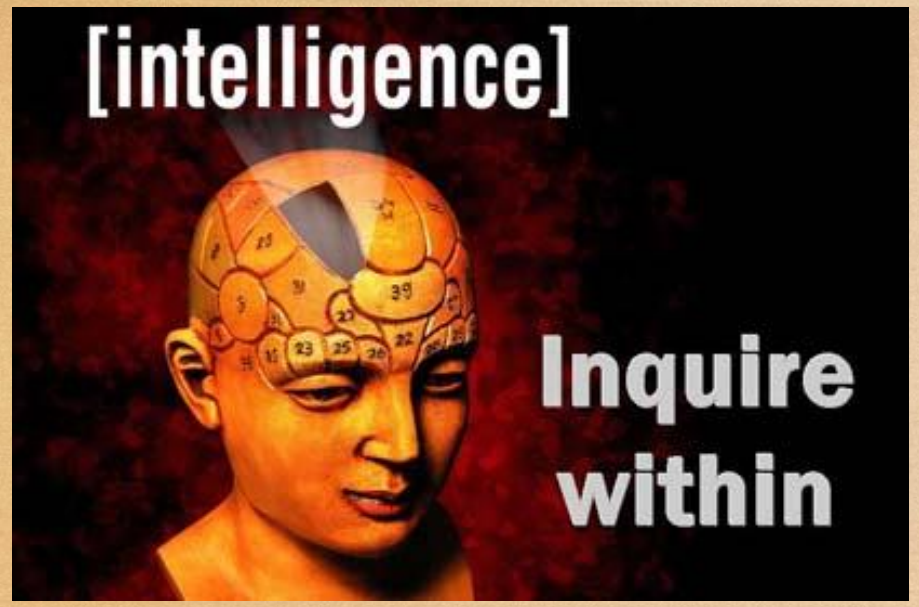
Oregon TECH

PROJECT LEAD THE WAY PLTW



PLTW College Credit Opportunities for High School Students at the Oregon Institute of Technology.

Visit us at: www.oit.edu/academics/pltw

College Credit for High School Students

- Early development (K-12) of technical knowledge, problem solving ability, and an applied engineering skill-set have proven to increase a student's chances for success in continued education and career paths upon graduation from high school. Oregon Tech's continued commitment to outreach, pipeline building, and awarding of credit for prior learning support the case for offering college engineering credits to qualifying PLTW programs and students.

- Oregon Tech offers college credits to high school students that complete all of the work and earn a passing grade in approved PLTW STEM courses under 2 modalities. Please review the Course Conversion Chart to see how PLTW foundation and specialization courses are handled.

- ❑ ***Dual Credit - For PLTW High School Pathways to Engineering classes IED & POE***
- ❑ ***Assessment Based Learning* Credit *(ABL) – For PLTW Specialization classes***

  *Note: You can only apply for IED and POE under the ABL credit option through 2018.

- **The basic requirements and process to apply for credits by registering your school, courses, and students in the Oregon Tech system are described on the next 2 slides.**

Are your PLTW high school courses and students eligible for Dual Credit at the Oregon Institute of Technology?

Answer YES to all 3 questions below and apply to become a qualified dual credit PLTW program/teacher.

A. The PLTW program where I teach is in the state of Oregon. (Yes/No)
B. The school where I teach PLTW has at least 1 other PLTW Engineering or Biomed Course. (Yes/No)
C. I have taught PLTW IED or POE for at least 1 year prior to applying. (Yes/No)

Deadlines for Teacher and Student Registration for Dual Credit at Oregon Tech:

- Teacher must register and submit required documents to Oregon Tech by December 10. 2017
- Once approved, Teacher must provide roster of students to Oregon Tech by January 4, 2018
- Student must complete the application to be admitted to Oregon Tech by January 5, 2018
- Student must complete the self-registration online with Oregon Tech by January 12, 2018

Dual Credit Modality:

Two of the PLTW Pathways To Engineering (PTE) courses, Introduction to Engineering (IED) and Principles of Engineering (POE) are eligible for dual credit if the teacher and student successfully complete the steps outlined below. Teachers must register themselves and submit the required information **before Dec. 10th, 2017**. To receive the credits, teachers and students must demonstrate that they have completed the course curriculum, met the learning outcomes for Oregon Tech Intro to Engineering classes, received a grade for the course, and completed the End of Course (EoC) exam.

Requirements for a High School PLTW teacher to become qualified for dual credit:

1. Register yourself, your school, and the courses you teach using the on-line form that is found on the Oregon Tech / PLTW Website. You will also be asked about your PLTW class, students, and teaching experience.
2. Once the form from step 1 has been reviewed by PLTW staff at Oregon Tech, you will be sent an email requesting the remaining documentation necessary to qualify as a PLTW dual credit teacher (this includes an updated resume, an unofficial copy of all college transcripts, and a syllabus for the IED and/or POE class for which you want to give credit.
3. After a successful review of your materials by the Oregon Tech Office of Academic Agreements and the engineering faculty liaison, Affiliate Director, Dr. David Culler, you will be registered and asked to complete the rest of the process to obtain dual credit for your students. This will include rostering, payment, and each student application/registration.

Requirements for PLTW students to obtain dual credit through Oregon Tech system:

1. Students will fill out and submit an electronic application to be admitted to Oregon Tech.
2. Students will complete an electronic registration for the classes/credits as identified in the Course Conversion Chart.
3. Pay the tuition per credit hour being requested. Introduction to Engineering classes are 2 credits each (ENGR 101, ENGR 102). The Oregon Tech ENGR 120, 121, 122 are 3 credits each.

*Note: If the student is eligible for free or reduced lunch or has extenuating financial conditions, the charge may be waived after successfully completing the verification process.

Assessment Based Learning (ABL) Modality:

The Assessment Based Learning (ABL) option for college credit will be implemented and explained in January 2018.

College Credit Course Conversion Chart

OREGON INSTITUTE OF TECHNOLOGY
College Credit Course Conversion Chart

Summary of Dual Credit and Assessment Based Learning (ABL) Credit Options

Oregon Tech Perspective on College Credit for High School Classes:
Early development (K-12) of technical knowledge, problem solving skills, and an applied engineering mind-set have proven to increase a student's chances for success in continued education and career paths upon graduation from high school. Oregon Tech's continuing efforts in outreach, pipeline building, and credit for prior learning support the case for offering credits to qualifying students. There are currently few opportunities to recognize and reward this work that leads to a smoother transition to good paying jobs, CTE training, community colleges, and university programs.

Specifics about Dual Credit and Assessment Based Learning (ABL) Credit Offerings:

Dual Credit can be obtained by students whose teachers register their PLTW classes with OIT during the Fall semester and meet the requirements explained on the Dual Credit Guidelines Sheet. These credits appear on the student's OIT transcript with a grade. Dual Credit includes the oversight and final approval by an OIT engineering faculty liason.
ABL Credit is different that Dual Credit in that students complete a form, pay a fee, and are awarded credits based on completing the PLTW course with a 75% or better grade on the EoC PLTW exam and a B or better grade assigned by the teacher for the overall course. These credits appear on the student's OIT transcript accompanied by a grade and a note specifying that these are ABL credits.

Oregon Tech Programs	PLTW Foundation Courses (Dual Credit or ABL *through 2018)		PLTW Specialization Courses (ABL Only)					
Engineering Departments	Intro Engr Design (IED)	Princ. Of Engr. (POE)	Engr Des / Devp (EDD)	Dig.Elec. (DE)	Comp Integ Mfg (CIM)	Civ Engr & Arch (CEA)	Comp Sci Princ (CSP)	AeroSpace Engr (AE)
MMET	ENGR 101 2 Credit Hours See **Note Below	ENGR 102 2 Credit Hours	ENGR121 3C.H.	ENGR122 3C.H.	ENGR121 3C.H.	ENGR120 3C.H.	ENGR122 3C.H.	ENGR121 3C.H.
EE/EET/REE	ENGR 101 2 Credit Hours	ENGR 102 2 Credit Hours						
Civil Engineering	ENGR 101 2 Credit Hours	ENGR 102 2 Credit Hours						
CET/ESET/SET	N/A	N/A						

Course Conversion Chart Definitions & Classes

**Note: For the Mechanical and Manufacturing programs (MMET) there is only 1 Intro to Engineering course (ENGR 111). IED will count for ENGR 111 although the table above shows that credit will be given for ENGR 101. This was done for consistency across all engineering programs.

Reference for Oregon Tech Engineering Programs

MMET – Manufacturing and Mechanical Engineering & Technology
CE – Civil Engineering
EE/EET/REE – Electrical / Renewable Engineering & Technology
CET/ESET/SET – Computer / Embedded Systems, Software Engineering & Technology

Reference for PLTW Courses

IED - Introduction to Engineering Design
POE - Principles of Engineering
EDD - Engineering Design & Development
CEA - Civil Engineering and Architecture
CIM - Computer Integrated Manufacturing
CSP - Computer Science Principles
DE - Digital Electronics
AE - Aerospace Engineering

Reference for Oregon Tech Courses

ENGR 111 – Introduction to Engineering (MMET) - Orientation
ENGR 101 – Introduction to Engineering I (EE/EET/REE/CE)
ENGR 102 - Introduction to Engineering II (EE/EET/REE/CE)

ENGR 120 – Fundamentals of Engineering Design, Analytical Tools, and CAD
ENGR 121 – Engineering Principles and Problem Solving
ENGR 122 – Electronics and Computation in Engineering

*NOTICE: The ENGR 101/102/111 Engineering Orientation courses at Oregon Tech count toward the completion of degrees, while the ENGR 120, 121, &122 courses are earned college credits that count as Lower Division Technical Electives (LDT). They are transcripted through Oregon Tech and may be transferable to other universities, community colleges, trade schools, or Continued Technical Education (CTE).

ENGR 101: Intro to Engineering I (2 credit hours)
Introduces the student to engineering with a focus on academic success, professional development, ethics, communication, and creative problem solving techniques, engineering tools (CAD/CAE), and design concepts. A discipline-specific team-based laboratory experience encourages consideration of a chosen engineering discipline.

ENGR 102: Intro to Engineering II (2 credit hours)
The student will focus on their chosen discipline through an interdisciplinary team-based design project including problem identification, measurement, analysis, and presentation to peers. Emphasis will be placed on proper usage of engineering tools and instruments and sound design practices.

ENGR 111: MMET Orientation (2 credit hours)
Topics include: survey of the engineering profession, educational and professional development, standards of practice; engineering information, calculations, and analysis. An engineering design project will be incorporated. This course provides knowledge and skills to engineering students which will benefit their future academic and professional endeavors. Prerequisite: Declared major in BSME, BSMET, or BSMFG program

ENGR-120: Fundamentals of Engineering Design, Analytical Tools, and CAD (3 credit hours)
This course covers the fundamentals of engineering design, including analytical and computational tools that introduce design concepts and build a foundation of engineering knowledge that will be helpful to students starting off in disciplines such as mechanical, civil, and manufacturing engineering and technology. Computer Aided Design & Drafting, Problem Solving, Documentation, Analysis, Teamwork, and Multi-Step Engineering Calculations are important skills developed in this course.

ENGR-121: Engineering Principles and Problem Solving (3 credit hours)
This course covers fundamental engineering principles in a variety of topical areas. These include modeling of real world concepts and systems, basic statics, electronics, energy generation, and robotics. The use of both analytical and computational tools to represent, analyze, and improve on real-world situations are emphasized. Identifying the correct type of system to employ, improving the efficiency of existing systems, working in multi-disciplinary groups, developing and presenting ideas, and prototyping as well as testing iteratively are particular outcomes of this course.

ENGR-122: Electronics and Computation in Engineering (3 credit hours)
This course covers fundamental electrical and computational topics in engineering. These include building and analyzing circuits, using mathematical concepts to develop solutions, and the use of both analytical and computational tools to gain knowledge and hands-on skills in related areas. Troubleshooting and testing of ideas as well as supporting / presenting ideas in an organized and systematic manner to others are particular benefits of this course. This course builds a basic foundation of knowledge and skills that will transfer well to continued education, technical jobs and self-confidence.

Thank you for your participation in PLTW and Oregon Tech's college credit program. We look forward to working with you.

Go to www.oit.edu/adademics/pltw for more information.

Direct Specific Questions to:
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