

CIP Code  
#:15.0000

Engineering / PLTW  
Syllabus For 2021-2022



## INSTRUCTOR INFORMATION

**INSTRUCTOR NAME: John Riedeman**

**CONTACT INFORMATION: 517-768-5177**

## JACKSON AREA CAREER CENTER MISSION STATEMENT

Jackson Area Career Center provides a safe and diverse environment to develop skills for a career and college readiness.

## JACKSON AREA CAREER CENTER MOTTO

Careers Happen Here!

## ATTENDANCE POLICY:

Classes at JACC are “applied knowledge”. Therefore, it is vital that students are here to participate in class. Grades will reflect Employability (30%), Activities (15%), Projects (15%), Technical Communication (20%), Tests (15%), and Final (5%).

JACC is on 6 week grading cycles. Any student who has unexcused absences in a grading cycle will be subject to the reduction of the employability portion of their grade.

Absences will not accrue for missed class time due to the following reasons (with proper documentation):

- Death in family (up to 3 days)
- Subpoena to court (during scheduled class time)
- Sending school activity

Students with extenuating circumstances should see your Career Center Assistant Principal. **Medical documentation will only be accepted for extenuating circumstances.**

**IMPORTANT:** Students that exceed the attendance policy and are failing at the end of the trimester/semester may not be recommended to return to JACC the following trimester/semester. JACC is on shortened grading cycles. Any student who has unexcused absences in a grading cycle will be subject to the reduction of their employability grade.

Please note that the Jackson Area Career Center does not offer an online option, nor will instructors create content for students to participate from home except in the instance that a student has a verified need to quarantine. Should a student be required to quarantine for covid-related reasons, they will be expected to notify their instructor daily and participate remotely in their Career Center class during their normal class time each day of their quarantine (8:05am-10:40am for AM students, 11:40am-2:00pm for PM students). Students can locate the content via their instructor’s Schoology folder for that week. If a quarantined student checks in with their instructor and engages in their class remotely, they will receive an excused absence for that day; if they do not contact their instructor and do not engage in their class that day, they will receive an absence. Questions related to content or assignments for that week should be directed to the program instructor.

## **COVID-19 STATEMENT:**

While protocols are in place to foster a safe and healthy learning environment, please be aware that COVID-19 may disrupt plans for in-person learning this year, and may put limitations on what technical skills can be taught. If that is the case, that may have an impact on a student's attainability of certain certifications and/or licenses, which are based on industry standards and/or state guidelines.

## **COURSE SPECIFIC INFORMATION**

**COURSE DESCRIPTION:** The primary purpose of this course is to train students in both theory and practical experience that will prepare them for entering a college engineering curriculum. The course is directed towards developing in the students desirable habits and attitudes, encourages self-reliance, readiness to assist others and an ethical approach to this profession.

### **AVAILABLE ACADEMIC CREDITS:**

- **ELA consultants work with students enrolled in this course in order to offer academic credit. The course work will include a variety of English related projects and content in order to satisfy the benchmarks required by the state. Throughout the course of this class students may cover: problem based learning, portfolio pieces, reading strategies, literature, and informational text based readings. For specific course work and credit information please see your consultant and counselor for more information.**
- **Math consultants with many JACC CTE programs cover common core state standards that vary based upon industry needs within the class. Students will receive instruction applying mathematics to real world industry problems. This includes, but is not limited to, work in the areas of fractions, decimals, percentages, geometry, rates, measurement, math literacy, and problem solving. See your academic consultant for more details.**
- **Academic consultants work with students enrolled in this course in order to integrate supplemental program curriculum and support the academic benchmarks within the career and technical standards. In addition, the consultants create assessments and provide support in technical reading, writing, math, science and technology, as needed. Any grades given for academic coursework are included in the program grade.**

**TEXTBOOK(S):** Students will use the Project Lead The Way Curriculum, which will be provided by the instructor.

**ADDITIONAL MATERIAL(S):** Students will need a scientific calculator for class. The students will have access to the FANUC robot training, three 3-D printers, FIRST Robotics, Tetrix Robotics Kits, CNC Routers, Horizontal Knee Mill, Vertical and Horizontal Bandsaws, Compound Miter Saw, and a plethora of hand tools.

## **CAREER CENTER SPECIFIC INFORMATION**

Please see the student handbook for additional information and Career Center policies.

**ADA STATEMENT:** It is the policy of the Jackson County Intermediate School District not to discriminate on the basis of race, color, religion, national origin or ancestry, age, sex, marital status, height, weight or disability in its educational programs, activities or employment as required by federal laws (Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, or Title IX of the Educational Amendment of 1972) and state law (Michigan Handicappers' Civil Rights Act and Elliott-Larsen Civil Rights Act). In addition, arrangements can be made to ensure that the lack of English speaking skills is not a barrier to admission or participation. Designated coordinators are Human Resource Director, Kratz Education Center; Principal, Jackson Area Career Center; Principal, Tarrant Center and Kit Young Center. Contact Information: 6700 Browns Lake Road, Jackson, MI 49201; Phone (517) 768-5200, TDD – Hearing Impaired – 1-800-356-3232.

## I. Course Requirements and Grading (Evaluation)

### Category/Percentage

Classroom Category	Percentage of Grade
Employability	30%
Projects	15%
Activities	15%
Technical Communication	20%
Tests	15%
Final	5%
<b>Total</b>	<b>100%</b>

## II. Grading Scale

### **Cut-off percent**

<b>A = 100% to 90%</b>	<b>B = 89.99% to 80%</b>	<b>C = 79.99% to 70%</b>	<b>D = 69.99% to 60%</b>
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**IN ORDER TO RECEIVE COLLEGE CREDIT THROUGH PLTW THE STUDENT COMPLETE THE FINAL EXAM WITH A GRADE OF 70%**

**Intent to Return: Any student planning to return for a second year must have a grade of 70% or higher in all grading categories.**

## III. **Calendar (See student handbook for holiday schedule)**

## IV. Class Expectations

The primary purpose of this course is to train students in both theory and practical experience that will prepare them for immediate employment or for entrance into a college engineering program.

## V. Class Policies:

In the engineering curriculum there are rules and procedures. With rules there are consequences for not making the choice to not follow them. With procedures the students shall follow them.

### Classroom Rules

Here are four specific rules for our classroom with the reward and penalties following.

- No inappropriate use of electronic devices. (Instagram, TicTok, SnapChat, texting, hacking, etc.)
- Use appropriate safety precautions at all times in the classroom. (use of safety glasses)
- Keep the room clean. (clean up at the end of the day – equipment and tools put away, chairs back in place, notebooks stored properly, tables cleared off, etc)
- Respect others and their property.

## Classroom Procedures

There are very few procedures that we must follow in PLTW. They are attached:

- **How to fill out their engineering notebook** (see Journal Guidelines for detail)
  - 10 pts total per day / One entry per day
    - 2 pts for making a to do list for the current day
    - 2 pts for vocabulary word from the unit list
    - 2 pts for sketch pertaining to the work accomplished
    - 2 pts for describing what you accomplished that day (should include work from to do list above and other work)
    - 2 pts for making a to do list for the next day (including what you did not finish today)
- **PACT / Employability**
  - Each day students must fill out the P.A.C.T. / Employability Sheets Instructions are on the employability sheets. If a student is in class they have the potential of 10/10 points per day. If they are quarantined, at home, and zoomed into the classroom a potential of 9/10 points per day. If the student is quarantined, at home, did work, but did not zoom in, the max for the day is 7/10 points for that day. If the student is quarantined at home, and/or sick, and the student called in they have the opportunity of 5/10 points for the day. And if the student is a no call and no show, they will received 0/10 for the day.
- **How to turn in a finished physical project**
  - Sometimes these projects will be taken apart as soon as they are finished in order to proceed to the next one. Before they are taken apart the instructor must check that it functions properly and as intended.
  - When submitting the project to the instructor, also bring a hard copy of the lesson that Activity or Project sheet that goes with that Activity or Project.
  - The instructor will then sign off on the Activity or Project if it functions as intended and the sheet may be turned into the physical inbox for grading.
    - If it does not function as intended, the instructor will inform the student of what needs to be corrected, help the student with what trouble they are having, and sign off will not occur.
    - Once the student has made the necessary corrections they may resubmit the project at no penalty.
  - The student may not move onto the next project or activity without finishing the previous project or activity.
  - These physical activities are considered formative tests and are intended to help the student fully understand the concepts being taught.
- **How Students are to ask for help**
  - Hold your hand up, but Please Keep Working till I can reach you! Don't forget, ask three before me!
- **How to turn in electronic files** (We will be using Schoology for turning in electronic assignments).
  - Turn in your electronic files to the appropriate assignment
  - The items will be graded on Schoology, but your official grade is in powerschool.
  - If there is a discrepancy between Schoology and Powerschool, it is up to the student to bring it to the attention of the instructor.

### **Final Exams**

Students must complete all exams on the scheduled deadline. Make-up exams are permitted only with documentation regarding a situation which prohibited the student from taking the exam on the assigned date. Failure to do so will result in a zero score.

### **Participation/Work Habits/Employability**

Success indicators of students are: basic math skills-addition, subtraction, multiplication, division, fractions and percentages. Creative and free thinking, good attention to detail, good artistic ability, good communication skills, must work well and get along with people.

### **College Credit Availability**

- Jackson Community College articulates with the engineering program at JACC. Details of the articulation are available upon request.
- There is college credit available through Project Lead The Way for colleges across the country. Details are available upon request or by visiting this site: <https://www.pltw.org/university-partners>
- Baker College articulates with the engineering program at JACC. Details of the articulation are available upon request.
- Davenport University articulates with the engineering program at JACC. Details of the articulation are available upon request.

### **Return of Student Work**

Student work, projects, tests, quizzes will be returned within 14 days. Please pick work up from your instructor, or from a designated area.

### **Incomplete Grades**

The Engineering program does not participate in incomplete grades.

### **Withdrawals**

If you stop attending class without formally withdrawing, you may receive an “E” for the course. Before making this decision, please contact one of the Career Center Counselors or your teacher if you find it necessary to stop attending.

### **Career Center Student Success Philosophy**

To take a leadership role with each and every student to guide them to develop a passion, to express their creative nature while creating an environment of trust, respect, and encouraging a commitment to teamwork. To promote personal and professional development by providing the tools and equipment to gain knowledge and grow as individuals and engineers.

### **Academic Honor Code**

All students are expected to abide by the Jackson Area Career Center Student Code of Conduct, which addresses cheating, plagiarism, as well as other forms of dishonesty. For more information, please refer to the Code of Conduct handbook.

## Student Learning Framework

Where / When	First Semester	Second Semester
Sending School (Freshman-Senior) or JACC (Junior - Senior)	<b>Intro to Engineering Design</b> <b>IED</b> Segment 5 & 6	<b>Principles of Engineering</b> <b>POE</b> Segment 8 & 10
JACC (Junior or Senior)	<b>Digital Electronics</b> <b>DE</b> Segment 1, 2, 9, & 4	<b>Engineering Design and Development</b> <b>EDD</b> Segment 3, 7 11, & 12
JACC (Senior) and Workplace	<b>Segment Q Includes Combination of Projects and Work Based Learning</b> Which may include: Segment 8 & 10 <span style="float: right;">Segment 5 &amp; 6</span>	

For more information on the curriculum standards and gap analysis please go to [www.ctenavigator.org](http://www.ctenavigator.org), click on resources and click on 15.0000.

### Safety Top Practices

- Students will receive OSHA 10 hour safety certification
- Students will receive safety training on:
  - Working with DC electric current.
  - Using handtools safely.
  - Using hand power tools safely.
  - Personal Protective Equipment.
  - Pinch Points.

### **VI. \*System Policies**

Jackson Area Career Center is committed to provide an educational environment that allows you the opportunity to obtain your academic goals. However, we expect students to conduct themselves in a manner that reflects its mission, purposes, ideals, and values.

All students are required to read, understand, and comply with the policies and responsibilities stated in the Student Handbook. Furthermore, students will respect the rights of others and will treat fellow students, teachers, and staff with good manners and respect. Please refer to the Student Handbook for further details.

### **VII. Syllabus Disclaimer:**

Except under unusual circumstances, the guidelines in the above syllabus will not change. However, if any changes are necessary, all changes will be communicated in writing as an addendum to the syllabus.