

Industrial Technology

Independent Study/Work Experience

Grades 11 & 12

Units of Credit: One Semester or One Year (Elective)

Prerequisites: Consent of Instructor and 2-3 Industrial Technology courses in logical sequence

Course Description:

Rapid advances in technology, business, health, science, trades, and industry have created new career opportunities and demands. Career and Technical Education courses provide the knowledge, skills, and technologies required for employment in several broad systems. Students need to develop knowledge of the concepts and skills related to individual career concentrations in order to apply them to personal/career development. Career and Technical Education depends on and supports the integration of academic, career, and technology knowledge and skills. To prepare students for success, students must have opportunities to reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepares students for success.

In collaboration with the teacher and a related professional mentor, students will develop a school and/or workplace-based learning activity that provides an in-depth study of at least one aspect of a selected business or industry.

NOTE: Throughout this document, learning target types are identified as knowledge ("K"), reasoning ("R"), skill ("S"), or product ("P").

STANDARD 1: Students experience various career opportunities and assess personal career pathways.

Benchmark 1:

Explore and identify personal interests, aptitudes, and abilities and develop strategies to achieve tentative career goals.

Learning Targets (Type):

1. I can use Montana Career Information Systems (MCIS) and/or other systems or web resources to investigate and evaluate my personal interests, aptitudes and abilities. (S)
2. I can formulate tentative career goals. (R)
3. I can evaluate approaches for meeting my goals. (R)

Benchmark 2:

Utilize local resources to research career plans.

Learning Targets (Type):

1. I can identify local resources to develop career plans. (K)
2. I can contact my school career counselor or teacher to pursue career pathways. (S)

Benchmark 3:

Recognize the interrelationships of family, community, career, and leisure roles.

Learning Targets (Type):

1. I can describe the importance of balance between family and community in regards to career and leisure activities. (*K*)
2. I can compare and contrast the needs of career and leisure activities and how they relate to and/or affect family and community. (*R*)

STANDARD 2: Students demonstrate an understanding and apply principles of Resource Management (i.e., financial, time, personal management)

Benchmark 1:

Prepare a budget and keep financial records.

Learning Targets (Type):

1. I can research and report cost of materials and time. (*R,S*)
2. I can document financial inputs and outputs. (*S*)
3. I can identify the necessity to maintain accurate financial records. (*K*)
4. I can stay within a fixed budget. (*S,P*)

Benchmark 2:

Prioritize, allocate time, prepare and follow schedules to complete a project.

Learning Targets (Type):

1. I can estimate the required time to complete a project. (*R*)
2. I can prioritize resources, equipment and tasks. (*R*)
3. I can reflect upon completion. (*K*)

Benchmark 3:

Apply appropriate time to task.

Learning Targets (Type):

1. I can implement a time schedule for task completion. (*S*)

Benchmark 4:

Use physical resources wisely to accomplish a goal.

Learning Targets (Type):

1. I can identify the resources necessary to accomplish the task. (*K*)
2. I can maintain the tools of the trade. (*S*)
3. I can maximize the use of my resources. (*S*)

STANDARD 3: Students acquire and utilize personal and leadership skills to become successful, productive citizens.

Benchmark 1:

Demonstrate active leadership skills by participation in group activities and projects.

Learning Targets (Type):

1. I can investigate various leadership styles. (*R*)
2. I can apply leadership styles in group activities and projects. (*R*)

Benchmark 2:

Demonstrate positive personal and work ethics.

Learning Targets (Type):

1. I can show up for class and work on time. (*S*)
2. I can develop personal and work related goals. (*K,P*)
3. I can describe ethical behavior in the workplace. (*K*)

Benchmark 3:

Demonstrate skills to be a productive citizen.

Learning Targets (Type):

1. I can develop professional relationships with community members. (S)
2. I can contribute to my community in a positive manner. (S,P)

Benchmark 4:

Apply self-esteem building practices.

Learning Targets (Type):

1. I can define and provide evidence of my strengths in my career interest areas. (K,S)
2. I can persevere through set backs and stay focused on my goals. (S)

Benchmark 5:

Demonstrate appreciation for diverse perspective needs and characteristics.

Learning Targets (Type):

1. I can develop a working relationship with diverse populations. (K,S)
2. I can demonstrate communication skills that contribute to positive relationships. (S)
3. I can work to understand diverse points of view. (R)

Benchmark 6:

Practice several methods of effective communication.

Learning Targets (Type):

1. I can demonstrate good listening skills. (S)
2. I can effectively communicate verbally through collaborative projects. (S,P)
3. I can develop quality written professional communications. (P)

STANDARD 4: Students acquire and demonstrate current technical skills leading to an occupation.

Benchmark 1:

Practice technical skills and procedures required for an occupation.

Learning Targets (Type):

1. I can perform roles related to my chosen field during my work experience. (S)
2. I can practice positive service skills. (S)
3. I can demonstrate advanced skills related to my study through creation of a project. (S,P)
4. I can manage the time and resources I need to complete my project. (K,S)
5. I can analyze how this project related to my future plans. (R)
6. I can incorporate communication, math, and science knowledge and skills into my project. (S,P)

Benchmark 2:

Practice safe and appropriate use of technology.

Learning Targets (Type):

1. I can demonstrate safe use of technology during my work experience/independent study, as defined by my mentor. (S)

Benchmark 3:

Select the appropriate tools, equipment, and procedures for the task.

Learning Targets (Type):

1. I can present my project or independent study results using appropriate tools. (S)

Benchmark 4:

Manage and maintain technological tools and follow troubleshooting protocol.

Learning Targets (Type):

1. I can follow directions given by my mentor to appropriately utilize tools associated with my

study. (S)

Benchmark 5:

Apply technical information to a variety of sources.

Learning Targets (Type):

1. I can explain how my school courses relate to my independent study/work experience. (K,R)

STANDARD 5: Students know and demonstrate the requirements of the workplace through authentic application.

Benchmark 1:

Practice and demonstrate academic and technical skills to a workplace setting.

Learning Targets (Type):

1. I can practice, and demonstrate my technical workplace skills in my school lab. (S)
2. I can research, write and present on the technical content utilizing academic skills found in workplace settings. (R,S,P)

Benchmark 2:

Apply the concepts of entrepreneurship.

Learning Targets (Type):

1. I can explain the concepts of entrepreneurship. (K)
2. I can demonstrate the concepts of entrepreneurship through a unique project. (R,S)
3. I can present my unique project to an authentic audience. (S,P)

Benchmark 3:

Identify possible outcomes and consequences of decisions.

Learning Targets (Type):

1. I can identify possible consequences of carelessness and horseplay. (K)
2. I can explain potential outcomes of not following directions, (i.e. safety, guidelines, rubrics). (R)

Benchmark 4:

Use acceptable industry standard equipment in a school setting.

Learning Targets (Type):

1. I can successfully use acceptable industry standard equipment to produce an authentic produce within budget constraints. (S,R,P)