STATEWIDE CAREER PATHWAYS
Creating School to College Articulation

Discipline: Engineering Technology
Date Submitted: May 10th, 2021

CERRITOS COLLEGE
ARTICULATION AGREEMENT

Cerritos College Course: ET 101: Principles of Engineering Technology (3 Units) Cerritos College 11110 Alondra Blvd. Norwalk, CA 90650	**High School Course:** Principles of Engineering (Project Lead the Way) Bellflower Unified School District 16703 South Clark Ave. Bldg. A Bellflower, CA 90706

General Course Description:
This course introduces the student to the design process in engineering technology by the use of activities-based learning, project-based learning, and problem-based learning. The student will learn about the design process, geometric relationships, visualization, technical sketching, modeling, model documentation, and assemblies.

College Prerequisite(s): None	**HS/ROCP Prerequisite(s):** None

Advisories/Recommendations: Student has successfully completed "Introduction to Engineering Design", the initial course in the PLTW Engineering Pathway.

Course Content:

- Engineering Career Awareness
- Social responsibility and ethics
- Safety practices and standards in the engineering environment
- Communication, presentation skills and teamwork
- Visualization and sketching techniques
- Engineering drawings and standards
- Mechanical systems and mechanisms
- Basic thermodynamics
- Fluid control and hydraulic systems
- Control systems and feedback
- Robotics
- Data collection and analysis
- Engineering units, instruments, tools and measurements.
- Statics
- Material properties and strengths of materials
- Demonstrate the ability to work as a team member and collaborate in a diverse environment.

Competencies and Skill Requirements. At the conclusion of this course, the student should be able to:

- Define various careers available and terminology used in the fields of engineering and engineering technology
- Demonstrate an understanding of social, economical, environmental and ethical impacts of engineering
- Demonstrate safety practices and standards in the engineering environment
- Demonstrate ability to effectively communicate in writing and verbally with high-quality visual aids.
- Collaborate in a diverse environment
- Apply visualization and sketching techniques to solve engineering problems
- Create basic engineering drawings utilizing industry standards
- Create and analyze basic engineering systems (such as mechanisms, thermodynamics, fluids, electrical, control, mechanical, robotics)
- Design, assemble, program and test an autonomous robot capable of performing a teacher-assigned task.
- Acquire, analyze and interpret data
- Demonstrate proper use of various engineering instruments and tools (such as scales, calipers, micrometers, multimeters, thermometers.)
- Design and analyze basic static mechanical systems such as beams and columns
- Measure and interpret material properties using stress-strain curves.
- Demonstrate the ability to work as a team member and collaborate in a diverse environment.

Measurement Methods (quizzes, tests, homework assignments, etc.):

- Projects
- Homework
- Sketches
- Worksheets
- Engineer Notebook
- Portfolio
- Tests & Final Exam
- Attendance

Textbooks or Other Support Materials:

Textbooks:
Project Lead the Way™ provides the curriculum for this course, along with all required support materials; no other textbooks are required.

Software:

- VEX Robotics
- Logger Pro
- VEX RobotC
- Structural Stress Analyzer 1000
- MD Solids
- Virtual Tensile Tester
- Vernier Logger Pro

- Flash Player
- National Instruments LabView
- Microsoft Office
- PLTW Learning Management System
- Inventor
- AutoCAD
- 3D Printing

Materials:

- Class Folder
- USB Flash Drive

Procedures for Course Articulation:
Cerritos College credit for the articulated course listed above may be received when the following criteria are met:

1. The student has completed the articulated course listed above, *Principles of Engineering,* with a grade of "B" or higher.
2. The student must enroll at Cerritos College within two (2) years from the semester date in which the course was completed.
3. The student will complete and submit the *Cerritos College Credit by Exam Form* to the Office of Educational Partnerships & Programs.
4. No more than 15 units of credit may be accepted for credit by examination.

This Agreement will be reviewed annually and will remain in effect until cancelled by either party giving 30 days written notice.

High School/ROP District Signatures		**Cerritos College Signatures**	
	5/21/21	Miodrag Micic (May 27, 2021 12:03 PDT)	May 27, 2021
Faculty/Department Chair	Date	Instructor/Division Chair	Date
	5-21-2021	Yannick Real (May 27, 2021 12:32 PDT)	May 27, 2021
Principal	Date	Dean of Instruction	Date
	5.24/2021	E. (Rick) Miranda (May 27, 2021 13:36 PDT)	May 27, 2021
Superintendent	Date	Vice President	Date

- Flash Player
- National Instruments LabView
- Microsoft Office
- PLTW Learning Management System
- Inventor
- AutoCAD
- 3D Printing

Materials:

- Class Folder
- USB Flash Drive

Procedures for Course Articulation:
Cerritos College credit for the articulated course listed above may be received when the following criteria are met:

1. The student has completed the articulated course listed above, *Principles of Engineering,* with a grade of "B" or higher.
2. The student must enroll at Cerritos College within two (2) years from the semester date in which the course was completed.
3. The student will complete and submit the *Cerritos College Credit by Exam Form* to the Office of Educational Partnerships & Programs.
4. No more than 15 units of credit may be accepted for credit by examination.

This Agreement will be reviewed annually and will remain in effect until cancelled by either party giving 30 days written notice.

High School/ROP District Signatures		**Cerritos College Signatures**	
	5/19/2021	Miodrag Micic (May 27, 2021 12:03 PDT)	May 27, 2021
Faculty/Department Chair	Date	Instructor/Division Chair	Date
	5/19/2021	Yannick Real (May 27, 2021 12:32 PDT)	May 27, 2021
Principal	Date	Dean of Instruction	Date
	5/21/2021	E. (Rick) Miranda (May 27, 2021 13:36 PDT)	May 27, 2021
Superintendent	Date	Vice President	Date

ET 101 Articulation Agreement Bellflower USD

Final Audit Report 2021-05-27

Created:	2021-05-27
By:	Christina Mulcahy (cmulcahy@Cerritos.edu)
Status:	Signed
Transaction ID:	CBJCHBCAABAA2fKYbgvCp37IBQzhq-8bWWD2eBMdRgDu

"ET 101 Articulation Agreement Bellflower USD" History

Document created by Christina Mulcahy (cmulcahy@Cerritos.edu)
2021-05-27 - 6:50:09 PM GMT- IP address: 75.144.28.41

Document emailed to Miodrag Micic (mmicic@Cerritos.edu) for signature
2021-05-27 - 6:53:15 PM GMT

Email viewed by Miodrag Micic (mmicic@Cerritos.edu)
2021-05-27 - 7:03:12 PM GMT- IP address: 72.211.255.51

Document e-signed by Miodrag Micic (mmicic@Cerritos.edu)
Signature Date: 2021-05-27 - 7:03:38 PM GMT - Time Source: server- IP address: 72.211.255.51

Document emailed to Yannick Real (yreal@cerritos.edu) for signature
2021-05-27 - 7:03:40 PM GMT

Email viewed by Yannick Real (yreal@cerritos.edu)
2021-05-27 - 7:31:14 PM GMT- IP address: 198.188.96.4

Document e-signed by Yannick Real (yreal@cerritos.edu)
Signature Date: 2021-05-27 - 7:32:15 PM GMT - Time Source: server- IP address: 198.188.96.4

Document emailed to E. (Rick) Miranda (ermiranda@cerritos.edu) for signature
2021-05-27 - 7:32:17 PM GMT

Email viewed by E. (Rick) Miranda (ermiranda@cerritos.edu)
2021-05-27 - 8:36:39 PM GMT- IP address: 198.188.96.4

Document e-signed by E. (Rick) Miranda (ermiranda@cerritos.edu)
Signature Date: 2021-05-27 - 8:36:53 PM GMT - Time Source: server- IP address: 198.188.96.4

Agreement completed.
2021-05-27 - 8:36:53 PM GMT