Instructional Worksite Learning for STEM Careers

Instructional Worksite Learning for STEM Careers

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Year Started: 2012

Location: Southwest Washington

Target Population: In-school youth in 11th or 12th grades

Program Duration: Semester

Delivery Model: Traditional 90 hour internship or imbedded in a qualifying course.

Completers to Date: 250+ Students

Placement Rate: ⅓ of students who have successfully completed the program have been hired by the STEM Industry.

Overview

Southwest Washington like most regions in the nation has a disconnect between skills desired by the local STEM industries and the skills that are acquired by the workforce in school and other preparatory programs that serve our youth. For example, local manufacturers have identified a lack of skilled production workers as one of their significant barriers to economic development and sustainability. Nationally over the next decade, nearly 3 ½ million manufacturing jobs will likely need to be filled. The skills gap is expected to result in 2 million of those jobs going unfilled. Conversely, over 6,000 youth in Clark County are not in school and not employed with an additional 2,500 youth annually entering directly into the workforce upon leaving high school.

The Instructional Worksite Learning Program for STEM Careers (IWLS) is a regional, upstream approach to solving this community problem. The IWLS program prepares young adults for participation in the 21st-century economy and can be delivered as a traditional 90-hour internship or embedded in a qualifying course. The classroom based model is used as an alternative to a 90-hour internship when Industry restrictions, student geography or family/work obligations after school make a traditional 90 internship inaccessible and/or unaffordable.

IWLS competency-based soft and technical skills program prepares students for careers in STEM fields. Students who complete the IWLS experience will be able to demonstrate a basic understanding of:

1. Industry foundational technical skills;
2. Employability skills such as effective teamwork, project management, communication, the importance of punctuality and attendance, as well as how to develop and make a professional presentation; and
3. Career readiness skills such as effective interviewing, networking, resume and cover letter writing.

Students demonstrate their competency through industry developed work-based projects during their experience. Students understand both the "what" and the "why" of what they are asked to do - and are motivated by the relevance of their work. Students can receive both high school and Clark College credit.

IWLS is a community-based program that is developed collaboratively by local businesses and schools with the support of the IWLS staff. Students have industry mentors who coach them to understand the business applications of their training.

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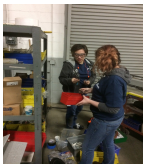
Roles and Responsibilities

IWL Coordinator/Teacher

- Identify, recruit and mentor interested and qualified students through the internship application process.
- Collaborate with employer and district IWL coordinator to secure placement for students in an appropriate experience that are aligned to their High School and Beyond (HSB) Plan.
- Distribute and insure completion of IWL permission form and contract.
- Coordinate with employer and district IWL coordinator to provide application and orientation activities for students and prepare students to write learning objectives aligned to students HSB Plan.
- Meet with students to clarify grading standards.
- Coordinate with IWL mentor to implement concurrent learning activities at school that supports students in working toward workplace learning objectives.
- Maintain ongoing communication with IWL mentor.
- Meet with IWL mentor and student to discuss and complete IWL plan evaluation.
- Coordinate with IWL mentor to discuss IWL evaluation and students' overall grades in the course.

District IWL Coordinators

- Coordinate with regional IWL coordinator to transition participating employers from initial needs assessment to IWL program implementation.
- Collaborate with employers to ensure IWL experiences are safe, legal and in compliance with state and federal regulations.
- Assist IWL mentors in developing job embedded activities that will enhance the student's content knowledge and skills, as well as 21st-century employment skills;
- Support, as needed, IWL mentors and schools to ensure 1) learning objectives of each IWL experience are met, and 2) youth and adults are sufficiently prepared and supported throughout the project-based learning experience.
- Develop and implement services and procedures (including training materials) to manage expectations and foster communication among all partners.
- Collaborate with regional IWSL coordinator and employers to provide professional development to educators to support high-quality IWLS experiences.



Student

1. Actively participate in both the workplace and career preparation activities.
2. Regularly attend all IWLS Activities.
3. Attend all IWLS site visits and field trips such as
   a. Pre-IWLS company tour,
   b. Pre-IWLS interview,
   c. IWLS intern orientation,
   d. Tour of local community programs that provide technical certificates in defined industry, and
   e. Final project presentation, and mock interview session.
4. Communicate regularly and appropriately with mentor and other employees of the company as needed to complete the project.
5. Draw connections between the learning in the workplace project and school.
6. Reflect on the college and career skills acquired through the internship.

IWLS Mentors and Lead

- Collaborate with school and district staff to
  - Provide each IWLS participant an applied learning experience, professional network development and job ready skill development;
  - Write learning objectives;
  - Teach, coach and guide students while working on the IWLS projects;
  - Ensure IWSL experiences are safe, legal and in compliance with state and federal regulations;
  - Evaluate student progress toward learning objectives;
  - Maintain ongoing communication with IWLS coordinator/teacher and district IWSL coordinator; and
  - Expose students to all aspects of the industry.

Regional IWLS Coordinator

- Collaborate with district IWLS coordinators to articulated credits at local two-year institution.
- Collaborate with employers and district IWLS coordinators to coordinate and align business outreach and program development to ensure quality and program alignment.
- Collaborate with employers to provide regional business and industry support.
- Collaborate with district IWLS coordinators to provide IWLS mentor training and support.
- Collaborate with employers and district IWSL coordinators to develop industry approved curriculum and badges for
  - Industry foundational technical skills;
  - Employability skills and
  - Career readiness skills.

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Program Overview

The Instructional Worksite Learning program for STEM Careers is designed to provide students an opportunity to learn 1) career readiness preparation; 2) employability skills; and 3) foundational industry specific technical skills. The IWLS experience is for students interested in pursuing a career and/or a post secondary certificate, credential or degree in a specific STEM industry sector. The course is taught with equal emphasis on employability skill development, training in industry standard practices, and in the application of these learnings either on location or in the classroom with mentoring from industry professionals.

Course Details

Grade Level: 11-12
Length: Semester - 18 Weeks
Prerequisite: Eligible students need to have demonstrated an interest in pursuing a career and/or a post secondary certificate, credential or degree in a specific STEM industry sector.

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Career Readiness Preparation

Description: Upon completion, students will be able to effectively develop employment application materials for today's job market by honing their resume writing skills, developing an effective cover letter, and showcasing their personality, strengths, interests, and abilities to potential employers through the interview process and networking.

Estimated Length: 40 Hours
Classroom - 25 Hours
Community Classroom - 10 hours
Worksite - 5 Hours

Resources:
- Saylor.org Academy
- ResCare
- Worksource
- Making Connections Work
- Interview, resume and cover letter rubrics

Evaluation:
- Internship Interview at Worksite
- Internship Application, Resume and Cover Letter
- Mock Interview and revised resume at the end of the internship.

Employability Skill Development

Description: Upon completion, students will be prepared to enter the professional workforce. Students effectively apply employability skills such as effective teamwork, project management, communication, the importance of punctuality and attendance, as well as how to develop and make a professional presentation through industry developed work-based projects.

Estimated Length: 70 Hours
Classroom - 20 Hours
Worksite - 50 Hours*

Resources:
- Saylor.org Academy
- ResCare
- Applied Education Systems
- Amatrol
- OER Commons
- Employability skill rubrics

Evaluation:
- eLearning module quizzes for employability skills.
- Monthly internship progress report meeting with IWLS coordinator/teacher and mentor feedback.
- Project Presentations.

Technical Skill Development

Description: Upon completion students will be prepared for an entry level position within a specific STEM industry sector. Students effectively apply foundational industry specific technical skills and employability skills through industry developed work-based projects. Students understand both the "what" and the "why" of what they are asked to do - and they are motivated by the relevance of their work.

Estimated Length: 70 Hours
Classroom - 20 Hours
Worksite - 50 Hours*

Resources:
- Saylor.org Academy
- Applied Education Systems
- Amatrol
- OER Commons
- CTE Online

Evaluation:
- eLearning module quizzes for technical skills.
- Monthly internship progress report meeting with IWLS coordinator/teacher and mentor feedback.
- Project Presentations.

*Through each week of the internship, the student will continue to apply skills learned at the employer worksite or in qualifying course.

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Learning Outcomes

Career Readiness Preparation

- ***Resume and Cover Letter***
  - explain the purpose of a professional resume, and discuss the benefits and disadvantages of resumes;
  - describe different types of professional resumes and their functions
  - distinguish between a resume and a curriculum vitae, or CV;
  - identify and describe different modes of resume presentation as well as best-practice techniques for creating a professional resume; and
  - summarize the personal information needed to create a resume.
  - Identify and describe the different components of a resume.
  - Explain how resume components can be organized according to career goals.
  - Assess whether to use some components and omit others on a resume.
  - Articulate the process of applying simple and effective resume formatting techniques.
  - Explain how to draft an effective resume by listing major accomplishments, professional skills, and other relevant information in a focused manner, and perform this task.
  - Explain the purpose of a cover letter, identify different types of cover letters, and choose which ones to use for specific courses.
  - Explain how to compose a cover-letter template.
  - Describe ways to personalize a cover letter.
  - Explain how to draft a cover letter to accompany a resume, and perform this task.
  - Explain the purpose of a portfolio, and describe various documents that one might include in a portfolio.
  - Identify elements that make a resume appear attractive, well-organized, and amenable to both print and email distribution.
  - Discuss the importance of using effective action words, keywords, and positioning for a resume, describe how to showcase one's professional skill sets in a cover letter, and perform these tasks.
  - Describe enhancement techniques to make a resume and cover letter more polished and competitive, and apply these techniques in the creation of his or her resume and cover letter.
  - Summarize formatting and editing techniques that one can use to ensure consistency and quality within a resume and cover letter.
  - Explain how to tailor application materials toward a

Employability Skill Development

- ***Team Structure***
  - Understanding & Working with Team Roles
  - Developing Goals & Project Plans
  - Setting timelines and making deadlines
  - Difficult Conversations & Conflict Resolutions
  - Post project analysis
    - Team Dynamics analysis & determining goals for improvement
    - Self-analysis & setting improvement goals
- ***Technical Procedural Writing***
  - Writing basic notes legibly
  - Writing detailed procedures
  - Creating Flowcharts
- ***Analyzing Data & Making Decisions***
  - Collecting and analyzing data
  - Ability to read charts, graphs, and tables
  - Understanding Limit Boundaries
  - Critically analyzing data and drawing next step conclusions
- ***Developing Reports***
  - Ability to use software programs to create
  - Following a report template
  - Creating graphs and tables
- ***Creating Oral Presentations***
  - Ability to create visual reports using various presentation media
  - Ability to deliver oral presentations with good body language, use of vocabulary, vocal projection
- ***Workplace Courtesy***
  - identify the key principles of common courtesy, professional manners, and the Golden Rule as they are practiced in the workplace environment;
  - describe ways to apply proper courtesy in different professional situations; and
  - identify and describe the qualities of a desirable employee from an employer's perspective.
- ***Workplace Communication***
  - distinguish among the three main forms of communication in the workplace: verbal, nonverbal, and virtual;
  - identify proper and improper uses of workplace communication;
  - discuss the effects that inadequate or improper communication may have on the work environment;
  - explain the potential repercussions of poor listening in the workplace;
  - identify examples of the proper and improper use

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specific job, and perform this task.
  - Identify different ways to distribute a resume.
  - Summarize elements to avoid when finalizing, and distributing a resume and cover letter.
  - Identify best practices for naming and saving one's resume.
- ***Interviewing***
  - Describe how to dress appropriately to make a good impression at the interview.
  - List the seven phases of the interview.
  - List the top 10 critical success factors that today's employers are seeking.
  - List six steps in the interview preparation process to ensure a successful interview.
  - Describe the interviewer's goals and interviewee's goals during the second interview.
  - List and describe various types of job interviews.
  - List examples of standard interview questions by the interviewer.
  - List examples of interview questions that may be asked by the interviewee
  - Describe how to obtain salary information for a specific type of job or occupation.
  - Describe ways to respond to questions about salary expectations.
  - Describe ways to negotiate job perks in lieu of a higher salary.
  - List factors to help evaluate an offer wisely.
- ***Networking***
  - Describe a variety of work-experience opportunities such as internships, externships, apprenticeships, temporary, seasonal, full-time, etc.
  - Understand how to establish a documented work history.
  - Establish connections with employers that will assist in securing future job-opportunities.
  - Secure documented references that can be used to build a quality resume.
  - Identify current personal and familial connections that can assist in building future economic opportunities.
  - Develop a professional networking plan that can assist in building future economic opportunities.
  - Develop a post-secondary training and/or education plan that can assist in building future economic opportunities.

of technology in the workplace; and
  - evaluate how technology affects communication in the workplace.
- ***Diversity in the Workplace***
  - Define the phrase diversity in the workplace.
  - Describe how cultural diversity affects the workplace.
  - Identify common cultural differences, taboos, and customs that may be practiced in the workplace.
  - Discuss ways to navigate and honor cultural differences in the workplace.
  - Describe how to express an appropriate awareness of international and other customs.
- ***Time Management***
  - define time management;
  - discuss the importance of goals, priorities, and planning; and
  - use to-do lists as planning tools.
  - define procrastination;
  - discuss how to overcome procrastination;
  - discover how well you delegate; and
  - describe how to select tasks to delegate to others.
- ***Stress Management***
  - describe stress management techniques;
  - create a stress diary to track various stressors in every-day life; and
  - list resources that are beneficial to overcoming stressors.