an integral part of the science sequence. Topics of study include geology, space and astronomy, meteorology and oceanography. Laboratory investigations, which involve students in the inquiry processes of science, are incorporated into the course. This course is part of the sequence of science courses students should consider for a strong, diversified academic program in science.

### Chemistry S2 (SCI302)

PREREQUISITE: SCI301 Offered: Spring.5 credit The nature of matter and its relationship to chemical changes is emphasized in this course. Matter is examined through a study of elements, atoms and molecules, the periodic table, chemical behavior, and energy changes. Laboratory investigations are used extensively to enable students to discover and reinforce these concepts while challenging students to use good scientific thinking and reasoning skills.

### Botany (SCI305)

PREREQUISITE: SCI203/SCI204 Offered: Fall or Spring.5 credit Botany is the study of plants. In this course, students with an interest in plants will have opportunities to practice skills of inquiry as they study the life cycle, growth patterns, and structure/function of plants as well as the role of plants in our ecosystem. Laboratory investigations are regularly incorporated.

### Anatomy and Physiology (SCI309)

PREREQUISITE: SCI203/SCI204 Offered: Fall or Spring.5 credit Anatomy & Physiology is a one semester survey course that covers the structure and function of the human body from the cellular level to organ systems. The organ systems studied are the skin and integumentary system, the skeletal and muscular systems, the nervous system, and the senses, the endocrine system, blood and the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the digestive system including nutrition, and the reproductive system. Other topics included in the course are: the body's balance of water; electrolytes, acids, and bases; and an introduction to human growth and development. This course is meant to be an introductory course in Anatomy & Physiology.

### \*AP Environmental Science S1 (SCI501)

PREREQUISITE: SCI203/SCI204 CO-REQUISITE: SCI301/SCI302  
Offered: Fall .5 credit AP Environmental Science is a one-year high school course, equivalent to a one-semester college course stressing scientific principles and analysis. The goal of the course is to provide students with scientific principles, concepts and methodologies to understand the interrelationship of the natural world; to identify and analyze natural and man-made environmental problems; to evaluate the relative risk associated with these problems; and to examine alternative solutions for resolving and preventing them. There are strong lab and field investigations, allowing students to learn about the environment through firsthand observation. Field experiences may be arranged outside of school hours. Completion of the AP exam is an expectation for all AP courses.

### \*AP Chemistry S1 (SCI505)

PREREQUISITE: SCI301/SCI302 CO-REQUISITE: SCI203/204 or a Physics course  
Offered: Fall .5 credit AP Chemistry is an intensive study of matter at the atomic and molecular levels, emphasizing inorganic chemistry. There is a concentration on the mathematical treatment of the principles of college chemistry. The course covers formula writings, types of chemical reactions and stoichiometry, atomic and molecular structure, gases, kinetics, equilibrium, acid-base chemistry, and thermodynamics. Laboratory work is extensive and equivalent to freshman college-level with formal reports. Completion of the AP exam is an expectation for all AP courses.

### \*AP Biology S1 (SCI507)

PREREQUISITE: SCI203/SCI204 CO-REQUISITE: SCI301/302  
Offered: Fall .5 credit This course is the equivalent of an introductory college biology course. It is an intensive study emphasizing the molecular biology of the cell, genetics and evolution, organisms and populations. Laboratory activities challenge students' abilities to understand problems, develop and implement experimental designs, manipulate data, and think analytically. Laboratory work is extensive. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Environment S1 (SCI517)

PREREQUISITE: SCI203/SCI204 CO-REQUISITE: SCI301/SCI302  
Offered: Fall .5 credit AP Environmental Science with college credit is a one-year high school course, equivalent to a one-semester college course stressing scientific principles and analysis. The goal of the course is to provide students with scientific principles, concepts and methodologies to understand the interrelationship of the natural world; to identify and analyze natural and man-made environmental problems; to evaluate the relative risk associated with these problems; and to examine alternative solutions for resolving and preventing them. There are strong lab and field investigations, allowing students to learn about the environment through firsthand observation. Field experiences may be arranged outside of school hours. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Physics S1 (SCI519)

PREREQUISITE: MTH111/MTH112, MTH211/MTH212 CO-REQUISITE: MTH311/MTH312  
Offered: Fall .5 credit This AP course with associated college credit is the equivalent of an introductory college physics course and includes topics in both classical and modern physics, emphasizing the mathematical treatment of physical events. The course covers topics such as kinematics, forces and Newton, gravity and fields, energy, momentum, rotational momentum, magnetism, simple harmonic motion, and waves. Students interested in pursuing a major in science or engineering in college should take this course in order to be fully prepared for college physics. Lab experience is extensive. Concurrent enrollment in Pre-Calculus is recommended, but not REQUIRED.

### \*AP Environmental Science S2 (SCI502)

PREREQUISITE: SCI501  
Offered: Spring .5 credit AP Environmental Science is a one-year high school course, equivalent to a one-semester college course stressing scientific principles and analysis. The goal of the course is to provide students with scientific principles, concepts and methodologies to understand the interrelationship of the natural world; to identify and analyze natural and man-made environmental problems; to evaluate the relative risk associated with these problems; and to examine alternative solutions for resolving and preventing them. There are strong lab and field investigations, allowing students to learn about the environment through firsthand observation. Field experiences may be arranged outside of school hours. Completion of the AP exam is an expectation for all AP courses.

### \*AP Chemistry S2 (SCI506)

PREREQUISITE: SCI505  
Offered: Spring .5 credit AP Chemistry is an intensive study of matter at the atomic and molecular levels, emphasizing inorganic chemistry. There is a concentration on the mathematical treatment of the principles of college chemistry. The course covers formula writings, types of chemical reactions and stoichiometry, atomic and molecular structure, gases, kinetics, equilibrium, acid-base chemistry, and thermodynamics. Laboratory work is extensive and equivalent to freshman college-level with formal reports. Completion of the AP exam is an expectation for all AP courses.

### \*AP Biology S2 (SCI508)

PREREQUISITE: SCI507  
Offered: Spring .5 credit This course is the equivalent of an introductory college biology course. It is an intensive study emphasizing the molecular biology of the cell, genetics and evolution, organisms and populations. Laboratory activities challenge students' abilities to understand problems, develop and implement experimental designs, manipulate data, and think analytically. Laboratory work is extensive. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Environment S2 (SCI518)

PREREQUISITE: SCI517  
Offered: Spring .5 credit AP Environmental Science with college credit is a one-year high school course, equivalent to a one-semester college course stressing scientific principles and analysis. The goal of the course is to provide students with scientific principles, concepts and methodologies to understand the interrelationship of the natural world; to identify and analyze natural and man-made environmental problems; to evaluate the relative risk associated with these problems; and to examine alternative solutions for resolving and preventing them. There are strong lab and field investigations, allowing students to learn about the environment through firsthand observation. Field experiences may be arranged outside of school hours. Completion of the AP exam is an expectation for all AP courses.

### \*College AP Physics S2 (SCI520)

PREREQUISITE: SCI519  
Offered: Spring .5 credit This AP course with associated college credit is the equivalent of an introductory college physics course and includes topics in both classical and modern physics, emphasizing the mathematical treatment of physical events. The course covers topics such as kinematics, forces and Newton, gravity and fields, energy, momentum, rotational momentum, magnetism, simple harmonic motion, and waves. Students interested in pursuing a major in science or engineering in college should take this course in order to be fully prepared for college physics. Lab experience is extensive. Concurrent enrollment in Pre-Calculus is recommended, but not REQUIRED. Completion of the AP exam is an expectation for all AP courses.

**\*AP Physics 1 S1 (SCI525)**

PREREQUISITE: MTH111/MTH112, MTH211/MTH212 CO-REQUISITE: MTH311/MTH312 Offered: Fall.5 credit This course is the equivalent of an introductory college physics course and includes topics in both classical and modern physics, emphasizing the mathematical treatment of physical events. The course covers topics such as kinematics, forces and Newton, gravity and fields, energy, momentum, rotational momentum, magnetism, simple harmonic motion, and waves. Students interested in pursuing a major in science or engineering in college should take this course in order to be fully prepared for college physics. Lab experience is extensive. Concurrent enrollment in Pre-Calculus is recommended, but not REQUIRED. Completion of the AP exam is an expectation for all AP courses.

**Science Lab AP/IB I S1 (SCI591)**

PREREQUISITE: NONE CO-REQUISITE: Must be concurrently enrolled in an AP Science course Offered: Fall.5 credit This course is highly recommended for students who are concurrently enrolled in an Advanced Placement science course. The course is instructed by an Advanced Placement teacher in the content area and provides structured support for success in the AP environment. The teacher provides direct instruction in areas of reading and writing in the content area with time for guided and independent practice. This course is designed to help increase a student's success in the Advanced Placement program.

**\*AP Physics 1 S2 (SCI526)**

PREREQUISITE: SCI525 Offered: Spring.5 credit This course is the equivalent of an introductory college physics course and includes topics in both classical and modern physics, emphasizing the mathematical treatment of physical events. The course covers topics such as kinematics, forces and Newton, gravity and fields, energy, momentum, rotational momentum, magnetism, simple harmonic motion, and waves. Students interested in pursuing a major in science or engineering in college should take this course in order to be fully prepared for college physics. Lab experience is extensive. Concurrent enrollment in Pre-Calculus is recommended, but not REQUIRED. Completion of the AP exam is an expectation for all AP courses.

**Science Lab AP/IB I S2 (SCI592)**

PREREQUISITE: NONE CO-REQUISITE: Must be concurrently enrolled in an AP Science course Offered: Spring .5 Credit This course is highly recommended for students who are concurrently enrolled in an Advanced Placement science course. The course is instructed by an Advanced Placement teacher in the content area and

## Performing Arts

The Des Moines Public Schools music and drama programs are highly acclaimed, and offer a comprehensive and extensive variety of classes at all levels. The Performing Arts programs in our district high schools empower students to use their minds creatively and inspire students through diversity in learning. Students who participate in Performing Arts academic areas broaden their life experiences and become equipped with the critical thinking, communication, collaboration, creativity, and problem solving skills needed in the 21<sup>st</sup> century.

### Band S1 S2 (BND101,102)

PREREQUISITE: Previous semester of concert band experience on applicable instrument or audition Offered: Spring.5 credit This course includes concert band. Concert Band: Auditions for concert band are held in October. Members in the band will study traditional concert band literature, and perform regularly throughout the winter and spring months. Members are encouraged to take private lessons, and may also participate in solo/ensemble contests.

### Beg. Handbells (MUS106)

PREREQUISITE: Audition Offered: Spring .25 Credit Beginning hand bell ringers will learn the basic techniques of hand bell ringing through a variety of hand bell literature. Students will be required to perform at some evening concerts. Class meets before school.

### Percussion Ensemble (MUS119)

PREREQUISITE: Audition only Offered: Fall.5 credit Percussionists will explore the various instruments of the percussion family and percussion literature.

### Orchestra S1 (ORC101)

PREREQUISITE: Previous semester of Orchestra on applicable instrument or audition Offered: Fall.5 credit This course is for all interested string players. Students participate in several concerts per year.

### Concert Choir Non-Audition S1 (VOC101)

PREREQUISITE: NONE Offered: Fall.5 credit Class will include study of vocal techniques and exercises, music theory and terminology, study of the human voice, and the history of choral music through performance of varied choral literature. Each semester the Concert Choir will study and rehearse music to be performed at specified concerts. This course replaces Lincoln Singers (MUS141 and MUS142). This course replaces Prep Choir Non-Audition (MUS135 and MUS136).

### Band (1.0 cr) (BND103)

#### Everyday Band, Marching

### Percussion Ensemble (MUS120)

PREREQUISITE: Audition only Offered: Spring.5 credit Percussionists will explore the various instruments of the percussion family and percussion literature.

### Orchestra S2 (ORC102)

PREREQUISITE: Previous semester of Orchestra on applicable instrument or audition Offered: Spring.5 credit This course is for all interested string players. Students participate in several concerts per year.

### Concert Choir Non-Audition S2 (VOC102)

PREREQUISITE: MUS139 Offered: Spring.5 credit Class will include study of vocal techniques and exercises, music theory and terminology, study of the human voice, and the history of choral music through performance of varied choral literature. Each semester the Concert Choir will study and rehearse music to be performed at specified concerts.

### Instrumental Music Theory (MUS203)

PREREQUISITE: Instructor Approval CO-REQUISITE: Must be enrolled in an instrumental music course. Offered: Fall.5 credit Students will study traditional music theory, including scales, chords, intervals, transposition, and beginning part-writing.

### Jazz I (BND207)

PREREQUISITE: Audition and must conform to IHSMA rules regarding participation Offered: Fall.5 credit This course is offered to any student who plays a jazz instrument. Through performances, students will develop an understanding of basic jazz styles and improvisation techniques.

### Advanced Handbells (MUS205)

PREREQUISITE: Audition Offered: Fall.25 credit Advanced hand bell ringers will learn the advanced techniques of hand bell ringing through a variety of hand bell literature. Students will perform extensively throughout the community with

### Concert Choir Audition S1 (VOC209)

PREREQUISITE: Audition only Offered: Fall.5 credit This choir is designed to develop vocal technique, part-singing, and fundamentals of choral singing through a variety of musical styles. Multiple performances will be expected throughout the year.

### Show Choir (VOC211)

PREREQUISITE: Audition CO-REQUISITE: Concert, Chamber or Core Choir Ensemble per IHSMA rules Offered: Fall.5 credit Show Choir (formerly known as Sound Attraction) will study and sing styles including jazz and popular music. The members are expected to participate in fall and spring shows, several competitions, and performances outside of school hours. This course combined Fresh Air (MUS213/MUS214), Infinity (MUS311/MUS312), and Scarlet Singers (MUS313/MUS314).

### Chamber Choir S1 (VOC315,312)

PREREQUISITE: Audition only Offered: Fall.5 credit Class will include study of advanced vocal techniques and exercises, review of basic music theory and terminology, advanced sight reading skills, study of the human voice, vocal health, and the history of choral music through performance of various styles of vocal literature. Each semester Chamber Choir will study and rehearse music to be performed at specified concerts and contests.

### Instrumental Music Theory (MUS204)

PREREQUISITE: Instructor Approval CO-REQUISITE: Must be enrolled in an instrumental music course Offered: Spring .5 credit Students will study traditional music theory, including scales, chords, intervals, transposition, and beginning part-writing.

### Jazz I (MUS208)

PREREQUISITE: Audition and must conform to IHSMA rules regarding participation Offered: Spring .5 credit This course is offered to any student who plays a jazz instrument. Through performances, students will develop an understanding of basic jazz styles and improvisation techniques.

### Advanced Handbells (MUS206)

PREREQUISITE: Audition Offered: Spring .25 Credit Beginning hand bell ringers will learn the basic techniques of hand bell ringing through a variety of hand bell literature. Students will be required to perform at some evening concerts. Class meets before Advanced hand bell ringers will learn the advanced techniques of hand bell ringing through a variety of hand bell literature. Students will perform extensively throughout the community with several daytime and evening performances.

### Concert Choir Audition S2 (VOC210)

PREREQUISITE: Audition only Offered: Spring.5 credit This choir is designed to develop vocal technique, part-singing, and fundamentals of choral singing through a variety of musical styles. Multiple performances will be expected throughout the year.

### Show Choir (VOC212)

PREREQUISITE: Audition CO-REQUISITE: Concert, Chamber or Core Choir Ensemble per IHSMA rules Offered: Spring.5 credit Show Choir (formerly known as Sound Attraction) will study and sing styles including jazz and popular music. The members are expected to participate in fall and spring shows, several competitions, and performances outside of school hours. This course combined Fresh Air (MUS213/MUS214), Infinity (MUS311/MUS312), and Scarlet Singers (MUS313/MUS314).

### \*Honors Chamber Choir S1 (VOC401)

PREREQUISITE: Audition Offered: Fall.5 credit Class will include study of advanced vocal techniques and exercises, review of basic music theory and terminology, advanced sight reading skills, study of the human voice, vocal health, and the history of choral music through performance of various styles of vocal literature. Each semester Chamber Choir will study and rehearse music to be performed at specified concerts and contests. Students in this course are required to audition for All-State.

### \*Honors Chamber Choir S2 (VOC402)

PREREQUISITE: Audition Offered: Spring.5 credit Class will include study of advanced vocal techniques and exercises, review of basic music theory and terminology, advanced sight reading skills, study of the human voice, vocal health, and the history of choral music through performance of various styles of vocal literature. Each semester Chamber Choir will study and rehearse music to be performed at specified concerts and contests. Students in this course are required to perform at solo/ensemble.

### \*Honors Band S1 (BND405)

PREREQUISITE: Audition Offered: Fall.5 credit This course is for a select group that will study highly advanced band music. Members are determined by audition. Students in this course are required to audition for All-State/SCIBA.

### \*Honors Band S2 (BND406)

PREREQUISITE: Audition Offered: Spring.5 credit This course is for a select group that will study highly advanced band music. Members are determined by audition. Students in this course are required to perform at Solo/Ensemble.

### Honors Orchestra S1 (ORC401)

PREREQUISITE: Audition Offered: Fall.5 credit This course is for a select group that will study highly advanced orchestra music. Members are determined by audition.

### \*Honors Orchestra S2 (ORC402)

PREREQUISITE: Audition Offered: Spring.5 credit This course is for a select group that will study highly advanced orchestra music. Members are determined by audition.

### \*AP Music Theory (MUS501)

PREREQUISITE: NONE Offered: Fall.5 credit Advanced Placement Music Theory is a college-level study of the theory and ear training of music. It is geared toward the Advanced Placement Music Theory test, which is strong on aural (listening) skills as well as written skills. Students will learn to identify scales, intervals, chord progressions and modulations by sound and by sight. Students will sing melodies on sight and improve students'™ rhythm reading. Students will learn how to write music from various forms of shorthand and analyze music. Students will learn, chords, cadences and forms. Students will decode music and decode how and why music is written the way it is. There are no official prerequisites, but those having had music before will have a definite advantage. This course combined with IS Music Composition (MUS301/MUS302) and IS Music Theory

### \*AP Music Theory (MUS502)

PREREQUISITE: NONE Offered: Spring.5 credit Advanced Placement Music Theory is a college-level study of the theory and ear training of music. It is geared toward the Advanced Placement Music Theory test, which is strong on aural (listening) skills as well as written skills. Students will learn to identify scales, intervals, chord progressions and modulations by sound and by sight. Students will sing melodies on sight and improve students'™ rhythm reading. Students will learn how to write music from various forms of shorthand and analyze music. Students will learn, chords, cadences and forms. Students will decode music and decode how and why music is written the way it is. There are no official prerequisites, but those having had music before will have a definite advantage.

### Theatre Arts I S1 (DRM129)

PREREQUISITE: NONE Offered: Fall. 5 credit Theatre Arts I is an introductory course that will teach students to utilize and develop self-confidence, poise, basic theatre terminology, appreciation of various dramatic forms, appropriate response, awareness of theatre production processes, understanding of theatre literature, knowledge of theatre history, and beginning performance skills.

### Play Production I S1 (DRM131)

PREREQUISITE: NONE

Offered: Fall. 5 credit Play Production I is a survey course of technical theatre covering set construction/safety, costumes, make-up, publicity/programs, lights/sound, props, house management, and play reading and analysis.

### Theatre Arts II S1 (DRM229)

PREREQUISITE: LA130 Offered: Fall. 5 credit The course provides the opportunity for students to thoroughly investigate the subjects taught in Theatre Arts I. Areas of concentration will be theatre history, literature, acting and play production. Performance will be a major component of this course.

### Play Production II S1 (DRM231)

PREREQUISITE: LA131 Offered: Fall. 5 credit This course provides students an opportunity to apply the skills learned in Play Production I. Students will participate in decision making, construction and crew supervision, and problem solving. Students will learn advanced methods in dealing with props, sets, lights/sound, costumes, make-up, and publicity/programs.

### Theatre Arts III S1 (DRM329)

PREREQUISITE: LA230 Offered: Fall. 5 credit This course will begin to prepare the more serious theatre student with advanced concepts in performance and production. Also included will be an intro to playwriting, criticism, and auditioning. Students will explore forms of creative expression, performance styles, methods of acting, and artistic styles.

### Play Production III S1 (DRM331)

PREREQUISITE: LA232 Offered: Fall. 5 credit Play Production III covers exploratory methods of script analysis, design work, and stage management. Students will use basic and advanced design and construction concepts to create a production.

### Theatre Arts I S2 (DRM130)

PREREQUISITE: LA129 Offered: Spring. 5 credit Theatre Arts I is an introductory course that will teach students to utilize and develop self-confidence, poise, basic theatre terminology, appreciation of various dramatic forms, appropriate response, awareness of theatre production processes, understanding of theatre literature, knowledge of theatre history, and beginning performance skills.

### Play Production I S2 (DRM132)

PREREQUISITE: LA131 Offered: Spring. 5 credit Play Production I is a survey course of technical theatre covering set construction/safety, costumes, make-up, publicity/programs, lights/sound, props, house management, and play reading and analysis.

### Theatre Arts II S2 (DRM230)

PREREQUISITE: LA229 Offered: Spring. 5 credit The course provides the opportunity for students to thoroughly investigate the subjects taught in Theatre Arts I. Areas of concentration will be theatre history, literature, acting and play production. Performance will be a major component of this course.

### Play Production II S2 (DRM232)

PREREQUISITE: LA231 Offered: Spring. 5 credit This course provides students an opportunity to apply the skills learned in Play Production I. Students will participate in decision making, construction and crew supervision, and problem solving. Students will learn advanced methods in dealing with props, sets, lights/sound, costumes, make-up, and publicity/programs.

### Theatre Arts III S2 (DRM330)

PREREQUISITE: LA329 Offered: Spring. 5 credit This course will begin to prepare the more serious theatre student with advanced concepts in performance and production. Also included will be an intro to playwriting, criticism, and auditioning. Students will explore forms of creative expression, performance styles, methods of acting, and artistic styles.

### Play Production III S2 (DRM332)

PREREQUISITE: LA232 Offered: Fall. 5 credit Play Production III covers exploratory methods of script analysis, design work, and stage management. Students will use basic and advanced design and construction concepts to create a production.

**Theatre Arts IV:Direct/Mgmt S1 (DRM429)**

PREREQUISITE: LA330Offered: Fall.5 creditIn addition to intensive work in directing, design, and criticism, students in this course will be expected to make a significant contribution to the leadership of the Drama Department and will apply advanced theory to performance or technical work.

**Play ProductionIV:Dsgn/Mgmt S1 (DRM431)**

PREREQUISITE: LA332Offered: Fall.5 creditStudents will assume the technical responsibility for a production including: Selection and analysis of the play, design for one tech area of the play, action plan, construction, final product, and critique of finished work.

**Theatre Arts IV:Direct/Mgmt S2 (DRM430)**

PREREQUISITE: LA430Offered: Spring.5 credit In addition to intensive work in directing, design, and criticism, students in this course will be expected to make a significant contribution to the leadership of the Drama Department and will apply advanced theory to performance or technical work.

**Play ProductionIV:Dsgn/Mgmt S2 (DRM432)**

PREREQUISITE: LA431Offered: Spring.5 creditStudents will assume the technical responsibility for a production including: Selection and analysis of the play, design for one tech area of the play, action plan, construction, final product, and critique of finished work.

## Visual Arts

The Des Moines Public Schools offer a comprehensive, hands-on approach to learning and mastering the skills in visual arts. Students who pursue an academic study of the visual arts will deepen their communications skills, define and solve creative problems with insight and technical ability, focus their critical analysis skills, and develop an informed acquaintance with exemplary works of art from a variety of cultures across historical periods and genres. Learning in the visual arts provides opportunities for students to broaden their life experience and become equipped with skills needed and valued in the 21<sup>st</sup> century.

### Intro 2D Art & 3D Art S1 (ART101)

PREREQUISITE: NONE Offered: Fall .5 credit This course is an introductory foundational level study of all visual art standards and requires no previous art experience. Students use a variety of media, techniques and processes to explore the Elements of Art and solve visual arts and creative problems. Students will engage in the creative process through planning, applying, and evaluating. This course is recommended for students considering careers requiring artistic skill. Satisfactory completion of this course is a prerequisite for all advanced art courses.

### Intro to Art History S1 (ART105)

PREREQUISITE: NONE Offered: Fall .5 credit In this course, students will develop a basic vocabulary for describing visual art, an understanding of the functions of imagery, and explore the role art has played throughout Western and Non-Western history and contemporary trends. The focus of this course is describing, exploring, and participating in the creative process in order to better understand the role of art in history. This course is recommended for students considering careers in architecture, art education, art history, ceramics, fashion design, interior architecture, interior design, landscape design, or studio art or future enrollment in the AP Art History course

### Intro to Graphic Design S1 (ART141)

PREREQUISITE: NONE Offered: Fall .5 credit This course is an introduction to the principles and elements of graphic design. Students will explore different avenues of visual communication, self-expression, and creative problem-solving through the creation of commercial, interactive, and fine art. Students will engage in the creative process through planning, application, and evaluation of graphic design concepts.

### Drawing and Painting II S1 (ART201)

PREREQUISITE: ART102 Offered: Fall .5 credit This course is a further exploration of Elements of Art and Principles of Design through the drawing and painting media such as acrylic, watercolor, oil pastels, and charcoal. Students will engage in the creative process through planning, applying, evaluating, and connecting art to wider contexts. This course is recommended for students considering careers requiring artistic skill. Satisfactory completion of ART101/ART102 is a prerequisite for this and all advanced course work. Art teacher may recommend waive of prerequisite when student portfolio demonstrates readiness for advanced course work.

### Intro 2D Art & 3D Art S2 (ART102)

PREREQUISITE: ART101 Offered: Spring .5 credit This course is an introductory foundational level study of all visual art standards and requires no previous art experience. Students use a variety of media, techniques and processes to explore Elements of Art and Principles of Design, and solve visual arts and creative problems. Students will engage in the creative process through planning, applying, evaluating, and connecting art to wider contexts. This course is recommended for students considering careers requiring artistic skill. Satisfactory completion of this course is a prerequisite for all advanced art courses.

### Intro to Art History S1 (ART106)

PREREQUISITE: ART141 Offered: Spring .5 credit In this course, students will develop a basic vocabulary for describing visual art, an understanding of the functions of imagery, and explore the role art has played throughout Western and Non-Western history and contemporary trends. The focus of this course is describing, exploring, and participating in the creative process in order to better understand the role of art in history. This course is recommended for students considering careers in architecture, art education, art history, ceramics, fashion design, interior architecture, interior design, landscape design, or studio art or future enrollment in the AP Art History course

### Intro to Graphic Design S2 (ART142)

PREREQUISITE: ART141 Offered: Spring .5 credit This course continues and deepens an introduction to the principles and elements of graphic design. Students will explore different avenues of visual communication, self-expression, and creative problem-solving through the creation of commercial, interactive, and fine art. Students will engage in the creative process through planning, application, and evaluation of graphic design concepts.

### Drawing and Painting II S2 (ART202)

PREREQUISITE: ART201 Offered: Spring .5 credit This course is a further exploration of Elements of Art and Principle of Design through the drawing and painting media such as acrylic, watercolor, oil pastels and charcoal. Students will engage in the creative process through planning, applying, evaluating, and connecting art to wider concepts. This course is recommended for students considering careers requiring artistic skill. Satisfactory completion of ART101/ART102 is a prerequisite for this and all advanced course work. Art teacher may recommend waive of prerequisite when student portfolio demonstrates readiness for advanced coursework.

### 3D Design II S1 (ART211)

PREREQUISITE: ART102 Offered: Fall. 5 credit This course is a further exploration of the Elements of Art and Principles of Design through three dimensional sculptural media such as clay, wood, metals, fiber, paper, tile, glass, plaster, and mixed media. Students will engage in the creative process through planning, applying, and evaluating. This course is recommended for students considering careers requiring artistic skill. Satisfactory completion of ART101/ART102 is a prerequisite for this and all advanced course work. Art teacher may waive prerequisite when student portfolio demonstrates readiness for advanced coursework.

### Photography I S1 (ART221)

PREREQUISITE: NONE Offered: Fall. 5 credit This course is an introductory foundational level study of the Elements of Art and the Principles of Design through the medium of photography and requires no previous art experience. Students develop skills in basic camera operation, photographic processes, procedures, theory, and studio techniques. Students will engage in the creative process through exploring the camera as a tool and evaluating their work and the work of others. This course is recommended for students considering careers in animation, digital media, graphic design, illustration, multi-media, museum, object design, photojournalism, studio art, or visual communications.

### Advanced Photography S1 (ART225)

PREREQUISITE: ART222 Offered: Fall. 5 credit This course is an advanced level study of the Elements of Art and Principles of Design through the medium of photography for students who have mastered the basic photographic principles and process. Students will engage in the creative process and explore the camera as a tool by connecting work to wider contexts, planning, evaluating, and presenting. This course is recommended for students considering careers in animation, digital media, graphic design, illustration, multi-media, object design, photojournalism, studio art, commercial art, or visual communications.

### Intermediate Graphic Design S1 (ART241)

PREREQUISITE: ART142 Offered: Fall. 5 credit This course is a further exploration into visual communication through graphic design. Students will explore different avenues of visual communication, self-expression, and creative problem-solving through the creation of commercial, interactive, and fine art. Students will engaged in the creative process through planning, application, evaluation, and presentation of graphic design concepts.

### Drawing and Painting III S1 (ART301)

PREREQUISITE: ART202 Offered: Fall. 5 credit This course is an advanced study of the Elements of Art and Principles of Design through the drawing and painting media. Students will engage in the creative process through planning, applying, evaluating, and connecting art to wider contexts. This course is recommended for students considering careers in architecture, art education, art history, graphic design, illustration, interior design, or studio art.

### 3D Design II S2 (ART212)

PREREQUISITE: ART211 Offered: Spring. 5 credit This course is a further exploration of the Elements of Art and Principles of Design through three dimensional sculptural media such as clay, wood, metals, fiber, paper, tile, glass, plaster, and mixed media. Students will engage in the creative process through planning, applying, and evaluating. This course is recommended for students considering careers requiring artistic skill. Satisfactory completion of ART101/ART102 is a prerequisite for this and all advanced course work. Art teacher may waive prerequisite when student portfolio demonstrates readiness for advanced coursework.

### Photography I S2 (ART222)

PREREQUISITE: ART221 Offered: Spring. 5 credit This course is an introductory foundational level study of the Elements of Art and Principles of Design through the medium of photography and requires no previous art experience. Students develop skills in basic camera operation, photographic processes, procedures, theory, and studio techniques. Students will engage in the creative process through exploring the camera as a tool and evaluating their own work and the work of others. This course is recommended for students considering careers in animation, digital media, graphic design, illustration, multi-media, museum, object design, photojournalism, studio art, or visual communications.

### Advanced Photography S2 (ART226)

PREREQUISITE: ART225 Offered: Spring. 5 credit This course is an advanced level study of the Elements of Art and Principles of Design through the medium of photography for students who have mastered the basic photographic principles and process. Students will engage in the creative process and explore the camera as a tool by connecting work to wider contexts, planning, evaluating, and presenting. This course is recommended for students considering careers in animation, digital media, graphic design, illustration, multi-media, object design, photojournalism, studio art, commercial art, or visual communications.

### Intermediate Graphic Design S2 (ART242)

PREREQUISITE: ART241 Offered: Spring. 5 credit This course is a deeper exploration into digital imaging and computer-based art. Students will explore different avenues of visual communication, self-expression, and creative problem-solving through the creation of commercial, interactive, and fine art. Students will engage in the creative process through planning, application, evaluation, and presentation of graphic design concepts.

### Drawing and Painting III S2 (ART302)

PREREQUISITE: ART301 Offered: Spring. 5 credit This course is an advanced study of the Elements of Art and Principles of Design through the drawing and painting media. Students will engage in the creative process through planning, applying, evaluating, and connecting art to wider concepts. This course is recommended for students considering careers in architecture, art education, art history, graphic design, illustration, interior design, or studio art.

### 3D Design III S1 (ART311)

PREREQUISITE: ART212 Offered: Fall. 5 credit This advanced course is a deeper exploration of the Elements of Art and Principles of Design through three dimensional sculptural media such as clay, wood, metals, fiber, paper, tile, glass, plaster, and mixed media. Students will engage in the creative process through planning, applying, evaluating, and connecting work to wider contexts. This course is recommended for students considering careers in architecture, art education, art history, ceramics, fashion design, interior architecture, interior design, landscape design, or studio art.

### Drawing and Painting IV S1 (ART401)

PREREQUISITE: ART302 Offered: Fall. 5 credit This advanced studio course is a study of personal expression using the Elements and Principles through the drawing and painting media. Students will engage in the creative process through planning, applying, evaluating, connecting and presenting art concepts. This course is recommended for students considering careers in architecture, art education, art history, graphic design, illustration, interior design, or studio art.

### Honors 2D Art S1 (ART403)

PREREQUISITE: ART102 Offered: Fall. 5 credit This advanced level course emphasizes making art as an ongoing process that involves the students in critical decision making; helps students develop technical skills and familiarizes them with the functions of the visual elements. The course encourages systematic, creative, investigation of formal and conceptual issues.

### 3D Design IV S1 (ART411)

PREREQUISITE: ART312 Offered: Fall. 5 credit This advanced course is a deeper exploration of personal expression with the Elements of Art and Principles of Design through three dimensional sculptural media such as clay, wood, metals, fiber, paper, tile, glass, plaster, and mixed media. Students will engage in the creative process through planning, applying, evaluating, presenting, and connecting work to wider contexts. This course is recommended for students considering careers in architecture, art education, art history, ceramics, fashion design, interior architecture, interior design, landscape design, or studio art.

### 3D Design III S2 (ART312)

PREREQUISITE: ART311 Offered: Spring. 5 credit This advanced course is a deeper exploration of the Elements of Art and Principles of Design through three dimensional sculptural media such as clay, wood, metals, fiber, paper, tile, glass, plaster, and mixed media. Students will engage in the creative process through planning, applying, evaluating, and connecting work to wider contexts. This course is recommended for students considering careers in architecture, art education, art history, ceramics, fashion design, interior architecture, interior design, landscape design, or studio art.

### Drawing and Painting IV S2 (ART402)

PREREQUISITE: ART401 Offered: Spring. 5 credit This advanced studio course is a study of personal expression using the Elements and Principles through the drawing and painting media. Students will engage in the creative process through planning, applying, evaluating, connecting, and presenting art concepts. This course is recommended for students considering careers in architecture, art education, art history, graphic design, illustration, interior design, or studio art.

### Honors 2D Art S2 (ART404)

PREREQUISITE: ART403 Offered: Spring. 5 credit This advanced level course emphasizes making art as an ongoing process that involves the students in critical decision making; helps students develop technical skills and familiarizes them with the functions of the visual elements. The course encourages systematic, creative, investigation of formal and conceptual issues.

### 3D Design IV S2 (ART412)

PREREQUISITE: ART411 Offered: Fall. 5 credit This advanced course is a deeper exploration of personal expression with the Elements of Art and Principles of Design through three dimensional sculptural media such as clay, wood, metals, fiber, paper, tile, glass, plaster, and mixed media. Students will engage in the creative process through planning, applying, evaluating, presenting, and connecting work to wider contexts. This course is recommended for students considering careers in architecture, art education, art history, ceramics, fashion design, interior architecture, interior design, landscape design, or studio art.

## Physical Education & Health Science

Physical Education is an important and unique part of the daily instructional program. Not only does it contribute to the overall goals of education, but it also contributes to the development and maintenance of fitness, motor skills, social skills, health, and brain development.

The Des Moines Public Schools provides a comprehensive curriculum that allows students choice in a planned sequential instructional program that teaches skills, knowledge and behaviors to promote lifelong fitness.

These are necessary to function at an adequate level of competence enabling each student to be an active, physically and mentally fit individual throughout life.

Contract PE Eligibility & Chapter 12 Guidance (COUNSELOR GUIDE ONLY):

*12th grade students are eligible to enroll in Contract PE for 1 semester of their senior year provided they meet at least one of the following criteria:*

- *Student is involved in a work study or other educational program that requires the student's absence from school.*
- *Student is carrying a full academic schedule for the current semester.*
- *Student is involved in a school-sponsored athletic program or activity supervised by a staff member with a coaching endorsement.*

*9th-11th Grade: All other high school students are eligible to enroll in Contract PE provided they meet all of the following criteria:*

- *Student is carrying a full academic schedule for the current semester.*
- *Student has no physical education failures to make up from previous years.*
- *Student is involved in a school-sponsored athletic or activity supervised by a staff member with a coaching endorsement.*

*Once a student's eligibility to enroll has been determined using these criteria, they must complete a Contract Physical Education Student Application and secure the required signatures.*

### Individual/Personal Fitness (PHY101)

PREREQUISITE: NONE Offered: Fall.5 credit Physical Education Staff work with students one-on-one to help launch and sustain a smart and safe exercise program that will progress them step-by-step as a beginner, move them beyond a stubborn plateau, break out of a fitness rut or simply re-energize their workout. Staff will work with students to make living a healthy lifestyle attainable through guidance on nutrition, cardiovascular and resistance training.

### Lifelong Rec Activities (PHY103)

PREREQUISITE : NONE Offered: Fall/Spring.5 credit Students will learn a variety of rules, skills, and fundamentals and strategies in a variety of individual and dual sport activities. Safety and sportsmanship will be emphasized. Activities include but are not limited to: Badminton, pickle ball, tennis, bowling, table tennis, and other individual and dual sports. District mandates fitness assessments will be administered in pre and post test form.

### Individual/Personal Fitness S2 (PHY102)

PREREQUISITE: NONE Offered: Spring.5 credit Physical Education Staff work with students one-on-one to help launch and sustain a smart and safe exercise program that will progress them step-by-step as a beginner, move them beyond a stubborn plateau, break out of a fitness rut or simply re-energize their workout. Staff will work with students to make living a healthy lifestyle attainable through guidance on nutrition, cardiovascular and resistance training.

### Ind/Dual Recreation Act S2 (PHY104)

PREREQUISITE: NONE Offered: Spring.5 credit Develop an acceptable level of fitness, an understanding of the components of fitness, and an appreciation of the life-long value of fitness through personalized physical education activities. Develop through a purposeful physical education experience a more positive self-concept appropriate to social and emotional behaviors, self direction and an appreciation of individual differences. Develop physical skills and acquire knowledge of efficient and creative movement through participation in a sequential program of varied activities and develop an appreciation for the value of this type of movement.

### Team Games/Act & Sports (PHY105)

PREREQUISITE: NONE Offered: Fall/Spring.5 credit Students will learn a variety of rules, skills, fundamentals and strategies in multiple team activities. Safety and sportsmanship will be emphasized. Activities will include by not limited to: Basketball, Soccer, Volleyball, Floor Hockey, Lacrosse, Ultimate Games, Non-traditional Games, Flag Football, Diamond Sports. District mandated fitness assessments will be administered in pre and post test form.

### Fitness Walking (PHY115)

PREREQUISITE: NONE Offered: Fall/Spring.5 credit This course is designed for students to improve cardiovascular fitness by walking. This course is completely activity based and suggested for those who are self-motivated. Various walking activities and assessments will be used throughout the class. Students will be expected to walk 2-3 miles per class period. This will allow students' the opportunity to participate in individual fitness activities that can be continued throughout one's lifetime. Activities include by not limited to: walking, heart rate monitoring, circuit training, treadmills, time laps/stairs, time mile, pedometers/activity monitors, walking bands. District mandated fitness assessments will be administered in pre and post test form.

### Aquatics (PHY241)

PREREQUISITE: NONE Offered: Fall/Spring.5 credit Students will gain an awareness of the importance of water safety training and to provide general information on being safe in, on, and around water. Students will work on their coordination and refinement of strokes. Students will participate, assess, and improve levels of flexibility, cardiovascular fitness, muscular strength, endurance, and body composition. CPR has been mandated by the state and may be included in the curriculum. Activities can include but not limited to: pool rules, safety/expectations, water injuries, deck rescues/in water rescues, introduction to water skills, fundamental aquatic skills and stroke techniques.

### Contract PE (PHY901)

PREREQUISITE: NONE Offered: Fall/Spring.5 credit Contract PE is only for those students who are carrying a full schedule of required academic classes in order to meet minimum graduation requirements. Please see school counselor and PE department chair for further details, qualifications, and acceptable athletic programs in which the student may participate. Students will log physical activity and utilize the goal setting feature through the online database daily fit log, to motivate and set challenging and realistic goals

### Total Body Fitness & Cond LI (PHY109)

PREREQUISITE: NONE Offered: Fall.5 credit This beginning course is designed to introduce proper lifting techniques, spotting methods, weight room safety, and workout routines. Activities will include but not limited to: a multitude of lifts utilizing free weights, machine weights, as well as an emphases on conditioning and fitness. District mandated fitness assessments will be administered in pre and post test form.

### Psychology of Health & Fit (PHY228)

PREREQUISITE: 1 year of any physical education course OFFERED: Spring Credit: .5 Within this course we will be providing an overview to help students develop a relationship with exercise and lifelong fitness. Psychology of Health and Fitness course will introduce the field of psychology and the relationship between health and exercise. Students will learn the application of the psychological principals that enhance performance. This course will cover a wide range of topics and skills that will improve an overall healthy lifestyle. Activities can include but not limited to: mental toughness, goal-setting, motivation, injury prevention, training principals, schedules, and stress management. District mandated fitness assessments will be administered in pre and post test form.

### Lifeguarding (PHY235)

PREREQUISITE: NONE Offered: Fall/Spring.5 credit This course will offer instruction to students through the American Red Cross lifeguarding curriculum. Throughout this course lifeguard candidates and lifeguards will be taught with the necessary skills and knowledge needed to prevent and respond to aquatic emergencies. Students will be given the opportunity to receive lifeguard certification after successful completion of this course. Students will learn CPR and First Aid. District mandated fitness assessments will be administered in a pre and post test form.



## World Languages

Des Moines Public Schools seeks to provide students with the opportunity to develop and maintain proficiency in world languages as well as in intercultural competence. Goals for the district's world language curriculum include:

- Students should be able to use the target language in the three communicative modes: interpersonal (person-to-person), presentational (person to audience), and interpretive (comprehending and critically analyzing authentic spoken, written, and visual materials).
- Students should be able to compare and make connections to culturally relevant products, perspectives, and practices.
- Students should engage in cultural inquiry, analytically investigating global topics, deciding the best alternative, and using evidence from authentic sources as support.
- Students should start and maintain real-life, spontaneous spoken and written conversations on a variety of topics.

DMPS offers more world language classes than anywhere else in Iowa. World language options include: Arabic, Chinese, French, German, Italian, Japanese and Spanish. All of our courses are based on national standards set forth by the American Council on the Teaching of Foreign Languages.

Coordinator: Mindy Euken, [mindy.euken@dmschools.org](mailto:mindy.euken@dmschools.org), ext. 8504

### French I S1 (WL103)

PREREQUISITE: NONE Offered: Fall .5 credit Students in the first year engage in exploration of culture in French-speaking countries in order to gain basic intercultural competence. Students will speak, read, write, and listen in French using basic vocabulary and simple grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as identities, families, and education. By the end of the year, students should be able to communicate at a Novice High Level (per the ACTFL Proficiency Guidelines).

### Spanish I S1 (WL111)

PREREQUISITE: NONE Offered: Fall .5 credit Students in the first year engage in exploration of culture in Spanish-speaking countries in order to gain basic intercultural competence. Students will speak, read, write, and listen in Spanish using basic vocabulary and simple grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as identities, families, interests and everyday activities. By the end of the year, students should be able to communicate at a Novice High Level (per the ACTFL Proficiency Guidelines).

### French II S1 (WL203)

PREREQUISITE: WL104 or WL117 Offered: Fall .5 credit Students in the second year continue to engage in exploration of culture in French-speaking countries in order to gain intercultural competence. Students will speak, read, write, and listen in French using basic to intermediate vocabulary and grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as communities, activities, environment and celebrations. By the end of the year, students should be able to communicate at the Intermediate Low Level (per the ACTFL Proficiency Guidelines).

### Spanish II S1 (WL211)

PREREQUISITE: WL112 or WL115 Offered: Spring .5 credit Students in the second year continue to engage in exploration of culture in Spanish-speaking countries in order to gain intercultural competence. Students will speak, read, write, and listen in Spanish using basic to intermediate vocabulary and grammatical structures. Units in second semester focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as relationships, the arts, and environmental issues. By the end of the year, students should be able to communicate at the Intermediate Low Level (per the ACTFL Proficiency Guidelines).

### French I S2 (WL104)

PREREQUISITE: WL103 Offered: Spring .5 credit Students in the first year engage in exploration of culture in French-speaking countries in order to gain basic intercultural competence. Students will speak, read, write, and listen in French using basic vocabulary and simple grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as identities, families, and education. By the end of the year, students should be able to communicate at a Novice High Level (per the ACTFL Proficiency Guidelines).

### Spanish I S2 (WL112)

PREREQUISITE: WL111 Offered: Spring .5 credit Students in the first year engage in exploration of culture in Spanish-speaking countries in order to gain basic intercultural competence. Students will speak, read, write, and listen in Spanish using basic vocabulary and simple grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as identities, families, interests and everyday activities. By the end of the year, students should be able to communicate at a Novice High Level (per the ACTFL Proficiency Guidelines).

### French II S2 (WL204)

PREREQUISITE: WL104 or WL117 Offered: Fall .5 credit Students in the second year continue to engage in exploration of culture in French-speaking countries in order to gain intercultural competence. Students will speak, read, write, and listen in French using basic to intermediate vocabulary and grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as communities, activities, environment and celebrations. By the end of the year, students should be able to communicate at the Intermediate Low Level (per the ACTFL Proficiency Guidelines).

### Spanish II S2 (WL212)

PREREQUISITE: WL211 Offered: Spring .5 credit Students in the second year continue to engage in exploration of culture in Spanish-speaking countries in order to gain intercultural competence. Students will speak, read, write, and listen in Spanish using basic to intermediate vocabulary and grammatical structures. Units in second semester focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as relationships, the arts, and environmental issues. By the end of the year, students should be able to communicate at the Intermediate Low Level (per the ACTFL Proficiency Guidelines).

### Heritage Spanish I S1 (WL213)

PREREQUISITE: None Offered: Fall .5 credit Spanish for Heritage Learners I is a course tailored to meet the needs of students who have had exposure to Spanish in the home/community and who need to advance their Spanish skills in different ways than students who are learning Spanish as a new language. Students will explore the culture of Spanish-speaking countries in order to gain advanced intercultural competence. Students will speak, read, write, and listen in Spanish at an advanced level. Units in second semester focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as entertainment, environmental issues, and the effects of technology on self and society. By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines). This course may be taken before or after Heritage 2 as both courses are differentiated to meet the various strengths/needs of the learners.

### French III S1 (WL303)

PREREQUISITE: WL204 or WL218 Offered: Fall .5 credit Students in the third year continue to engage in exploration of culture in French-speaking countries in order to gain intermediate intercultural competence. Students will speak, read, write, and listen in French using intermediate vocabulary and grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as home life, travel, and food. By the end of the year, students should be able to communicate at the Intermediate Mid Level (per the ACTFL Proficiency Guidelines).

### Spanish III S1 (WL311)

PREREQUISITE: WL212 or WL216 Offered: Fall .5 credit Students in the third year continue to engage in exploration of culture in Spanish-speaking countries in order to gain intermediate intercultural competence. Students will speak, read, write, and listen in Spanish using intermediate vocabulary and grammatical structures. Units in first semester focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as personal beliefs, customs and values, and language and literature. By the end of the year, students should be able to communicate at the Intermediate Mid Level (per the ACTFL Proficiency Guidelines).

### \*AP Spanish IV S1 (WL515)

PREREQUISITE: WL312 or WL315 Offered: Fall .5 credit The AP Spanish Language and Culture course emphasizes building communication skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. Students will engage in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products, practices, and perspectives. By the end of the year, students should be able to communicate at the Intermediate High-Advanced Low Level (per the ACTFL Proficiency Guidelines).

### \*AP Spanish V S1 (WL517)

PREREQUISITE: WL516 or WL412 or WL420 Offered: Fall .5 credit The AP Spanish Language and Culture course emphasizes building communication skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. Students will engage in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products, practices, and perspectives. By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines).

### Heritage Spanish I S2 (WL214)

PREREQUISITE: WL213 Offered: Spring .5 credit Spanish for Heritage Learners I is a course tailored to meet the needs of students who have had exposure to Spanish in the home/community and who need to advance their Spanish skills in different ways than students who are learning Spanish as a new language. Students will explore the culture of Spanish-speaking countries in order to gain advanced intercultural competence. Students will speak, read, write, and listen in Spanish at an advanced level. Units in second semester focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as entertainment, environmental issues, and the effects of technology on self and society. By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines). This course may be taken before or after Heritage 2 as both courses are differentiated to meet the various strengths/needs of the learners.

### French III S2 (WL304)

PREREQUISITE: WL303 Offered: Spring .5 credit Students in the third year continue to engage in exploration of culture in French-speaking countries in order to gain intermediate intercultural competence. Students will speak, read, write, and listen in French using intermediate vocabulary and grammatical structures. Units focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as home life, travel, and food. By the end of the year, students should be able to communicate at the Intermediate Mid Level (per the ACTFL Proficiency Guidelines).

### Spanish III S2 (WL312)

PREREQUISITE: WL311 Offered: Spring .5 credit Students in the third year continue to engage in exploration of culture in Spanish-speaking countries in order to gain intermediate intercultural competence. Students will speak, read, write, and listen in Spanish using intermediate vocabulary and grammatical structures. Units in second semester focus on global themes targeted to provide opportunities for students to communicate and make connections and comparisons on topics such as personal beliefs, education and communities, and language and literature. By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines).

### \*AP Spanish IV S2 (WL516)

PREREQUISITE: WL515 Offered: Spring .5 credit The AP Spanish Language and Culture course emphasizes building communication skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. Students will engage in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products, practices, and perspectives. By the end of the year, students should be able to communicate at the Intermediate High-Advanced Low Level (per the ACTFL Proficiency Guidelines).

### \*AP Spanish V S2 (WL518)

PREREQUISITE: WL517 Offered: Spring .5 credit The AP Spanish Language and Culture course emphasizes building communication skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. Students will engage in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products, practices, and perspectives. By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines).

**\*AP Spanish Lit S1 (WL523)**

PREREQUISITE: WL515 or higher or Heritage Language Learner Offered:  
Fall .5 credit The AP Spanish Literature and Culture course uses a thematic approach to introduce students to representative texts (short stories, novels, poetry, and essays) from Peninsular Spanish, Latin American, and United States Hispanic literature. Students continue to develop proficiencies across the full range of the modes of communication (interpersonal, presentational, and interpretive), honing their critical reading and analytical writing skills. Literature is examined within the context of its time and place, as students reflect on the many voices and cultures present in the required readings. The course also includes a strong focus on cultural connections and comparisons, including exploration of various media (e.g., art, film, articles, and literary criticism). By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines).

**\*AP Spanish Lit S2 (WL524)**

PREREQUISITE: WL515 or higher or Heritage Language Learner Offered:  
Spring .5 credit The AP Spanish Literature and Culture course uses a thematic approach to introduce students to representative texts (short stories, novels, poetry, and essays) from Peninsular Spanish, Latin American, and United States Hispanic literature. Students continue to develop proficiencies across the full range of the modes of communication (interpersonal, presentational, and interpretive), honing their critical reading and analytical writing skills. Literature is examined within the context of its time and place, as students reflect on the many voices and cultures present in the required readings. The course also includes a strong focus on cultural connections and comparisons, including exploration of various media (e.g., art, film, articles, and literary criticism). By the end of the year, students should be able to communicate at the Advanced Level (per the ACTFL Proficiency Guidelines).

**World Language Courses Offered at Central Academy**

*For complete information about Central Academy programming and courses, please see the dedicated section in this document or visit <http://ca.dmschools.org/>*

DMPS 2017-18 Comprehensive Course Catalog

Course Number and Names			
WL 181	Arabic 1 S1	WL 271	French 152 S1
WL 182	Arabic 1 S2	WL 272	French 152 S2
WL 281	Arabic 2 S1	WL 503	AP French IV* S1
WL 282	Arabic 2 S2	WL 504	AP French IV* S2
WL 381	Arabic 3 S1	WL 505	AP French V* S1
WL 382	Arabic 3 S2	WL 506	AP French V* S2
WL 129	Chinese I S1	WL 541A	IB French B SL* S1
WL 130	Chinese I S2	WL 542A	IB French B SL* S2
WL 231	Chinese II S1	WL 543A	IB French B SL* S3
WL 233	Chinese II* S2	WL 544A	IB French B SL* S4
WL 331	Chinese III* 1 S1	WL 555A	IB Spanish Ab Initio* S1
WL 333	Chinese III* S2	WL 556A	IB Spanish Ab Initio* S2
WL 335	Chinese IV* S1	WL 557	IB Spanish Ab Initio* S3
WL 337	Chinese IV* S2	WL 558	IB Spanish Ab Initio* S4
WL 577A	IB Chinese Ab Initio* S1	WL 551	IB Spanish SL* S1
WL 578A	IB Chinese Ab Initio* S2	WL 552	IB Spanish SL* S2
WL 579A	IB Chinese Ab Initio* S3	WL 553	IB Spanish SL* S3
WL 580A	IB Chinese Ab Initio* S4	WL 554	IB Spanish SL* S4
WL 161	Japanese I S1	WL 151	Italian I S1
WL 162	Japanese I S2	WL 152	Italian I S2
WL 261	Japanese II S1	WL 251	Italian II S1
WL 263	Japanese II* S2	WL 253	Italian II* S2
WL 361	Japanese III* S1	WL 351	Italian III* S1
WL 363	Japanese III* S2	WL 353	Italian III* S2
WL 365	Japanese IV* S1	WL 355	Italian IV* S1
WL 367	Japanese IV* S2	WL 357	Italian IV* S2
WL 141	German I S1	WL 271	French 152 S1
WL 142	German I S2	WL 272	French 152 S2
WL 241	German II S1	WL 503	AP French IV* S1
WL 243	German II* S2	WL 504	AP French IV* S2
WL 341	German III* S1	WL 505	AP French V* S1
WL 343	German III* S2	WL 506	AP French V* S2
WL 345	German IV* S1	WL 541A	IB French B SL* S1
WL 347	German IV* S2	WL 542A	IB French B SL* S2
WL 117A	French 1 S1		
WL 118A	French 1 S2		
WL 203A	French 2 S1		
WL 204A	French 2 S2		

# Career & Technology Education

Through our career and technical education programs, Des Moines Public Schools equips students with the knowledge and skills necessary for college, career and for life. College and career readiness include three major skill areas; core academic skills, employability skills, and technical, job-specific skills. Students are able to apply these necessary skills to rigorous, authentic situations, allowing them to understand the real-world applications.

In addition, Des Moines is home to the nationally-renowned Career & Technical Institute at Central Campus, providing students with highly-technical, college-level courses. For courses and programming housed at Central Campus, students will need to connect with their school counselor to seek admission through the processes outlined in the Educational Programs section of this document or on the Central Campus website at <http://centralcampus.dmschools.org>. Career & Technical Education courses delivered at home high schools have no admissions requirements beyond the prerequisites listed with the course description.

## Business / Technology

### Tech Seminar (BUS101) ELL

PREREQUISITE: NONE Offered: Fall or Spring .5 credit In Tech Seminar, students will learn/review the touch-typing method of keyboarding while learning the fundamental use of the computer. Microsoft programs and Internet researching will be included. Students will learn about personal, career, and life management financial issues.

### PLTW: Intro to Computer Science (TEC161)

Prerequisite: NONE .5 credit

Designed to be the first computer science course for students who have never programmed before, Introduction to Computer Science is an optional starting point for the PLTW Computer Science Program. Students work in teams to create apps for mobile devices using MIT App Inventor. They explore the impact of computing in society and build skills in digital citizenship and cybersecurity. Beyond learning the fundamentals of programming, students build computational-thinking skills by applying computer science to collaboration tools, modeling and simulation, and data analysis. In addition, students transfer the understanding of programming gained in App Inventor to text-based programming in Python and apply their knowledge to create algorithms for games of chance and strategy.

### \*College Intro to Website (BUS521)

PREREQUISITE: BUS111 and Instructor Approval

Offered: Fall or Spring .5 credit This course introduces the student to basic concepts, languages and tools used in the development of an Ecommerce website. Students will identify effective design concepts and characteristics of successful websites. During the course students will be introduced to HTML and DHTML concepts and technologies including HTML, XHTML, CSS, JavaScript and the Document Object Model. Students will use current tools and techniques to design and create commercially oriented websites. This course offers DMACC concurrent enrollment credit.

### Beginning Computer Applications (BUS111) ELL

PREREQUISITE: NONE Offered: Fall or Spring .5 credit

Beginning Computer Applications is designed specifically for students new to computer applications and/or new to the English language. Students will be introduced to word processing, database, presentation, and spreadsheet functions. Students will complete projects in each topic. This course will help students to develop skills needed for both professional, educational, and personal use.

### Computer Applications (BUS333)

PREREQUISITE: NONE Offered: Fall or Spring .5 credit

Computer Applications 2 includes modern information processing techniques with a heavy emphasis on the use of electronic databases and spreadsheets. The course also stresses the importance of human relations and communication skills necessary for job success, the development of marketable skills using the most current procedures and technologies, and application of time management and decision-making skills. If you would like to earn DMACC concurrent college credit, enroll in BUS531.

### \*College Pers Finance Mgmt (BUS523)

PREREQUISITE: NONE

Offered: Fall or Spring .5 credit Students will study the management of personal, family and business finances, including budgeting, consumer buying, personal credit, savings and investing, home ownership, insurance, and retirement. This course will help prepare all students for their financial challenges now and in the future. This course offers DMACC concurrent enrollment credit.

**\*College PowerPt & Multimedia (BUS525)**

PREREQUISITE: BUS111Offered: Fall or Spring.5 creditThe use of PowerPoint presentation software and the Internet are used during this course. Students will learn how to create electronic presentations using a variety of software, basic web pages, computer animation, and effectively search for information using the Internet. Students will also use computer peripherals such as the scanner, digital camera, and computer projection devices. This course offers DMACC concurrent enrollment credit.

**\*College Marketing / Sales (BUS529)**

PREREQUISITE: NONEOffered: Every other year.5 creditThe emphasis of this course will be on selling techniques and human relations skills needed by salespeople. All aspects of the selling process, from preparation to closing and follow-up, will be examined and practiced. Selling as a career will be investigated, and job-seeking skills will be developed. This course offers DMACC concurrent enrollment credit.

**\*College Accounting (BUS533)**

PREREQUISITE: NONEOffered: Fall or Spring.5 creditAn understanding of the purpose of the accounting function will be developed during Accounting 1. This course will also assist students in the development of a vocabulary and in the acquisition of the skills and general information necessary to perform the accounting function. This course offers DMACC concurrent enrollment credit after BUS534 is completed.

**\*College Desktop Publishing (BUS527)**

PREREQUISITE: BUS111Offered: Fall or Spring.5 creditThis course stresses the in-house preparation of documents, brochures, leaflets, and newspapers. Current procedures and technologies will be used while stressing the importance of communication skills. Individual and group projects will be completed for inclusion in their personal employment portfolios. This course offers DMACC concurrent enrollment credit.

**\*College Computer App (BUS531)**

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

Computer Applications 2 includes modern information processing techniques with a heavy emphasis on the use of electronic databases and spreadsheets. The course also stresses the importance of human relations and communication skills necessary for job success, the development of marketable skills using the most current procedures and technologies, and application of time management and decision-making skills. This course offers DMACC concurrent enrollment credit.

**Micro/Macro Economics (SOC401)**

PREREQUISITE: NONEOffered: Fall or Spring.5 creditThe American free enterprise system is studied by relating and comparing our economic system to others around the world. The formation and operation of a student company creates a unique economic learning experience. This course includes fundamental economic concepts and consumer management skills necessary for the student's effective participation in the marketplace.

**Family and Consumer Sciences**

### Parenting: Conception Toddler (FCS103)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

Previously named: Child Development This course will include sexual health, conception, pregnancy and birth. Students will examine the decisions and responsibilities that go into planning a pregnancy. Students will develop skills in the care and guidance of children from birth through toddler. Students will participate in many activities designed to simulate the physical, social, emotional, and intellectual development of children.

### Nutrition & Food Prep 2 (FCS109)

PREREQUISITE: FCS107  
Offered: Fall or Spring.5 credit

In Nutrition and Food Prep II, students will develop skills in meal management to meet individual and family food needs and understand principles of economics and ecology for cost savings.

### Health Relationships (FCS201)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

The Relationships course prepares students for a mature adult role as a single person or a marriage partner through the study of human development and relationships. The coordination of personal, marriage, family and career goals will be explored as well as resources for adjusting to change and crisis. Students will analyze skills needed to establish positive relationships with others.

### Sewing Technology 2 (FCS205)

PREREQUISITE: FCS113  
Offered: Fall or Spring.5 credit

In Sewing Technology II, students will experiment with more advanced sewing techniques. Students will select individual projects based upon their skill level and interest. Students may choose to purchase and bring materials, patterns and notions throughout the semester for individual projects.

### Fashion Runway (FCS213)

PREREQUISITE: NONE Offered: Fall.5 credit

Students in Fashion Careers will explore fashion careers by doing projects similar to those done in the fashion industry, careers included are fashion designer, marketing, fashion magazine writing. Textile science, fashion promotion and planning a fashion show are also part of this course.

### Advanced Sewing Technology 5 (FCS406)

PREREQUISITE: FCS405  
Offered: Fall or Spring.5 credit

In Advanced Sewing Technology V, students will continue to advance their skills in the selection, purchase, construction and alternation of clothing and textiles. Students will need to purchase and bring materials, patterns and notions throughout the semester for individual

### Nutrition & Food Prep 1 (FCS107)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

In Nutrition and Food Prep I, students will apply nutrition principles to personal diet planning; develop skills in the selection, care and preparation of a variety of food. Labs are designed to help students learn safe food preparation techniques.

### Sewing Technology 1 (FCS113)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

Sewing Technology I teaches sewing basics to construct clothing and textile products using appropriate equipment and techniques. Students may choose to purchase materials, patterns and notions throughout the semester for individual projects.

### Parenting: Preschool Adolescent (FCS203)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

Students will develop skills in the care and guidance of children from preschool to adolescent. Students will examine various type of parenting styles and determine which styles are most effective. Students will participate in many activities designed to simulate the physical, social, emotional, and intellectual development of preschool children and teens.

### Housing & Design Industry (FCS207)

Pre-Requisites: None

In this course students will analyze career pathways and opportunities for employment and entrepreneurial endeavors in the housing industry. Students will explore interior design, exterior design, housing decisions, and housing trends.

### Advanced Sewing Technology 4 (FCS405)

PREREQUISITE: FCS305  
Offered: Fall or Spring.5 credit

In Advanced Sewing Technology IV, students will continue to advance their skills in the selection, purchase, construction and alternation of clothing and textiles. Students will need to purchase and bring materials, patterns and notions throughout the semester for individual projects.

### Advanced Sewing Technology 6 (FCS407)

PREREQUISITE: FCS406  
Offered: Fall or Spring.5 credit

In Advanced Sewing Technology VI, students will continue to advance their skills in the selection, purchase, construction and alternation of clothing and textiles.

## Industrial Technology

### 3D Mechanical Dsgn & Dvlpmnt (TEC203)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit Students will be introduced to the universal language of the mechanical design and development industry. Students will apply the basic skills such as measurement and problem solving in the areas of lettering, free hand sketching, geometric construction, multiview drawings, pictorial drawing, dimensioning, and section drawings. Students will apply computer aided design and development (CADD) skills to create these drawings. This course is a building block to students who may be enrolling in other Tech Ed courses in high school or programs at Central Campus.

### Metalworking Fundamentals 1 (TEC207)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit The Career & Technical student will be introduced to basic processes within all manufacturing industries. The students, through classroom, lab and problem solving activities, will develop skills and knowledge in the areas of bench metal (sheet metal, small hand and power tools), machine tools (lathes, grinders, mills, drill presses), and hot metals (gas and arc welding foundry, forging). As the students explore the areas of metalworking, emphasis will be placed on the career opportunities and safety. Students will build upon their skills from academic areas as they use and develop skills relating to measurement, blueprint reading and layout.

### Introduction to Wood Construction 1 (TEC211)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit

The Career & Technical student will be introduced to Wood Construction as a career and/or avocation. Through a variety of hands-on, problem solving projects, students will be introduced to the safe use, care and maintenance of various hand tools, power tools, and stationary equipment. Projects will be produced using a variety of processing techniques and technologies used in the construction industry. Students will build upon their skills from other academic areas as they interpret technical information from working drawings, complete board feet calculations and study wood science.

### Power Fundamentals 1 (TEC215)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit The student will gain knowledge of the basic physical and mechanical principles related to the transportation field. Through classroom instruction, demonstration, hands-on and problem-solving activities, the student will gain knowledge and skills in the operation and servicing of small engines such as lawnmowers, snow blowers, and go-karts. Emphasis is placed on the operation and servicing of engine systems. The student will also learn to apply safety as it relates to the vehicle, power tools, test equipment, and materials.

### Graphic Design Fundamentals 1 (TEC223)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit The student will experience a wide range of hands-on experiences and knowledge of modern printing processes and careers. The students will design and produce various products using appropriate printing technology. During the semester, students will be introduced to publication design, desktop publishing, electronic imaging, process photography including halftone photography, image assembly/plate making, offset lithography including multi-color printing, silk-screen printing and

### 3D Architectural Dsgn & Dvlpmnt (TEC205)

PREREQUISITE: NONE Offered: Fall or Spring.5 credit Students will be introduced to the universal language of the Construction Industry. Students will obtain knowledge and skills relating to the various fields of engineering; such as, construction, mechanical, industrial, structural, and civil, as well as, the fields of residential and commercial architecture. Students will apply computer aided design and development (CADD) skills to create construction drawings. Students will find this course helpful if they choose to continue in the CADD program at Central Campus and/or if they choose to continue their education in the fields of Architecture, Construction or Engineering.

### Metalworking Technology 2 (TEC209)

PREREQUISITE: TEC207

Offered: Fall or Spring.5 credit This course will build upon the metalworking skills, knowledge and problem solving abilities acquired in Metalworking Fundamentals 1. Through hands-on and problem solving activities the students will develop an understanding of the basic elements of metalworking such as design, planning, producing, and distribution of a manufactured product. Students will be introduced to the use of manufacturing equipment and materials commonly found in industry today including test equipment, robots, lasers, CNC, CAM, and other various computer applications.

### Finish Carpentry 2 (TEC213)

PREREQUISITE: TEC211

Offered: Fall or Spring.5 credit

This course will build upon the wood construction skills, knowledge and problem solving abilities acquired in Intro to Wood Construction 1. The course is designed to provide students with an understanding of technology and its impact on the construction industry. Students will continue to work with the CNC equipment in the production of their projects. Students will have the opportunity to explore the impact of technology on the construction industry. Students will continue to build upon their skills from other academic areas as they interpret technical information from a variety of technical sources, calculate materials needed, materials strength and building design.

### Power Technology 2 (TEC217)

PREREQUISITE: TEC215

Offered: Fall or Spring.5 credit This course expands and extends the information acquired in Power Fundamentals 1. Through hands-on and problem-solving activities, the student will gain additional knowledge and skills in the areas of small engine construction, rebuilding, and alternative power. Instruction will emphasize technologies related to designing and building gas-powered, high mileage vehicles. Students will also learn how to safely utilize modern test equipment, tools, and materials.

### Graphic Design Technology 2 (TEC225)

PREREQUISITE: TEC223

Offered: Fall or Spring.5 credit Through hands-on and problem-solving activities the student will gain additional knowledge and skills in the current technology relating to the materials processes, equipment, products, and the careers in the Graphic Arts industry. This course will introduce the students to halftone and special effects photography, multi-color reproduction processes, and the various computer applications in design as well as job cost estimating and production

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bindery/finishing. The student will learn and apply safety as it relates to the tools, equipment, and materials common to this course.

scheduling which are part of Graphic Arts management.

### Finish Carpentry 3 (TEC301)

PREREQUISITE: TEC213 Offered: Fall.5 credit

This advanced course is available to students to continue to develop machine techniques as they construct various projects including cabinets, tables, and finish carpentry construction applications. Individual projects will be developed by the student and teacher together.

### Finish Carpentry 4 (TEC302)

PREREQUISITE: TEC301 Offered: Spring .5 credit

This advanced course is available to students to continue to develop machine techniques as they construct various projects including cabinets, tables, and finish carpentry construction applications. Individual projects will be developed by the student and teacher together.

### Adv Graphic Arts Tech S1 (TEC307)

PREREQUISITE: TEC225

Offered: Fall or Spring.5 creditThe student's knowledge and skill base will continue to grow in this advanced course, as the students will develop their own multi-color projects as designed by both the student and the teacher.

### \*College Intro Engin. Dsgn S1 (TEC501)

COREQUISITE: MTH111 (Algebra I) or higher, meets / exceeds proficiency in previous math course or teacher's approval.Offered: Fall.5 creditThis is the first year foundation course of the national pre-engineering program, Project Lead the Way. This course teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using solid modeling computer design software.

### \*College Intro Engin. Dsgn S2 (TEC502)

PREREQUISITE: TEC501Co-REQUISITE: Grade Level or Higher Math CourseOffered: Spring.5 creditThis is the first year foundation course of the national pre-engineering program, Project Lead the Way. This course teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using solid modeling computer design software.

### \*College Principles Engin S1 (TEC503)

Prerequisite: Meets or Exceeds Proficiency in TEC501/502 (Intro to Engineering Design), or Teacher's ApprovalCO-REQUISITE: Grade Level or Higher Math CourseOffered: Fall.5 creditThis is the second year foundation course in the national pre-engineering program, Project Lead the Way. This course helps students understand the field of engineering. Exploring various manufacturing processes and technologies help students understand how engineers use math, science and technology in problem solving to benefit humans. This course also looks at possible social and political consequences of technology changes.

### \*College Principles Engin S2 (TEC504)

PREREQUISITE: TEC503CO-REQUISITE: Grade level or higher Math courseOffered: Spring.5 creditThis is the second year foundation course in the national pre-engineering program, Project Lead the Way. This course helps students understand the field of engineering. Exploring various manufacturing processes and technologies help students understand how engineers use math, science and technology in problem solving to benefit humans. This course also looks at possible social and political consequences of technology changes.

## Central Academy

Central Academy fosters academic excellence through the challenge of a compacted curriculum and the stimulation of intensive work with the students' intellectual peers.

Central Academy is listed in the top 1% of educational programs nationally, as recognized by the College Board.

Students are encouraged to develop skills, maturity, and responsibility to pursue high academic achievement. Students who successfully complete the program are prepared for the competitive demands of top colleges and universities.

The curriculum offers acceleration and enrichment beyond the traditional high school program and prepares students to take Advanced Placement coursework by 10th grade. The results for Academy students on Advanced Placement exams have continually exceeded state and national averages in each of the subject areas. Nearly 4,000 prestigious AP Scholar awards have been earned by Central Academy students since 1991.

**Identification for 8th Grade Academy:** The 8th Grade Academy program is designed for students who are academically prepared to accelerate their learning by one grade in three subjects. Students are evaluated according to a comprehensive set of criteria to ensure they are prepared for three rigorous, accelerated classes. These criteria include:

- Performance on standardized assessments (Iowa Assessments) in reading, mathematics, and science
- Grades in core subject areas
- Placement in mathematics
- Gifted/Talented identification
- Teacher recommendation

Students in the 8th Grade Academy take three academic courses at the high school level. All students must take English. Students then study two additional subjects with classes in mathematics, science, and/or social studies available. Students *may* elect to receive high school credit upon successful completion of each course. Course options for 8th grade students are:

- English: Language, Literature, & Composition (equivalent to English I)
- Mathematics\*: Algebra I, Geometry, Radically Accelerated I, or Algebra II -- *A placement exam will be given to determine mathematics course placement*
- Science: Conceptual Physics & Environmental Science (one semester of each class will prepare students for Accelerated Chemistry and Accelerated Biology in 9th grade)
- Social Studies: US Government & Current Issues -- *This course satisfies the State of Iowa and Des Moines Public Schools' graduation requirement for US Government*

### What if a student does not attend academy in 8th grade?

Interesting Fact: 38% of current 10th grade students in the Academy's Gifted Core Pathway did not attend as 8th graders. Children mature and develop at different rates. Some students need an extra year at a normal pace to hone skills and develop talents so that they are genuinely ready to accelerate. Putting a student in an accelerated class too soon can damage the student's skill development and growth. The middle school intervention teams and the Academy Intervention team are working collaboratively and carefully considering students individually for placement in this program for students who are discrepant from their peers. Not attending Academy in 8th grade does not rule out the option to attend later.

For additional information about Central Academy, please talk with your school counselor and visit <http://ca.dmschools.org>

## International Baccalaureate Diploma Programme Courses

- The International Baccalaureate Diploma Programme courses are offered as part of a comprehensive, two-year long, internationally recognized college preparatory experience. Three core components of a research paper, ongoing public service and self-improvement projects, and a critical thinking course surround and inform six subject classes. Students submit assignments that are evaluated both by DMPS teachers, and also by professional evaluators all over the world to insure the highest levels of rigor. Housed at Central Academy, fifteen different courses are offered at a variety of levels of rigor. For more information see the Central Academy section in this document, contact the Diploma Program coordinator, Isaac Pedelty at [Isaac.pedelty@dmschools.org](mailto:Isaac.pedelty@dmschools.org) or go to <http://ca.dmschools.org/ib-diploma>
- Research conducted on the impact of the IB Diploma Programme on student performance consistently points to better preparation for college and university than the completion of a conventional high school diploma alone. While time

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management, reading, and writing are all systematically strengthened in the Diploma Programme, the critical difference can be found in the intentional way that the program seeks to develop character through regular consideration of the IB Learner Profile; a set of ten characteristics including being open-minded, caring, principled, and reflective.

- You can potentially earn college level credit for the exams you sit for at the end of your two years in the Diploma Program. There is not an exam fee for taking Diploma Programme exams as long as you attempt the full Diploma, however, you must make a commitment to attending the majority of all your classes at Central Academy for your junior and senior years.

### International Baccalaureate Diploma Programme at Central Academy

The IB Diploma Programme curriculum consists of six academic areas and three core requirements. Over the course of the two-year program, students:

- study six subjects chosen from six subject groups
- follow a Theory of Knowledge course (TOK)
- complete an extended essay (4,000 word maximum)
- participate in creativity, action, service (CAS) approximately 3 hours per week

Normally three of the six subjects are studied at higher level (HL) and the remaining three subjects are studied at standard level (SL).

Students who earn the IB Diploma are often accepted at higher rates than the general population at highly selective universities. While there are no "prerequisites" for IB courses, early planning and preparation are keys to success in Diploma Programme courses. Earning the IB Diploma is not a guarantee, even if students complete all of the requirements. Therefore, students must be prepared to earn a diploma from Des Moines Public Schools, or their district of residence. IB courses fulfill many graduation requirements of the Des Moines Public Schools and the state of Iowa. However, students should verify their progress toward graduation each year with the counselor at Central Academy or at their home school. Because of the demanding and inflexible course load required by IB, students who are credit deficient at the beginning of eleventh grade will not be considered for acceptance into the IB Diploma Programme. Though there are recommended paths to the IB Diploma, students should work with their school counselor to design a path of study that considers their individual goals and meets preparation standards.

Subject Area	Current 8 <sup>th</sup> Grade Course	Recommended 9 <sup>th</sup> Grade Course	Recommended 10 <sup>th</sup> Grade Course
Mathematics	Pre-Algebra	Algebra I and Geometry	Algebra II
	Algebra I	Geometry	Algebra II
	Geometry	Algebra II	Pre-Calculus
English	Language Arts 8	Advanced English I/English I	Advanced English II/English II
	Lang, Lit, & Composition (CA)	World Lit & Speech (CA)	Advanced Amer. Lit (CA)
Science	Science 8	Accelerated Chem & Physics * OR Biology & Conceptual Physics	Biology/AP Biology OR Accelerated Chem & Physics
	Biology & Pre Chem/Phys (CA)	Accelerated Chem & Physics	AP Biology, Chemistry OR Physics
Social Studies	Civics	Government & Economics OR US History	AP US History/US History OR Government & Economics
	Government & Current Issues (CA)	AP Human Geography	AP US History & Economics
Art	Art 8	Art I and Art II	Art I and Art II (if not previously taken) Drawing/Painting OR 3D Design

### Advanced Placement at Central Academy

Central Academy is regularly ranked as the top Advanced Placement program by the [Belin-Blank Center](#) at the University of Iowa. AP course offerings at Central Academy include Studio Art, Art History, English Language and Composition, English Literature and Composition, Calculus at the AB and BC levels, Biology, Chemistry, Physics, American History, European History, World History, Macroeconomics, and Comparative Government and Politics.

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## Communication Media Academy

### Broadcasting & FilmC

The Broadcasting & Film Department at Central Campus is a dynamic, two-year program which concentrates on the creative and communication aspects of the radio/television/film industry. Emphasis is placed on analysis of career paths and the production techniques associated with gainful employment. Considerable time is spent working on the craft of writing, reading, equipment operation, announcing, creative thinking and management skills. The program may include studio assignments in the FCC-licensed radio station, KDPS 88.1 FM (and streaming live online: kdpscentral.streamon.fm), or submission of film and television projects to DMPS-TV. Students also have the opportunity to submit work to various contests and festivals, such as the Wild Rose Film Festival, 48 Hour Film Festival, Iowa Motion Pictures Association Film Festival, Cedar Rapids Film Festival and John Drury Radio Awards. Projects can also be submitted to colleges and universities in pursuit of scholarships in the area of Broadcasting & Film.

Prerequisites: C or better in Speech and English. Grades 10-11-12

### Commercial Photography

In the Commercial Photography program, students obtain skills in film processing, darkroom procedures, studio shooting techniques, camera techniques, photographic history, presentation skills and digital imaging. Portfolio development enables students to apply for employment, scholarships and college admission. Students will publicly display work at the Central Campus Student Art Exhibit and other exhibitions. It is recommended, but not required, that students have a 35mm film camera with manual options.

Prerequisites: minimum of 2.5 GPA or a B in two of the following courses: Art 1, Art 2, other art classes, Photography, Multimedia or other project-based class.

Grades: 11-12

### Graphic Communications

Graphic Communication provides education, training and real world graphic design and print production experiences. Through close relationships with industry experts, the program's curriculum and industry experiences reflect the technological expectations of the graphic communication industry. First-year students complete a wide variety of hands-on projects in design, pre-press, print production, and bindery. Participation in frequent industry tours allows students to increase the range and depth of their understanding. All students enrolled in the second year of the program are expected to complete a variety of increasingly complex project work. They also are expected to participate in the design, layout and production of various "live jobs." Both the "live jobs" and the projects are intended to further develop their skills and overall understanding of the graphic communication industry. Second-year students may choose the privilege of participating in job-shadow and internship experiences. Job shadowing and internships provide a stronger foundation and background for the advanced student desiring to enter the industry. For students planning to continue their postsecondary education, these foundational experiences provide the opportunity to earn additional college credit.

Prerequisites: Two courses in any of the following areas highly recommended: Art, Graphic Design, Computer Applications, Journalism, and Technology Education.

Grades: 10-11-12

## Education & Leadership Academy

### Army JROTC

Army JROTC teaches students the value of citizenship, leadership, service to the community, and personal responsibility. The program promotes a sense of accomplishment, while instilling self-esteem, teamwork, and self-discipline. JROTC's focus is reflected in its mission statement, "Motivating young people to be better citizens." The program prepares students for responsible leadership roles while making them aware of their rights, responsibilities, and privileges as American citizens. JROTC is a stimulus for promoting graduation from high school, and it provides instruction and rewarding opportunities that will benefit the student, community, and nation. Students participate in a regular physical education classes as part of the JROTC program. Early Bird block receives double the normal high school credit since they meet every day.

Prerequisite: GPA 2.5 recommended. Grades: 9-10-11-12

### Criminal Justice

The Criminal Justice program gives students the opportunity to explore careers in police work, criminal law, crime scene investigation, and other related vocations. Faculty works closely with the Des Moines Police Department and Polk County Sheriff's Office to provide authentic experience in a vibrant law enforcement community. Students participate in mock crime scene scenarios and job shadowing professionals.

### Early Childhood Careers

The Early Childhood Careers program prepares students to work with children from infancy to eight years of age. Students combine classroom instruction with practicum experiences in child care centers, Head Start programs, and elementary schools. Successful completion of the second year of the program enables students to earn a national credential, Child Development Associate. Students complete the training required by the Iowa Department of Human Services for persons working in childcare centers. Upon completing this program, they can find employment in childcare centers or may choose to further their studies in elementary or early childhood education.

Prerequisites: GPA of 2.5 or better, Child Development recommended. Grades: 11-12

### Sports Officiating and Leadership

In Sports Officiating and Leadership, students become IHSAA and IHSGAU certified officials in a variety of sports. They will have film study through industry-leading Hudl software to understand theories and movements of the sport to better understand rules and positioning. Along the way, they will have live on site training in cooperation with the other programs located in our facility performing "intermural" sports to gain experience and practice in live game situations. After students earn certification with the state of Iowa they will be placed in jobs within the DMPS District to start earning money as a fully certified official. Throughout class students will prepare business cards and develop an officiating philosophy for work after class ends. This is a great opportunity, for young adults, to gain confidence and job experience in a field they can do for the rest of their life.

Prerequisites: GPA of 2.0 or better, CPR Certification. Grades: 11-12

### Urban Leadership Academy

Urban Leadership is committed to empowering students on their journey to becoming community-based activists and entrepreneurs. Based in the principles of hip-hop culture, students engage in an in-depth study of social movements shaping history and urban settings across the United States. Through the use of various mediums such as the written and spoken word, performance-based literacy, urban arts, and youth + community summits, and internships, students are given a

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platform to become the leaders of today. The objective is to provide students with in-depth knowledge regarding social movements shaping US History, equipping them with the leadership skills necessary to becoming change agents in their local communities. This course includes one semester of Digital Media is one semester. Prerequisites: Strong interest in Social Justice and the Urban Arts. Grades: 9-10-11-12

### Urban Teacher Academy

Students learn first-hand elementary, middle school, or high school career expectations and experiences through the Urban Teacher Academy. They acquire extensive field experience through tutoring, field trips, and classroom observations. There is also time set aside for internships with master teachers and guest speakers who are experts in the field of education. Students also visit colleges and universities to gain insight into the post-secondary option that might be best for them. This program provides an excellent foundation and transition to the teacher education programs of four-year liberal arts institutions.

Prerequisites: GPA of 2.5 or better. Grades 11-12

### Engineering Academy

#### Computer Aided Design Technology

This program provides occupational and technical skills for job entry in manufacturing and construction or college entrance in the fields of engineering, design, and architecture. You will be introduced to principles and practices, engineering/construction/manufacturing standards, and the use of references and technical information. In this program students design, document, and build their activities using industry leading software and equipment. Participation in a student organization is encouraged and industry software certifications are available.

The Computer Aided Design Technology program is a two or four semester career area that provides students with the occupational and technical skills for job entry in manufacturing and construction or college entrance in the fields of engineering, design, and architecture.

The engineering/manufacturing curriculum of this course emphasizes principles and practices, engineering standards and the use of references and technical information for production of manufactured goods. Industry based 2D and 3D computer aided design skills will be taught, as well as introduction to computer aided machining (CAM) and computer aided coordinate measuring (CMM). Rapid prototyping will be integrated with the use of multiple types of 3D printers and computer numerically controlled (CNC) equipment.

The architectural curriculum of this course emphasizes design studies and technical information, and the production of construction drawings. Interior design, landscape design and the development and study of energy efficient housing is incorporated in the curriculum to prepare students for changes in the housing industry. 2D and 3D computer aided design skills in architecture and construction industries are practiced and critiqued by professionals. Model building is used to improve visualization skills.

Industry leading software packages learned and used include Autodesk products: AutoCAD, Inventor, Revit; Dassault Systems Solidworks, and CNC Software Inc. Mastercam. Software certified user certifications are available.

Prerequisites: Mechanical/architectural drafting/design recommended. Grades: 10-11-12

#### Civil Engineering & Architecture

Civil Engineering and Architecture emphasizes design studies and technical information, and the production of construction drawings. Interior design, landscape design and the development and study of energy efficient housing is incorporated in the curriculum to prepare students for changes in the housing industry. 2D and 3D computer aided design skills in architecture and construction industries are practiced and critiqued by professionals and model building is used to improve visualization skills. Industry leading software packages learned and used include Autodesk products: AutoCAD, Inventor, Revit; Dassault Systems Solidworks, and CNC Software Inc. Mastercam. Software certified user certifications are available.

Prerequisites: Mechanical/architectural drafting/design recommended. Grades: 10-11-12

#### Computer Software Engineering

Students successfully completing the Computer Software Engineering program find doors open to them in nearly any career using computers. Create apps for mobile devices, automate tasks in a variety of languages, and find patterns in data. Students collaborate to create and present solutions to improve the lives of others while weighing the ethical and societal responsibilities of computing and connectivity.

Prerequisites: POE or IED recommended. Grades: 10-11-12

#### Engineering Development and Design

The curriculum of the Engineering Development and Design program emphasizes principles and practices, engineering standards and the use of references and technical information for production of manufactured goods. Industry based 2D and 3D computer aided design skills are taught, as well as introduction to computer aided machining (CAM) and computer aided coordinate measuring (CMM). Rapid prototyping is integrated with the use of multiple types of 3D printers and computer numerically controlled (CNC) equipment. Industry leading software packages learned and used include Autodesk products: AutoCAD, Inventor, Revit; Dassault Systems Solidworks, and CNC Software Inc. Mastercam.

Prerequisites: POE or IED recommended. Grades: 10-11-12

#### Engineering, Robotics & Electronics

The one-year Engineering, Robotics and Electronics program focuses on the application of electronics and physics. Students work with the operation of electronic devices and integrated circuits. Students apply this knowledge to project-driven course work, including the operation and programming of robotic systems. This course is designed for students with an interest in science, engineering, or electronics. This program includes Digital Electronics course work.

#### Digital Electronics

Digital Electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras and high-definition televisions. The major focus of the course is the process of combinational and sequential logic design, teamwork, communication methods, engineering standards and technical documentation.

Prerequisites: "C" in Algebra I recommended. Grades: 10-11-12

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### Environmental & Agricultural Sciences Academy

#### Aquarium Science

In Aquarium Science, students experience aquatic animal husbandry and aquaculture in a facility modeled after a professional public aquarium laboratory. They learn to replicate environmental conditions in the lab similar to those on a coral reef by studying the effects of lighting, water quality, and nutrition on the saltwater organisms in their care. Hands-on activities in the laboratory include breeding saltwater clownfish, propagating live corals and anemones on the coral farm, breeding jellyfish, and live food culture. This program prepares students for careers in Marine Biology, Environmental Science, commercial aquaculture (fish hatcheries), public aquariums, aquarium maintenance, pet industries and most environmental fields. Students in Aquarium Science are eligible to participate in an optional marine field ecology trip in the spring semester for DMACC credit. (Aquarium Science is an elective course and does not satisfy high school science credit requirements.)

Prerequisite: GPA of 2.5 or better. Biology, Chemistry recommendation Grades: 10-11-12

#### Horticulture & Animal Science

At our Agriculture Science Academy at 201 County Line Road on the southside of Des Moines (south of Blank Park Zoo), students learn about animals and plants through hands-on activities and exciting projects. The nation's largest secondary school student-run greenhouse and livestock facility allow them to gain practical experience in fields including agricultural business, environmental science, horticulture, landscaping, and veterinary careers. Students are enrolled as members of FFA, the national youth leadership organization, which enhances speaking and leadership skills while attending the academy.

#### Horticulture

Landscaping class is a hands-on class where students learn actual design principals; learn the techniques to such things as site preparation, figuring a list of materials for the project and the cost of the project and what one would charge the customer. The first semester students actually work on building and completing the class project on site at the agriculture lab. Theory is put into practice.

The second semester we move into the classroom and work with the latest software learning through CAD how to use the computer to completely design a landscape before going to the job site. We go through various tutorials to master the process. Then the students can actually design landscape customers projects through pictures provide by the customer by incorporation landscaping plants we sell through our annual spring plant sale.

In environmental science we tackle the latest environmental issues facing both Iowa and the United States. Key topics covered are soils, water quality and management, forestry, wildlife, aquatics. Students have the opportunity to gain collage credit for soils credit 154 though Iowa State free of charge. This class is based with many classroom hours out in the field doing hands on work. Also many labs are part of the class. We do many field trips to off site for learning activities.

Prerequisites: Strong interest in career field. Grades: 10-11-12

#### Energy & Sustainability

The Iowa Energy and Sustainability Academy (IESA) is a cross-curricular class which prepares students for entry into the high-tech world of green building and various energy technologies. Students study the science of energy conservation and management, sustainability, field ecology, practical design, and much more in a hands-on, project-based, community-based learning environment. An optional spring break trip can be a supplement to this cutting-edge career area.

Some unique opportunities in IESA:

- Hands on science with water, air, and soil test kits.
- Work with real small scale wind generators, solar photovoltaic cells, and hydrogen fuel cells.
- Unique –special field experiences such as Minneapolis and Chicago to visit such things as zoos, malls, and museums. See efforts to recycle, save energy, and take care /preserve plants/animals. Also visit wind farms and natural areas throughout Iowa.

Prerequisites: Strong interest in sustainability career. Grades: 10-11-12

#### Marine Biology

The Marine Biology program puts students face to face with hundreds of marine organisms found around the world. Students won't just learn about the ocean from books, they also take care of over 100 "tiny oceans" during the year and personally interact with sharks, jellyfish, corals, nautilus, and hundreds of fish in a new facility modeled after university laboratories and public aquariums. Students are also given the opportunity to conduct their own research projects, participate in science fairs, practice field work by kayaking, dissect different organisms, and more. What makes this program so unique is that it is a student-run laboratory and aquarium which gives each student the opportunity to literally get their hands wet in everything that goes on, but to also leave a legacy for other students by coming up with new ideas for aquariums and different marine organisms to have in the program.

An optional Field Studies course occurs in March where the students are able to put their skills to the test, earn college credit, and have a lot of fun! For 1-2 weeks, students become "Marine Biologists" and participate in several activities to gain an understanding of life as a marine biologist. Previous trips have gone to California, Texas, and Florida. Most expenses for this trip are the responsibility of the student. At least one fundraiser is made available to students to help offset the cost.

Prerequisite: GPA of 2.5 or better, C or better in Geometry or Algebra II, English, and Biology or other approved science. Grades: 10-11-12

### Family & Consumer Sciences Academy

#### Culinary Arts & Restaurant Management

Culinary Arts students explore opportunities for employment in the hospitality and food service industry through the operation of the student-run Central Campus Café. Students receive their ProStart certification from the National Restaurant Association and compete in local and national competitions. Students plan and prepare food, use institutional equipment, set up the dining room, and serve customers on designated Central Campus Café days. Students also have the chance to visit area restaurants and other hospitality businesses.

Prerequisites: 2.0 GPA, food course recommended. Grades: 10-11-12

#### Fashion Design & Merchandising

Within the creative discipline of Fashion Design, students discover fascinating fundamentals of the fashion industry and learn about all of the exciting behind-the-scene details that make every show and every display perfect. Study famous and up-and-coming designers, explore historical and current trends, and learn the importance of alterations and proper fit. In this program students building upon their sewing skills, create fashion drawings, and analyze the designs of others. The

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program enhances entrepreneurial skills and techniques to successfully market their designs in the fashion industry. The culminating event for this program is a spring fashion show that is created and produced by the fashion students and other cooperating Central Campus programs.

Prerequisites: A or B in Sewing Technology or Fashion recommended. Grades: 11-12

### Health Sciences Academy

#### Career Opportunities in Health

Career Opportunities in Health introduces students to a variety of health careers through a curriculum that integrates academic and workplace skills. Rotations at UnityPoint Health-Des Moines hospital and clinic locations, as well as other private clinics throughout the metro, provide observation experiences that allow students to explore careers of their interest, learn about medicine and work towards an understanding of the big picture of healthcare while developing personal skills.

Prerequisite: GPA of at least 2.5. Excellent attendance, submit an application with teacher recommendation and attend a program orientation. Grades: 11-12

The yearlong advanced Anatomy and Physiology program covers the structure and function of the human body from the cellular level to organ systems. The organ systems studied are the skin and integumentary system, skeletal and muscular systems, nervous system and the senses, endocrine system, cardiovascular system, lymphatic system and immunity, respiratory system, urinary system, digestive system – including nutrition, and reproductive system. Anatomy and Physiology offers college credits through laboratory and exams, and experimental write-ups and projects.

Prerequisites: Biology with Chemistry as a co-requisite. Grades: 11-12

#### College Genetics & Microbiology

The yearlong advanced Genetics and Microbiology program looks at the medical world through our genes. Students extract DNA, perform experiments normally only done in research and college labs. Additionally, they study the effects of genetics on cancer; the controversy and uses of stem cells; grow glowing bacteria art and many more fascinating projects. Students take field trips to research centers, colleges, and other pertinent sites that help them in their understanding of the genetic world. College Genetics and Microbiology offers college credits and students who successfully complete the program with a grade of B or better receive a \$500 college scholarship.

Prerequisites: Biology with Chemistry as a co-requisite. Grades: 11-12

#### Health Science Specialist

Within the Health Science Specialist program, students develop nursing assistant skills in the classroom and laboratory setting at Central Campus. Clinical experience also takes place at local hospitals and long term care facilities; learning the skills and vocabulary of health care aiding to develop a successful career in the health field. This program also provides students the opportunity to obtain health care provider BLS certification. Upon completion of this course, students are prepared to take the Certified Nurse Assistant (CNA) exam for Iowa.

Prerequisites: 2.5 GPA, excellent attendance, interest in a health career, attend program orientation, submit student application and teacher recommendation.

Current physical, updated immunizations and influenza vaccine required. Hepatitis B vaccine is recommended. Grades: 11-12

#### Nurse Aide (Basic & Advanced)

These programs give students the opportunity to learn the necessary skills and training to work in various health care settings. They experience classroom and laboratory instruction along with supervised clinical experience in local long-term care (nursing home) and hospital settings. The advanced program also provides students the opportunity to obtain health care provider BLS certification.

Nurse Aide certification is required for admission to most Iowa nursing schools. Either of these courses prepares students for the nurse aide certification. This course includes classroom and laboratory instruction at Central Campus and supervised clinical experience at various health care settings. In addition to the content of the 75-hour Nurse Aide class, the 150-hour Advanced Nurse Aide class covers skills and knowledge utilized by nurse aides in skilled-care units and in hospital areas. Content in the 150-hour course is presented at a faster pace than in the 75-hour Nurse Aide class.

Prerequisites: 2.0 GA for 75-hour Nurse Aide course and 2.5 GPA or better for the Advanced Nurse Aide class, have excellent attendance, submit a teacher recommendation, submit a student application and attend a program orientation. A current physical and updated immunizations are required, Hepatitis B vaccine is required. Grades: 11-12

### Skilled Trades Academy

#### Computer Aided Design Technology

This program provides occupational and technical skills for job entry in manufacturing and construction or college entrance in the fields of engineering, design, and architecture. You will be introduced to principles and practices, engineering/construction/manufacturing standards, and the use of references and technical information. In this program students design, document, and build their activities using industry leading software and equipment. Participation in a student organization is encouraged and industry software certifications are available.

The Computer Aided Design Technology program is a two or four semester career area that provides students with the occupational and technical skills for job entry in manufacturing and construction or college entrance in the fields of engineering, design, and architecture.

The engineering/manufacturing curriculum of this course emphasizes principles and practices, engineering standards and the use of references and technical information for production of manufactured goods. Industry based 2D and 3D computer aided design skills will be taught, as well as introduction to computer aided machining (CAM) and computer aided coordinate measuring (CMM). Rapid prototyping will be integrated with the use of multiple types of 3D printers and computer numerically controlled (CNC) equipment.

The architectural curriculum of this course emphasizes design studies and technical information, and the production of construction drawings. Interior design, landscape design and the development and study of energy efficient housing is incorporated in the curriculum to prepare students for changes in the housing industry. 2D and 3D computer aided design skills in architecture and construction industries are practiced and critiqued by professionals. Model building is used to improve visualization skills.

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Industry leading software packages learned and used include Autodesk products: AutoCAD, Inventor, Revit; Dassault Systems Solidworks, and CNC Software Inc. Mastercam. Software certified user certifications are available.

Prerequisites: Mechanical/architectural drafting/design recommended. Grades: 10-11-12

### Home Building

In the Home Building program, students construct a house from the basement to the roof. This program concentrates on craftsmanship in framing, floors, trim, cabinetry, and finish work. First year students are involved in building sheds, garages and second year students build a house. Students learn teamwork and participate in budgeting, purchasing, and estimating to prepare for careers in contracting. This experience has direct links to the local union apprenticeship program, DMACC and other training programs after graduating from high school.

Students have an opportunity to earn a ten-hour OSHA card for general construction, certify in Lead Safe Work Practices, Powder Actuated Tools and learn to drive a skid loader.

Prerequisites: Woodworking Tech. or Fundamentals recommended. Grades: 10-11-12

### Painting & Drywall

The Painting and Drywall program focuses on getting students in the field to acquire the skills necessary for the commercial painting industry. They learn the proper use of hand and power equipment used for applying a variety of finishes. Some specific skills taught in the program include brush and roller applications, estimating costs, surface preparation, and taping for drywall applications. Along with direct links to union apprenticeships, students can earn a ten-hour OSHA card for general construction.

Prerequisites: Technical Education course recommended. Grades: 10-11-12

### Welding Technology

Welding provides opportunities for students to gain skills in blueprint reading, design, layout, and fabrication of specific projects great and small. Throughout the program, they develop skills in different welds such as oxy-acetylene, shield metal arc, MIG, and plasma arc cutting. Students also receive instruction on key construction welding techniques to include pipe welding, as well as TIG welding with a variety of steels and steel alloys. This course gives them the opportunity to participate in the Student American Welding Society organization.

Prerequisites: Technical Education course recommended. Grades: 10-11-12

## Technology & Systems Integration Academy

### Information Technology Network Administration

Information Technology Network Administration (ITNA) is a multi-year program designed to assist students in acquiring the knowledge and skills needed for success in one of today's fastest growing career areas. Hardware courses focus on evaluation, repair and replacement of computer hardware components and the installation and configuration of computer operating systems. The software courses focus on the installation and configuration of network operating systems, network design and administration, security and troubleshooting. Students who successfully complete this program can earn IT certifications and college credits. The skills learned in this course are a solid foundation for a career in IT.

Prerequisites: B or better in Computer Applications. Grades: 10-11-12

### Mobile Apps

The Mobile Apps program enables students to tap into the ever-expanding universe of software for mobile technology. The program does not expect or require any previous programming or design experience, students learn the skills they need through real-world project based learning approach. Upon successful completion of the program, students are well equipped to begin a career in computer programming on their own or for a business using the Java programming language and multiple mobile application platforms. Students are eligible to earn college credit while completing the Mobile Apps program. This college credit transfers to any accredited college, or can be used as a part of a degree obtained from DMACC. This course allows us to explore careers in IT as it relates to this course and develop an electronic portfolio of student work.

### Software Design and Gaming

Delving into both technology and creativity, Software Design and Gaming immerses students into a simulated internship for a video game design company. They use the design process as well as other skills (graphic design, programming, and music generation) to create 2D and 3D video games. Game creation software is used to package images, textures, audio, media, and programming code into the final product. Students should anticipate a video game design competition in the spring semester.

Video game software compiler DarkBASIC Pro will be used to package images, textures, sounds, music, media and programming code to package final game products. Experience in software design will allow the student to realize the potential for entertainment and educational game design, application design and programming, and simulation design.

Prerequisites: Computer class recommended along with strong interest in field. Grades: 10-11-12.

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### Transportation Academy

#### Introduction to Automotive

Basic physical and mechanical principals related to the transportation field, including ownership, maintenance, and related careers will be covered in this course. Through instruction, demonstrations, hands-on and problem-solving activities, students gain knowledge of skills involved in the operation and servicing of internal combustion engine systems, and the body and structural systems of various vehicles, including their parts and accessories. They also learn to apply safety as related to the vehicle, hand and power tools, test equipment, and materials common to this course. Students gain additional knowledge and skills in the cranking and charging systems, fuel systems, power transmission devices, body and chassis systems, steering components, and accessory systems. Instruction will emphasize technologies related to modern vehicles with an introduction to electronic and computer-controlled systems.

Prerequisites: Strong career interest. Grades: 10-11-12

#### Automotive Collision Repair

Students in the Automotive Collision Repair program gain the marketable trade of repairing what others have managed to destroy. They are provided with supervised experience in repairing late model automobiles. Quality workmanship, shop safety, work ethic, cooperation, dependability, and responsibility are topics of importance. Students in this program work with the latest hand and power tools unique to this trade.

Prerequisites: Technical education courses recommended along with strong career interest in the field. Grades: 11-12

#### Automotive Technology

The Automotive Technology program is certified by the National Automotive Technology Education Foundation (NATEF). Students complete competencies and gain skills in working with automotive engines, brakes, steering and suspension, electricity/electronics, HVAC, engine performance, and transmissions. The program is also affiliated with most of the major automotive manufacturers including Ford, General Motors, Toyota, Honda and Chrysler through AYES (Automotive Youth Educations Systems).

Students are engaged academically in the classroom learning basic automotive knowledge and skills. Students are then exposed to real world activities in the automotive lab learning how to safely diagnose, disassemble, assemble and repair all aspects of the modern automobile. Students are introduced to automotive apprentice training programs through dealership tours and job shadowing. The AYES program allows successful students the opportunity to get a head start on their career with early entrance into dealerships and repair facilities through internships and co-op agreements. Students also have the opportunity to certify in four automotive areas through Ford Motor Company in the Maintenance and Light Repair (MLR) Program. This program consists of online and classroom courses that meet Ford's training criteria.

#### Automotive Fundamentals

In Automotive Fundamentals, students learn the physical and mechanical principles related to the transportation field including ownership, maintenance, and related career opportunities in the automotive industry. They increase their knowledge about the operation and service of internal combustion engine systems and the various parts and accessories. Last, but not least, students learn shop safety related to the use of hand and power tools, run tests on equipment, and gain experience with industry vocabulary.

Prerequisites: Tech Ed course recommended. Grades 10-11-12

#### Aviation Technology Academy

The Aviation Technology Academy at 205 County Line Road on the southside of Des Moines is designed to train students for careers in various areas of the rapidly growing Aviation Industry. Students have opportunities to become adept in Airlines Maintenance Airframe/Power Plant mechanics, Fixed Base Operators (military or corporate operations), and Piloting. The Aviation Technology Academy is only FAA Certified program at the high school level in Iowa, as well as the only high school program of its type in the entire Midwest. While students earn high school credit learning aviation technology, they also gain college credit at no additional cost.

Prerequisites: Technical education courses recommended along with strong career interest in the field. Grades: 10-11-12