

---

# Clackamas Academy of Industrial Sciences

## Academic Program Guide

---

CAIS Public Charter High School • Grades 9-12 • 2013-2014 School Year



995 South End Rd., Oregon City, OR 97045 \* 503-785-7860 • <http://caisoc.com>

---

Forecasting/Internships/CCC Classes/Graduation/College

---

# About CAIS

---



*It's Your Education ~ Design It! Build It! Live It!*

## **Mission Statement**

*The Clackamas Academy of Industrial Sciences exists to provide students an innovative, contextual learning environment focused on Manufacturing Technologies.*

*The Clackamas Academy of Industrial Sciences will enhance the regional economy by providing a career-ready, highly skilled, diverse and adaptable workforce that is worth the expenditure of resources committed.*

The Clackamas Academy of Industrial Sciences (CAIS) provides career focused students a high school experience that includes industry specific work-readiness, networking and advanced post-secondary learning opportunities.

To earn a CAIS diploma, students must complete the Oregon State minimum requirements as well as the additional CAIS requirements which includes completion of an academic college class, earn industry certification and demonstrate work readiness. Internships can begin during a students junior year and formal structured internships are required their senior year.

## **Benefits of a CAIS Diploma**

The CAIS High School Diploma is more than a standard diploma. The CAIS diploma means that a student is immediately ready for college and work. CAIS students will be a part of a network of employers so they can compete for career-focused jobs and take advantage of employee benefits like college tuition.

Therefore, a CAIS student can significantly reduce their college expenses. In addition, students at CAIS can begin to take college classes their junior year and graduate with two full years of college credit. The CAIS diploma track helps prepare students for the future from the very first day of high school.



# INDEX

<b>Policies &amp; Procedures</b>	<b>I</b>
<b>Grading &amp; Credit Policies</b>	<b>2</b>
<i>Grading</i>	2
<i>Credit by Proficiency</i>	2
<i>Incomplete Courses</i>	2
<i>Improving Grades</i>	3
<i>Credit Recovery (Plato)</i>	3
<b>Graduation Requirements</b>	<b>4</b>
<i>Credit Requirements:</i>	5
<i>CAIS/ODE Graduation Requirements (OAKS/Work Samples)</i>	5
<i>Outside Credit</i>	6
<i>Graduation Ceremony</i>	6
<i>Early Graduation</i>	6
<i>Education Plan and Profile</i>	7
<i>Career-Related Learning Experiences</i>	7
<i>Career-Related Learning Standards</i>	8
<b>PSAT, SAT and ACT</b>	<b>9</b>
<b>College Entrance Requirements</b>	<b>10</b>
<b>Internship Requirements</b>	<b>11</b>
<b>Clackamas Community College Enrollment Policy</b>	<b>12</b>
<b>Forecasting &amp; Scheduling</b>	<b>13</b>
<i>Class Changes</i>	13

<i>Dropping Classes</i>	13
<b>CAIS Course Descriptions</b>	<b>14</b>
ENGLISH - 4.0 Credits	14
<i>English Electives</i>	15
MATHEMATICS - 3.0 Credits	16
PROJECT LEAD THE WAY (PLTW)/CTE/2nd Language - 3.0 Credits	18
SCIENCE - 3.0 Credits	19
<i>Science Electives</i>	20
SOCIAL SCIENCES - 3.0 Credits	21
<i>Social Sciences Electives</i>	22
PHYSICAL EDUCATION - 1.0 credits	23
HEALTH - 1.0 Credits	24
<b>ELECTIVES</b>	<b>25</b>
CAIS	25
Oregon City High School	28
Clackamas Community College (CTE Courses)	30
<i>Welding Technology Program</i>	30
<i>Manufacturing Technology Program</i>	31
<i>Collision Repair Program</i>	32
<i>Mechanic Program</i>	32

---

# Policies & Procedures

---

This guide is designed to provide students and parents with information about our programs, course offerings, graduation requirements, policies and procedures. Please study the Academic Program Guide carefully, keeping in mind your future educational and career goals. The forecasting process runs through March and April and students will select courses for the following school year. Student requests during this time determine the Master Course Schedule for CAIS for the upcoming school year. Teachers will be hired and textbooks and supplies purchased based on this forecasting process. It is very important that all students, with parent involvement, complete the forecasting process in a serious manner as schedule changes are extremely limited after the Master Schedule is complete. We will only make changes due to errors in placement or data entry.

Freshmen and Sophomores should be enrolled in five (5) classes per trimester. Juniors and Seniors may take fewer classes upon approval. Students desiring to participate in Oregon School Activities Association (OSAA)-sponsored activities and athletics must be enrolled in and passing a minimum of four (4) classes in the current trimester. They also must have enrolled in and passed a minimum of four (4) classes in the previous trimester and be on track to graduate.

Students who plan to attend a four-year college or university directly after graduation must select appropriate courses beginning their freshman year in order to meet college entrance requirements.

Please contact our Counseling Department at 503-785-8252 with any questions. Credit for satisfactory completion of a course is applied to the subject area in which the course is located unless otherwise noted. Each trimester course earns 0.5 credits and a full-year course earns 1.5 credits.

---

# Grading & Credit Policies

---

## Grading

The Oregon City School District's grading procedure is designed to reflect academic achievement and the development of citizenship. Letter grades are intended to provide information on academic performance, to encourage continued academic growth and to create a record of academic achievement. A letter grade is based on the teacher's professional evaluation of student achievement in the following areas: completion of assignments, examination scores, mastery of pertinent skills, handling abstractions, participation, and application of knowledge. Teachers will provide students with a written explanation of the expectations and the grading system for each course of study.

## Credit by Proficiency

Units or part units of required and elective graduation credit awarded to students who demonstrate proficiency or mastery\* of recognized standards\*\* through sufficient and appropriate assessment evidence\*\*\*.

(\* defined levels of performance reflective of state, local, or national criteria)

(\*\* ex. state content standards and essential skills, industry-based knowledge and skills, other national or international standards)

(\*\*\* quantity and quality of student work which demonstrates what students know and are able to do)

Standard 4.0 Scale	Proficiency-based Scale	Letter Grade Earned
3.5-4.0	Advanced Proficiency	A
2.75-3.49	Proficiency	B
1.75-2.74	Partial Proficiency	C
<1.74	Developing Proficiency	NP

## Incomplete Courses

Students are responsible for making up an Incomplete ("I" on report card). An Incomplete must be made up within 30 school days after the end of the grading period. If the work is not completed, the grade will change from an "I" to an "F".

## **Improving Grades**

Students may repeat a course to improve their grade. The course must be taken at CAIS and it must be the exact class; i.e. Intro to Engineering Design repeated for Intro to Engineering Design, both at CAIS. If the grade improves, the new grade will be recorded on the transcript in the term the repeat course was taken. The original grade will be changed to an “N”, and the new grade will be calculated in to the GPA. The counselor must approve courses taken to improve a grade before the class is repeated. Recovery-type classes will not be allowed to replace a grade. Credit may not be earned twice in the same course, unless specified in the course description (example: P.E.).

## **Credit Recovery (Plato)**

Credit recovery courses can be assigned on a minimal basis. The following criteria must be met for a student to be eligible to take a on-line Plato course:

- \* Transfer students coming in during a trimester or semester.
- \* Students who have missed a significant amount of class time due to an acute medical condition.
- \* Students who feel their academic plan would benefit from earning credits through Plato must apply and meet with the principal three weeks before the trimester.

---

# Graduation Requirements

---

Students are required to earn 26 credits to graduate with a standard Clackamas Academy of Industrial Sciences diploma. Credit Requirements are defined by units of credit. Students earn 0.5 credit for each trimester course passed. The CAIS board will award a diploma to a CAIS student fulfilling graduation requirements in four years or less upon the student successfully meeting all graduation requirements .

Listed below are the diploma requirements:

Required Coursework - 26 Credits (see Credit Requirements on page 5)

Education Plan and Profile - page 11

Two Career-Related Learning Experiences (CRLE's) - page 11

Documentation for the Six Career-Related Learning Standards (CRLS's) - Typically documented while completing your CRLE Portfolio - page 12

- Career Development
- Employment Foundations
- Personal Management
- Problem Solving
- Communication
- Teamwork

Evidence for Extended Application Standards - Typically documented in the Internship Packet (more information on Page 11)

- Relevance
- Rigor
- Reflection

Meet or Exceed the Standard on State Reading Test

Meet or Exceed the Standard on State Mathematics Test

Meet or Exceed the Standard on State Writing Test

Pass Work Samples as required

### Credit Requirements:

Subject Area	Number of Credits Needed
English	4 credits
Mathematics	3 credits (1 cr. of Algebra 1 or above & 2 cr above Alg 1)
Science	3 credits
Social Science	3 credits
Physical Education*	1 credit
Health Education	1 credit
CTE/PLTW/2nd Language	3 credits
Internship**	1.5 credits
Electives	6.5 credits
<b>Total:</b>	<b>26 Credits</b>

\* Individuals may be excused from participation in physical education (PE) for a maximum .5 of the 1.0 credits required for graduation through the participation in an OSAA sponsored athletic program or a program of study waiver. Such excused students will be required to substitute the .5 credit with an elective course and must complete the necessary paperwork.

\*\* Individuals can use work experience for no more than .5 of the 1.5 credits required for graduation.

### CAIS/ODE Graduation Requirements (OAKS/Work Samples)

	Required OAKS test Score 236	Required State Performance Assessments Score 40	Required Work Samples All traits score 4 or higher
Class of 2014 +	Math (ODE required) Reading (ODE required)	Writing (ODE required)	2 speaking work samples (Any mode, OCHS req.)

## **Outside Credit**

Outside credits earned through another accredited program/institution used toward graduation must be completed and submitted to counseling by the last school day of May of the Senior year. Refer to OCSD Policy online for details.

## **Graduation Ceremony**

To participate in the graduation ceremony, students must successfully complete all required and elective courses by the last day of classes for Seniors. Students must be enrolled in the required minimum of classes (3) during the trimester prior to graduation or be participating in a CAIS approved Internship.

## **Early Graduation**

The determination to graduate one-two trimesters or a year early is a big decision. It is a clear expectation that students remain in high school for four years. However, recognizing that there are unique circumstances and a diverse population, some students may want to complete high school in less than four years. Students who want to participate in graduation ceremonies are required to complete the early graduation packet (available on the CAIS website). Students who plan to graduate early must meet the following requirements:

1. Students must meet the graduation requirements for their original graduating class
2. Students must have a Grade Point Average (GPA) of 2.75 or higher by the time of application.
3. Students must have passed all state tests and required work samples to receive a diploma.
4. Students must prepare a written TRANSITION PLAN, with their counselor's assistance.
5. If graduating one full year early, students must complete and turn in their graduation packet by the end of their sophomore year.
6. If graduating one or two trimesters early, students must complete and turn in their graduation packet by the end of their junior year.
7. Administration will then grant, deny, or modify the request.

## **Education Plan and Profile**

The Education Plan and Profile assists students in pursuing their personal, educational, and career interests and post-high school goals. The education plan serves as a “road map” to guide students’ learning throughout school and prepare them for next steps after high school. The education profile serves as a “compass” that documents students’ progress and achievement toward their goals and helps them to stay on course.

The student is responsible, with guidance, to develop and manage his or her personal plan and profile. The school is responsible for providing a process and guidance to students. The process should begin no later than 8th grade and continue through 12th grade, with regular reviews and updates. The process should be designed with flexibility to allow students to change their plans as their personal and career interests and goals evolve along the way.

The EPP will be located in their folder with their counselor and will be updated periodically through individual meetings, classroom guidance sessions and upon request of the student.

## **Career-Related Learning Experiences**

Career-Related Learning Experiences (CRLE’s) are structured educational experiences that connect learning to the world beyond the classroom. They are developed within the student’s Education Plan and Profile in relation to his/her career interests and post-high school goals. Experiences provide opportunities in which students apply academic, career-related and technical knowledge, as well as skills to help students clarify career goals.

Communities small and large, rural and urban, can support CRLE’s. Partnerships with local employers and community organizations provide a variety of opportunities, building upon the community’s strengths and resources. Beyond the local community, regional opportunities help increase the school’s capacity, and technology offers expanding possibilities worldwide. CRLE’s can take place in a variety of ways and places - in school, the workplace, or in the community. Most importantly, these experiences are about learning, not about the type of experience or the place.

## Career-Related Learning Standards

The Career-Related Learning Standards are fundamental skills essential for success in employment, college, family, and community life. These skills should be taught throughout the curriculum, integrated with academic learning, and emphasized in students' Career- Related Learning Experiences. The box on the following page shows the definitions for each of the Career-Related Learning Standards.

Career Related Learning Standards	
1. Personal Management	Exhibit appropriate work ethics and behaviors in school, community and/or the workplace.
2. Problem Solving	Apply decision-making and problem-solving techniques in school, community and/or the workplace.
3. Communication	Demonstrate effective and appropriate communication skills to give and receive information in school, community and/or the workplace.
4. Teamwork	Demonstrate effective teamwork in school, community and/or the workplace.
5. Employment Foundations	Demonstrate academic, technical and organizational knowledge and skills required for successful employment.
6. Career Development	Demonstrate career development skills in planning for post-high school experiences.

The Career-Related Learning Standards are demonstrated by each student through their Career-Related Learning Experience (CRLE) Portfolio. Completion and review of the CRLE Portfolio will be reflected as a .5 Pass/No Pass English credit on the student's high school transcript. Checklists with the necessary components of the Portfolio are located in the students' binders, which can be found in the E-lab. Each component must be approved and signed off by one member of the CAIS staff.

---

# PSAT, SAT and ACT

## Important High School Pre-College Tests

---

The PSAT, a practice test for the SAT, is offered only one time each year in mid-October for Sophomores and Juniors. The PSAT counts for the National Merit Scholarship Program ONLY during the student's junior year.

The SAT and ACT are two very different college entrance exams. Both are nationally administered and are used to help colleges evaluate applicants. The SAT is essentially a three-part aptitude test (Reading, Math, Writing) while the ACT is more of an achievement test with four core sections (English, Math, Reading and Science) and an optional Writing section. The tests are offered numerous times throughout the year. The Oregon City School District offers the SAT tests once during most months, with a SAT Prep Course in the evenings beforehand.

The SAT offers two tests: SAT Reasoning and SAT Subject Tests. The ACT offers one test with a "Plus Writing" option. Oregon University System schools require either the SAT Reasoning or the ACT Plus Writing. It is highly recommended that students take at least one of these tests no later than spring of their junior year.

Registration materials are available online at [www.collegeboard.com](http://www.collegeboard.com) or [www.act.org](http://www.act.org).

**The CAIS code is 380789**

### *SAT and ACT Resources and Preparation:*

How do you decide which test to take (SAT or ACT)? There are two things to consider: Which college are you considering and which test plays to your strengths.

1. Once you decide which college(s) you are interested in applying to, check their websites and look under Freshman Admissions. The site will tell you which test the college prefers. Many colleges will accept either, but don't assume. Check them out!
2. If you can take either test, then decide which test plays to your strengths by looking over the SAT vs. ACT Comparison Chart ([www.studypoint.com/ed/act-vs-sat/](http://www.studypoint.com/ed/act-vs-sat/))
3. The SAT costs \$50.00 and the ACT costs \$50.50.
4. Everything you need to know, practice and prepare for either test is included on the SAT and ACT websites. (Official Study Guides, Official Practice Tests, Question of the Day, etc.) There are many free resources available online. There are also college search engines available at their websites that are fun and amazing to use.
5. Other ways to Prepare: Study Guides from local bookstores, Test Prep courses, Study Groups

# College Entrance Requirements

The tables below list the requirements that students must complete in high school to meet the subject unit requirements for entrance to the Oregon University System. This includes the following schools: Eastern Oregon University, Oregon Institute of Technology, Oregon State University, Portland State University, Southern Oregon University, University of Oregon and Western Oregon University. Students who plan to attend a four-year college or university immediately after high school, whether private or public, must make course selections during high school with this in mind, beginning with their freshman year.

SUBJECT	Units/ Credits	SUBJECT	Units/ Credits
Language Arts	4.0	Mathematics	3.0
Social Studies	3.0	Science	3.0
Second Language	2.0		
<b>TOTAL Required Units/Credits</b>			<b>15</b>

Note: Students must earn a C- or above in these subject units.

## *Other College Entrance Information:*

	EOU	OIT	OSU	PSU	SOU	UO	WOU
HS GPA	3.0	3.0	3.0	3.0	2.75	3.0	2.75
SAT/ACT	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Review	Below 3.0 or fewer than 15 subject units	2.5 to 2.99	Below 3.0 or fewer than 15 subject units	Below 3.0 or fewer than 15 academic credits	Below 2.75	** See note below!!	Below 2.75 or fewer than 15 academic credits

\*\*UO requires application essays of all applicants. Applications evaluated through comprehensive review.

**Remember** that the above information pertains to Oregon's State schools only. Students are encouraged to contact college admissions as early as possible to verify academic credit requirements as they can change and do vary from school to school. They should also be sure to verify the college entrance exams required for admittance and pay close attention to deadlines!

---

# Internship Requirements

---

Students are required to earn 1.5 internship credits to graduate with a standard Clackamas Academy of Industrial Sciences diploma. To be considered eligible for an off-campus internship, students are expected to meet or exceed the following requirements:

- \*Must be a Senior or meet the additional requirement for Junior internships
- \*Must have a minimum 2.0 GPA and/or meets or exceeds all criteria on Career Readiness Rubrics scored by all CAIS teachers.
- \*Passes all classes the term before and during the internship.
- \*Student has an attendance rate of 92% or higher with no unexcused absences the trimester prior to internship. Attendance must remain in good standing during the internship.

To be considered eligible for an internship as a Junior, in addition to meeting the above requirements, students are expected to meet or exceed the following requirements:

- \*Student must have earned 15+ credits entering their Junior year.
- \*OAKS State tests in the areas of Math, Reading and Science.
- \*OAKS State Writing test or two writing work samples scored at 4's or above in all areas.

If a student does not meet the requirements for an internship, a CAIS staff member, administrator or board member can appeal to the executive board on the student's behalf.

## Extended Application Standards

Extended application is defined as the application of academic and specialized knowledge and skills within the context of a student's personal and career interests and post-high school goals. Students extend what they have learned by applying their knowledge and skills in complex or non-routine situations.

**Relevance** = Evidence of personal relevance

**Rigor** = Description of academic and specialized knowledge and skills appropriate to context AND Application of learning to new contexts.

**Reflection** = Reflection on applied learning and connection to goals.

---

# Clackamas Community College

## Enrollment Policy

---

Students must satisfy the following requirements to be considered eligible to enroll in college courses at Clackamas Community College and other institutions. Students must satisfy these requirements prior to each term they plan to enroll in college courses.

### All Students:

- \*Must meet with CAIS College Coordinator prior to each term they plan to enroll in courses
- \*Must read and agree to follow all CAIS college policies and behavior expectations
- \*Must meet all additional requirements established by the institution the student will be attending
- \*May use up to the yearly amount allotted by the board for college courses, books, bus passes and/or fees
- \*Failure to return textbooks and/or materials purchased by CAIS automatically excludes the student from further enrollment in college courses through CAIS until they are returned or the school is reimbursed

### Career & Technical Education (CTE) Courses: (page 29)

- \*Must be a Sophomore
- \*Must have earned a 2.25 GPA or higher the previous trimester/semester

### Non-CTE Courses: (Refer to CCC Course Description Guide)

- \*Must be a Junior
- \*Must have attended CAIS for no less than three (3) trimesters
- \*Must have earned a 2.5 GPA or higher the previous trimester

---

# Forecasting & Scheduling

---

Students select their high school courses for the next school year during the spring with the help of their counselors and parents. Students must have a parent signature indicating approval of the planned program. Individual courses may require Teacher signature. Counselors will provide students with forecasting materials and a deadline for completing and turning in their signed forecasting sheet.

## Class Changes

Students should be careful in choosing classes during forecasting because few changes are allowed and only for legitimate reasons. Students are not allowed to change their schedule because they failed to adequately research course descriptions during forecasting, they dislike the course/teacher or because their friends are in a different class.

### Legitimate Class Changes:

1. Incomplete Schedule
2. No prerequisite for a course on the schedule
3. Already received credit for the course requesting to be changed/dropped
4. Failed the course before with the same teacher, if possible

## Dropping Classes

Students may request to drop a class during the first five school days of each trimester, based on the same legitimate reasons for changing classes. If accepted, there will be no penalty. After five days a class drop will result in the student receiving an “F” in the class for the trimester. The grade will appear on the student’s transcript and will be computed into the student’s grade point average.



---

## English Electives

---

**Literary Connections                      Dancoes            1 Trimester                      Grades 10-12**

Students will use teamwork skills to navigate challenging texts and make connections to the real world through writing, public speaking and presentations.

**Writing for Understanding            Dancoes            1 Trimester                      Grades 11-12**

*Prerequisite: Students needing to pass State Assessment*

Students will tackle a variety of texts through team investigation. They will explore their ideas further through writing in several styles, including: persuasive, narrative and expository.

**Writing for the Workplace            Dancoes            1 Trimester                      Grades 11-12**

*Prerequisite: Students approved to begin Internship process*

Students will investigate the specific steps they need to take to prepare for work in their specific fields of interest. Students will learn job-search and interview techniques and write a variety of resumes and cover letters to add to their portfolios as they prepare for entry into the working world.

---

## MATHEMATICS - 3.0 CREDITS

---

Freshman	Sophomore	Junior / Senior
Algebra 1	Algebra 1 Geometry Technical Math Algebra 2	Geometry Technical Math Algebra 2 Trigonometry

### **Algebra I** **Rausch** **3 Trimesters** **Grades 9-12**

This course focuses on foundational mathematical skills through the practice of Algebra I concepts. Concepts will include: Solving and graphing linear equations and inequalities, solving systems of equations, understanding properties of exponents and radicals, and an introduction to quadratics that includes factoring, graphing and solving quadratics. A student's understanding of these concepts will be measured and confirmed by quizzes in which the students must score an 80% or higher to show proficiency in each of the concepts.

### **Geometry** **Wehrley** **3 Trimesters** **Grades 9-12**

*Prerequisite: Grade of "C" or better in Algebra I*

This course develops spatial analytical skills. The main concepts include properties of triangles, quadrilaterals and circles, triangle congruence short cuts with proofs, similarity, the Pythagorean theorem, similarity, an intro to right triangle trigonometry, area and volume. The course will also provide opportunity for students to demonstrate their knowledge of geometry concepts through hands on projects. A student's understanding will be measured and confirmed by quizzes in which the student must score an 80% or higher to show proficiency in each of the concepts.

### **Algebra II** **Wehrley** **3 Trimesters** **Grades 9-12**

*Prerequisite: Grade of "C" or better in Geometry*

This course continues building on understanding how equations can be manipulated and solved in the areas of linear equations, quadratic equations, radicals equations and rational equations, and understanding the relationship between these equations and their graphs and the equations and their inverses and how both graphs and inverses can be helpful in solving problems. Other concepts include matrices, imaginary numbers, conics and sequences and series. A student's understanding of these concepts will be measured and confirmed by quizzes in which the student must score an 80% or higher to show proficiency in each of the concepts.

**Technical Math****Rausch****2 Trimesters****Grades 10-12**

*Prerequisite: Grade of "C" or better in Algebra I & Geometry or Teacher Recommendation*

Introduces the study and application of Algebra topics and applications of real numbers in work related settings for occupations requiring professional-technical training. The use of real numbers, exponents, number notation, manipulation of formulae, ratio, proportion, and percentage applications for calculating and solving various situational applications for rates of change, slope, proportional relationship and unit analysis will be emphasized.

**Math Workshop****Wehrley****1 Trimester****Grades 9-12**

*Prerequisite: Teacher Recommendation or Parent referred*

This course is designed to be taken concurrently with Algebra I, Geometry or Algebra II. It is designed to provide extra support for success in a student's current math class. Math workshop provides more individual attention and focuses on where a student needs the most help. Class time is spent doing supplementary activities to increase a students understanding. Students will be graded on participation. Students who do not pass the math assessment may be required to repeat Math Workshop.

---

## PROJECT LEAD THE WAY (PLTW)/CTE/2ND LANGUAGE - 3.0 CREDITS

---

Freshman / Sophomore	Junior / Senior
Introduction to Engineering Design Robotics	Computer Integrated Manufacturing Digital Electronics

### **Introduction to Engineering Design (IED)      Busse 3 Trimesters    Grades 9/10**

*Prerequisite: Algebra I with C or better or Teacher Recommendation*

The major focus of IED is the design process and its application. Through hands-on projects, students apply engineering standards and document their work. Students use industry standard 3D modeling software to help them design solutions to solve proposed problems, document their work using an engineer's notebook and communicate solutions to peers and members of the professional community.

### **Robotics      Busse 1 Trimester      Grades 10-12**

*Prerequisite: POE or Teacher Recommendation*

Students will develop skills in mechanical design (CAD) and construction as they work in teams to build simple and complex robotic devices. Students will explore usage of robotics in modern business and industry and examine how robotic devices are affecting our lives and shaping our culture. Students will apply concepts learned in math and science classes to mechanical devices.

### **Computer Integrated Manufacturing (CIM)    Busse 2 Trimesters    Grades 10-12**

*Prerequisite: IED*

How are things made? Students learn about robotics and automation, the history of manufacturing, manufacturing processes, computer modeling, manufacturing equipment and flexible manufacturing systems.

### **Projects      Busse 3 Trimesters      Grade 11-12**

*Prerequisite: IED & POE*

Students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. Students perform research to choose, validate and justify a technical problem. After carefully defining the problem, teams design, build and test their solutions while working closely with industry professionals who provide mentoring opportunities. Finally, student teams present and defend their original solution to an outside panel.



---

## Science Electives

---

### **Scuba** **Semrad** **1 Trimester** **Grade 10-11**

*Prerequisite: Teacher Approval*

*Fee: TBD*

Let's go dive!!! This science elective will get you certified as an open water scuba diver! Whether you are interested in underwater welding, marine biology, or just scuba diving this course will give you the skills you need to be a safe diver. Not only will this course go through the SSI Open Water class, it will also provide you with more of the science that goes into diving and appreciate the marine environments that will be available to you. This course will consist of classroom sessions as well as pool sessions where students will hone the necessary skills before doing their open water checkout dives at the end of the class.

### **Life Chemistry** **Semrad** **2 Trimesters** **Grade 11-12**

*Prerequisite: Intro to P&C*

Life Chemistry offers students a view of how connected the sciences are rather than being separate. In this class students learn chemistry and biology concepts and how they work together to allow for life. Throughout the class we focus on systems and their parts and functions. We start with the atom and work our way out until we are talking about the world as a whole. Students will be involved in projects and problem solving as well as laboratory procedures.

### **Environmental Workshop** **Semrad** **1 Trimester** **Grades 11-12**

*Prerequisite: Life Chemistry*

This project based course allows students to focus their scientific knowledge on the environment we live in. Throughout this course we will analyze aspects of ecosystems as well as develop and test individual student driven projects.



---

## Social Sciences Electives

---

### **Financial Literacy**

**LaDouceur**

**2 Trimesters Grade 10-12**

*Prerequisite: None*

Students will acquire the ability to make informed judgments and to take effective actions regarding the current and future use and management of money. It includes the ability to understand financial choices, plan for the future, spend wisely and manage the challenges associated with life events such as a job loss, saving for retirement, or paying for a child's education.

### **Comparative Economics**

**LaDouceur**

**2 Trimesters**

**Grade 10-12**

*Prerequisite: Economics in US History*

Comparative Economics will deal with the comparative study of different systems of economic organizations such as capitalism, socialism, feudalism and the mixed economy. There will be a strong emphasis analyzing economic systems before 1989 and the competing different economic ideologies of the 20th century. There will be a particular focus on the Cold War and the merits of capitalist and communist systems as economic and political organizations. There will be a strong analysis by students investigating the reasons why capitalism has continued to survive as an economic system and others have failed.



---

## HEALTH - 1.0 CREDITS

---

Freshman / Sophomore	Junior / Senior
Health and Wellness 1	Health and Wellness 2

### Health & Wellness 1

1 Trimesters

Grade 9-10

Health & Wellness 1 is the first part of an organized, sequential curriculum for teaching students the information and skills they need to become health literate, maintain and improve health, prevent disease, and reduce health-related risk behaviors. The curriculum helps students develop skills to protect them from the six categories of risk behaviors identified by The Centers for Disease Control and Prevention.

### Health & Wellness 2

1 Trimesters

Grade 11-12

Health & Wellness 2 is the second part of an organized, sequential curriculum for teaching students the information and skills they need to become health literate, maintain and improve health, prevent disease, and reduce health-related risk behaviors. The curriculum helps students develop skills to protect them from the six categories of risk behaviors identified by The Centers for Disease Control and Prevention.

---

# ELECTIVES

---

## CAIS

---

*These electives are possible options that CAIS is hoping to provide based on request/demand from students. Please keep in mind that they will not all be provided in the 2013-2014 school year.*

### Digital Photography

1 Trimester

Grades 9-12

In the Digital Photography course, students will learn creative photographic skills and processes. Students will be given specific shooting assignments that will reinforce the information they learn in class. Students will share digital photographic work online with classmates. The concept of design as a manner of visual communication is carried throughout. Students will build a portfolio of work and will explore the fields of photography and graphic arts. Camera phones are not allowed. Some projects will require the use of a computer. Computer programs will include Photo Shop and Illustrator. Students may be asked to keep a Portfolio.

### Forensics

1 Trimester

Grades 9-12

*adjective: 1. pertaining to, connected with, or used in courts of law or public discussion and debate. 2. adapted or suited to argumentation; rhetorical.*

*noun: 3. forensics, ( used with a singular or plural verb ) the art or study of argumentation and formal debate.*

Students compete in several speaking styles, including radio, debate, oratory, after dinner speaking and poetic, humorous or dramatic interpretation. Each student will set class goals and considerable time will be spent on research, writing, and at-home preparation. Only students with self-motivated independent study skills should consider taking this course. For anyone preparing for a career in law, public relations, teaching, sales, management, etc., this class is for you. Students will be given the opportunity to prepare required work samples. Required materials for this class are a stopwatch and notepad.



**Second Language (Online or CCC)                      2 Trimesters                      Grades 10-12**

(If online language courses become available, other languages will be also)

*French I - FR-101                      French II - FR-102                      French III - FR-103                      4 Credits/each*

The first year of academic French is designed to give the student a fundamental knowledge of pronunciation and intonation, structure and syntax as well as comprehension skills sufficient for basic communicative proficiency in the language.

*German I - GER-101                      German II - GER-102                      GER III - GER-103                      4 Credits/each*

Introduction to sound system and basic structural patterns of German. Emphasis on the skills of listening comprehension, speaking, reading, writing, and cultural similarities and differences.

*Spanish I - SPN-101                      Spanish II - SPN-102                      Spanish III - SPN-103                      4 Credits/each*

A three-term foundational, multimedia course for beginners. Initial emphasis is on speaking and listening comprehension, with secondary emphasis on reading and writing. Various cultural themes are presented.

**Teacher/Office Assistant (Only 2-Tri in 4 years)                      1 Trimester                      Grades 9-12**

*Prerequisite: Teacher & Counselor approval*

Students assist individual teachers or office staff with paperwork, errands, duplicating materials, computer entry, word processing, filing, and other tasks as assigned. All student assistant positions demand excellent attendance, confidentiality, the ability to follow directions, and the ability to work independently. Student assistants should be prepared to work hard, sometimes on tasks that are not especially interesting (i.e., filing). Applicants must have a minimum 2.5 GPA and no major discipline referrals. If you would like to be an assistant, write the name of the teacher on your forecast sheet and make sure you have his or her signature.

---

## OREGON CITY HIGH SCHOOL

---

*These are the only OCHS electives that are being offered to CAIS students. 1st and 5th period are the only class periods that shuttles will be provided to the OCHS campus. Other courses may be considered if your own transportation can be arranged. These should only be added to your forecasting sheet with counselor approval.*

### JROTC

**3 Trimesters**

**Grades 9-12**

**Fee Required: Annual \$10.00 PT Uniform & \$13.00 beret (headgear)**

JROTC (Junior Reserve Officers Training Corps) has four levels of Leadership, Education and Training (LET). These classes are designed to teach the values of citizenship, leadership, service to the community, personal responsibility and give a sense of accomplishment, while instilling self-esteem, teamwork and self-discipline. The program's focus is reflected in its mission statement; "To Motivate Young people to be Better Citizens." JROTC's performance-based curriculum requires that cadets master the competencies, do the skills, apply the knowledge, and model or exhibit behaviors representing the desired attitudes. A custom-fitted uniform is worn once a week on the designated uniform day. There is no obligation to join the armed forces; however, satisfactory completion of two years can lead to advanced rank the armed forces. College ROTC scholarships are available for outstanding students meeting college entrance requirements.

\*Students successfully completing two years of JROTC Physical Training (PT) requirements receive a half credit (0.5) for physical education.

LET 1 - Grades 9-12

LET 2 - Grades 10-12

LET 3 - Grades 11-12

LET 4 - Grade 12

### CONSTRUCTION

**Basic Construction 1:**

**1 Trimester**

**Grades 9-12**

**Fee: \$15.00/trimester**

This course is designed to assist the student in acquiring and developing the basic skills necessary for a career in construction. Course content will include an overview of the construction industry, safety policies and procedures for construction, applied mathematics and measuring for construction, introduction to basic hand and power tools. Course objectives shall be achieved through independent and group research and study, lectures and demonstrations and various hands-on, competency-based projects.

**Construction 2:****2 Trimesters****Grades 9-12****Fee: \$15.00/trimester**

The first trimester of this course will cover tool safety, plan reading, basic code awareness, snap, plate, detail and framing. The second trimester will cover electricity as a system, including basic home wiring, community wiring starting at the substation, and power generation. Plumbing and water systems will also be covered.

**Construction 3 & 4:****3 Trimesters****Grades 10-12****Fees: \$15.00/1st Trimester only**

This class will first assess community needs, then formulate a plan to address those needs. The class will cover scheduling (critical path) and budgeting for each chosen project. After completing the projects in the second trimester, students will make a presentation of the project to the appropriate community group (i.e. City Council, School Board, etc.). The third trimester will cover career and continuing education possibilities in the construction and infrastructure fields.

---

## CLACKAMAS COMMUNITY COLLEGE (CTE COURSES)

---

*CCC requests that only high school Juniors and Seniors attend college courses. The following courses are the technology courses offered to OCHS and CAIS students. Keep in mind that these courses are 2-period classes when adding them to your forecasting sheets. Other college courses can be considered case-by-case and will be determined by student credits and course progression.*

### **Welding Technology Program**

Students in these courses will learn to use various pieces of shop equipment such as the pedestal and hand grinders, belt sander, oxyfuel and plasma arc cutting torches, the shear and the iron worker.

#### **Shielded Metal Arc Welding I (stick)**

**Fall**

Voskuil

WLD-11/4 Credits

WLD-261/2 Credits

The first level will focus primarily on using several different electrodes to perform fillet welds in all positions. Other technologies that will be studied include: Oxyfuel cutting and carbon arc gouging.

#### **Shielded Metal Arc Welding II (stick)**

**Winter**

Voskuil

WLD-113/4 Credits

WLD-261/2 Credits

The second level will focus primarily on using E7018 electrodes to perform groove welds in all positions to get ready for possible welding certification.

#### **Gas Metal Arc Welding/Flux Core Arc Welding 1 (wirefeed)**

**Winter**

Voskuil

WLD-113/4 Credits

WLD-261/2 Credits

The first level will focus primarily on using GMAW and FCAW to perform fillet welds in all positions on sheet metal and on plate. Other technologies that will be studied include oxyfuel and plasma arc cutting.

#### **Gas Metal Arc Welding/Flux Core Arc Welding II (wirefeed)**

**Winter**

Voskuil

WLD-113/4 Credits

WLD-261/2 Credits

The second level will focus primarily on using FCAW to perform groove welds in all positions to get ready for possible welding certification. Students will continue to increase their skill level in oxyfuel cutting, plasma arc cutting and in using the various pieces of shop equipment.

## **Gas Tungsten Arc Welding I (TIG)**

**Spring**

Voskuil

WLD-115/4 Credits

WLD-261/2 Credits

The first level will focus primarily on performing fillet and groove welds on steel, stainless steel and aluminum in the flat and horizontal positions. Other technologies that will be studied include plasma arc cutting.

## **Gas Tungsten Arc Welding II (TIG)**

**Spring**

Voskuil

WLD-115/4 Credits

WLD-261/2 Credits

The second level will focus primarily on performing fillet and groove welds on steel, stainless steel and aluminum in all positions to get ready for possible welding certification. Students will continue to increase their skill level in plasma arc cutting and in using the various pieces of shop equipment.

## **Manufacturing Technology Program**

### **Machine Shop I**

**Fall & Winter**

Anderson

MFG-110/3 Credits

The first level will focus primarily on fundamental machining skills with an emphasis on the operation of Vertical Milling Machines, Engine Lathes, Horizontal Band Saws and Pedestal Grinders. Other technologies that will be studied include: precision measurement, cutting tools, print reading and Computerized Numerical Control (CNC).

### **Machine Shop II**

**Fall & Winter**

Anderson

MFG-111/3 Credits

The second level will build on skills developed in the Machine Shop I class with a continued emphasis on the set-up and operation of Vertical Milling machines and Engine Lathes. There will be a marked increase in the complexity of the projects.

### **Machine Shop III**

**Fall & Winter**

Anderson

MFG-112/3 Credits

The third level will build on skills developed in the previous classes and will allow time for students to design and build their own project. Again, there will be a marked increase in the complexity of the projects.

## **Machine Shop Independent Study**

**Fall, Winter & Spring**

Anderson

MFG-110/3 Credits

Independent Study will allow the student to build on skills developed in the previous classes. Students will design and build their own project. Student projects will have a higher degree of complexity and must be approved by the instructor.

## **Automated Machining & Programming**

**Anderson**

**Spring**

(PreReq: Machine Shop I, II & III) MFG-204/4 Credits

MFG-210/2 Credits

This “hands on” class is designed to introduce students to CAD/CAM programming as well as CNC Machining. Topics covered include: the creation of 2D/3D wire-frame CAD Models, solid CAD models, the creation and manipulation of 2-1/2 axis CAM tool-paths using MasterCam, and the set-up and operation of CNC Vertical Machining Centers.

## **Collision Repair Program**

### **Collision Repair**

**Fall & Spring**

Spain

AB-113/4 Credits

Entry level course offers instruction in careers, vehicle construction, hand and power tool use, collision repair techniques and collision repair welding. Shop and personal safety are stressed throughout the course. Student vehicles may be used for repair with the instructor’s approval. (Weekly welding day will be announced the 1st week of class.)

## **Mechanic Program**

### **Beginning Mechanics**

**Fall & Winter**

Landeen

AM-010/4 Credits

Entry level course offers instruction in automotive service careers, basic automotive systems, use of hand and power tools and precision measuring. Shop and personal safety are stressed throughout the course. Student vehicles may be used for maintenance or repair with the instructor’s approval.

### **Advanced Mechanics**

**Winter & Spring**

Landeen

AM-121/3 Credits

Prerequisite: AM-010

This course builds on topics present in Automotive fundamentals. One of the major assignments will be the disassembly, condition evaluation and re-assembly of an automobile engine. Student vehicles may be used for maintenance or repair with the instructor’s approval.

## **Small Engine Repair**

**Fall & Winter**

Berlinger

AM-118/3 Credits

This course is designed to provide high school students with an overview of basic small engine maintenance, operation and repair. Classroom instruction combined with hands-on shop activities is provided in this course.