

# **Principles of Technology 1 (II830) Curriculum Guide**

**9-12 Grades**

**Prerequisite Course(s):** None

**High School Credit** = ½ credit per semester (Postsecondary credit = 0)

**This course will be offered:**  X  every year OR \_\_\_\_ every other year

**Pathway (Optional):** Technology Education

**Career Cluster Area:** Applied Academics

**Source of Occupational Skills Standards:** American Electronics Association (AEA)

**Eligibility for Nationally Recognized Skill Certificate(s)/State License:**  X  No OR \_\_\_\_ Yes, and identify Certificate:

**Tech Prep:**  X  No OR \_\_\_\_ Yes - If Yes, list postsecondary institution and number of postsecondary credits

**Is this course brokered through another institution or agency:**  X  No OR \_\_\_\_ Yes, and list institution/agency:

**Course Master Number:** II830

**Course Description:** This course is designed to present students with unifying concepts within modern mechanical, thermal, electrical, and fluid systems technologies.

## **Content Headings/Topics:**

1. Work
2. Force Rate
3. Resistance
4. Energy
5. Power
6. Force transformers
- 7.

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Standard	Objective	Sequence and Duration	Sample Teaching Strategy/ Possible Integration	Resources and Text	Dist/ State Assessment	Formative Assessment
AEA 6.1	1. Describe force.		R4.2			Lab Pre / Post Test
AEA 6.3	2. Give examples of complex technological devices where force must be controlled, measured, or applied.		R4.2			Lab Pre / Post Test
AEA 6.4	3. Describe what force, pressure, voltage, and temperature difference have in common.		R4.2			Lab Pre / Post Test
AEA 3.25.3a	4. Describe or predict what happens to an object when forces on it are balanced and when forces on it are unbalanced.		R4.2			Lab Pre / Post Test
AEA 5.3.a	5. List occupations that require technicians to measure, control, or otherwise deal with force in complex devices. <b>(B2)</b>					Reports
AEA 4.1	6. Describe what is meant by work, force, rate, resistance, energy, power, and force transformers in general. Then describe work, force, rate, resistance, and energy, power, in mechanical, fluid, and electrical systems.		R4.2			Written Report
AEA 5.4	7. Describe how work in mechanical, fluid, and electrical systems involves the presence of force and movement.		R4.2			Lab Assignment
ANSI B1.13M	8. Identify correct SI and English units for work in mechanical, fluid, and electrical systems.					Project
AEA 3.2	9. Identify the effects of work, force, rate, resistance, energy, and power done in mechanical, fluid, and electrical systems.					Lab Assignment
	10. Measure work, force, rate, resistance, energy, and power in mechanical, fluid, and electrical systems.					Lab Assignment
AEA 2.2	11. Identify workplace applications where work, force, rate, resistance, energy, and power are measured and/or controlled.					Lab Assignment