

CONNECT News

Community Support, **N**etworking, and Assista**N**ce
for **E**nvironmental **C**areer **T**raining

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The Hazardous Materials Training and Research Institute (HMTRI) with a cooperative agreement from the U.S. Environmental Protection Agency assists communities establish environmental job training programs supported by the Environmental Workforce Development and Job Training Program (EWDJT). To better exchange ideas among EWDJT grantees, HMTRI distributes CONNECT a bimonthly e-publication featuring topics of interest among those interested in participating in the EPA environmental workforce grant program. Ideas presented do not represent EPA policy, guidance or opinions and should not be taken as such.

Establishing an Environmental Workforce Development Curriculum

Curriculum development

This issue of CONNECT supplements recent discussions from the HMTRI Environmental Workforce Professional Learning Community (PLC). PLCs are biweekly informal discussions related to issues associated with the establishment and successful operation of EWDJT programs. To become part of the Environmental Workforce PLC and to receive announcements and post session notes, send your contact information to Heather at hkballou@eicc.edu. Past sessions are recorded and notes are available at the HMTRI website brownfields-toolbox.org.

As part of this series of CONNECT newsletters HMTRI has identified eight critical issues encompassing a broad range of activities that when addressed will increase the likelihood of graduate placement and program success. This month's CONNECT addresses the critical issue curriculum development and training. There is no single curriculum that is best suited for every environmental workforce training program. Demand for workers with specific skill sets varies over time depending on the economy, local

environmental issues, deconstruction activity, and remediation projects. Staying responsive to employer needs for skilled workers requires EWDJT curriculum to remain flexible. Frequent labor market assessments guiding curriculum with regular program evaluations can help ensure that training is relevant and is addressing topics consistent with workforce needs.

Curriculum guided by labor market assessments helps insure graduate placement. While placement is important, it should be noted that EWDJT programs must also produce motivated and qualified workers that will be successful in the workplace. Here are considerations that should be considered as part of a dynamic curriculum development effort:

1. Understanding employer needs and hiring policies.
2. A core curriculum that is aligned with workforce needs.
3. Student recruitment and screening appropriate to the complexity of the curriculum.

4. Incorporating life skills, remedial education, and support services as part of a complete EWDJT training curriculum.
5. Funding and training considerations affecting curriculum offerings.
6. Incorporation of safety and health in the EWDJT curriculum.

Understanding employer needs and hiring policies

Every community has its own history of industrial pollution and environmental degradation. Along with industrial development comes a legacy of waste disposal and community decay. In addition to community revitalization, waste removal, and pollutant remediation, cleanup efforts are influenced by economics, political priorities, and environmental justice considerations.

In most large and mid-sized communities, a full range of occupations requiring workers with environmental, health and safety certifications can be found. While rural areas have fewer options, hazardous waste, spills, and cleanup projects still provide employment opportunities. In small and rural communities, environmental workers often find employment with local government, at municipal facilities and as part of public works projects. Curriculum offerings in rural communities may differ from those in urban areas. However, in each case, training should prepare students for local employment opportunities including employment with national contractors maintaining a mobile national (or international) workforce.

Because the demand for certified environmental workers is dynamic, it is essential that program planners prioritize skill and knowledge requirements most in demand. At the same time, trainers need to develop a curriculum that will address a range of additional job opportunities. Because environmental work may be grouped with or incorporated into traditional occupations, curriculum developers need to look beyond the obvious environmental job titles.

- Welders may need asbestos training when working around insulated piping.
- Painters may require lead testing, remediation training and confined space certifications.
- All trades working with potential hazardous exposures are required to have 1910.120 certifications.
- Many construction and deconstruction occupations require environmental remediation skills and certifications.
- Handling and transporting hazardous materials requires environmental certifications.

Since many environmental jobs are embedded in traditional occupations, labor market assessments limited to environmental job titles will not reveal the majority of open positions. Individual employers must be approached with specific questions regarding certification, skill, and knowledge requirements associated with various jobs.

The following categories of employers often look for employees with EWDJT job skills but do not use the title of environmental technician:

- Manpower and temp. firms
- Storage and waste facilities
- Consultants – remediation and service providers
- Local construction trade organizations
- Manufacturing firms
- Chemical and refining facilities
- Municipal facilities and utilities
- Painting, repair, and deconstruction companies
- Transportation and material handling operators
- Scrap, recycling, storage, and landfill operations
- Hospital and health care facilities

A core curriculum that is aligned with workforce needs

Hazardous Waste Operations and Emergency Response (HAZWOPER 1910.120) training is mandatory for anyone working around hazardous materials and must be provided to all EWDJT participants. Aside from HAZWOPER training, EWDJT grantees are expected to customize curriculum guided local workforce needs. While not mandatory, OSHA 10, OSHA 30 and First Aid are often offered for health and safety considerations.

A partial list below demonstrates the diversity of core curriculum offerings that have been delivered by EWDJT programs over the years.

- Site remediation, assessment, inventory, and analysis
- Asbestos abatement
- Lead abatement
- Renovation, repair, and painting (RRP)
- Mold remediation
- Meth lab cleanup
- Underground storage tank removal
- Confined space training
- Crime scene cleanup of hazardous materials
- Bloodborne pathogens
- Integrated pest management
- Emergency planning, preparedness, and response
- First aid, CPR, blood borne pathogens
- Hazardous materials traffic control
- Commercial driver's license (CDL)
- Forklift driver training
- Leadership in Energy and Environmental Design (LEED)
- Building trades related to constructing beams, caps, synthetic barriers, pumping facilities, and similar structures to remediate contamination
- Computer-aided design and drafting (CADD)
- Water/wastewater training
- Geographic information systems (GIS)
- General construction (OSHA 10 or OSHA 30)

- Alternative treatment technologies
- Advanced health and safety training
- Solar site preparation and evaluation

While no EWDJT program can prepare students for every environmental job, they can provide motivated graduates with a basic set of skills and recognized certifications. Most EWDJT grantees will provide between five and ten state or federal certifications as part of their curriculum.

Developing a core curriculum that prioritizes training and certifications for jobs in most demand provides the best opportunity for graduate employment. Awareness training incorporated into the curriculum can also be used to familiarize students with additional peripheral job opportunities. As previously noted, the demand for specialized work skills can change dramatically with new redevelopment priorities, project cancellations or delays. EWDJT programs remain flexible to alter and adjust curriculum offerings in response to workforce needs.

Student recruitment and screening appropriate to the complexity of the curriculum

Having identified skills and certifications in demand, preliminary work on curriculum development can begin. However, before curriculum is finalized, EWDJT program managers will have to consider several other issues that can greatly influence training. First, curriculum developers need to develop curriculum consistent with EPA funding priorities. Second the availability of qualified trainers must be considered. Funding priorities and instructor availability will be discussed later in this newsletter. A third consideration involves recruiting students that can be successful completing the proposed course of study. HMTRI groups together student recruitment, screening, and assessment as a critical issue.

Student recruitment, screening, and assessment is a critical issue for successful EWDJT programs that will be discussed in detail both in PLCs and future CONNECT newsletters. It is discussed in this issue because of its profound influence on curriculum

development. Essentially, proper recruitment takes into consideration the following:

- Can applicants complete the proposed course of study successfully?
- Are there external impediments that would keep the applicant from completing the program?
- Are there issues that make the applicant unemployable?

EWDJT cohorts provide a limited number of seats that must be given to the most deserving applicants. When a student leaves the program, he or she has taken away an opportunity for another individual to succeed. Students unable to grasp instruction or have unmanageable personal issues can unknowingly be set up for failure. In this respect, students recruited for training must be screened with regard to the difficulty of the course of study and prospects for employment after graduation. To ensure EWDJT applicants have verbal and math skills necessary to complete the proposed curriculum, student assessments have been incorporated into most EWDJT programs. When assessment tests are not administered, high school diplomas or General Educational Development (GED) certificates are used as assessment guides. In most cases, local job centers will administer math and verbal assessments for the EWDJT program as a leveraged partner.

Other issues that link curriculum offerings to recruitment, screening, and assessment include Employer hiring policies and restrictions. Employer hiring policies can greatly inhibit placement regardless graduate performance, credentials or motivation. These issues include the following:

- When lifting is involved employers may require job applicants to be able to lift a minimum of fifty pounds.
- When students are required to wear respirators, physicals are mandatory to insure student safety.
- In the case of secured and sensitive government facilities, ex-offenders have been excluded from employment.

From a curriculum and screening perspective, these issues can be addressed in several ways. First, EWDJT programs may revise the curriculum to avoid training and placement issues. For example, when criminal history is an issue, training can be customized to provide certifications in occupations where students will not be penalized for prior convictions. Second, specialized training may be developed for handicapped or disabled individuals including occupations not requiring minimum physical abilities. A third approach aligns student recruitment, screening, and assessment with hiring restrictions associated with the curriculum under consideration.

Incorporating life skills, remedial education, and support services as part of a complete EWDJT training curriculum

High placement rates are indicators of successful EWDJT programs but not when student retention rates are low. Matching students with their ability to complete the course of study has already been discussed.

Another factor that leads to low student retention is the lack of attention to student needs. While it may not be possible to address many of the issues EWDJT participants face, recognition of their personal problems can go a long way towards improving student retention. Often Workforce Investment Boards, health and human services organizations, and other nonprofit partners provide resources to address the following issues:

- Teambuilding
- Financial literacy
- Career management
- Family living
- Work readiness training
- Transportation
- Chemical dependency
- Child and dependent care
- Anger management
- Remedial education
- Application and report writing
- Personal appearance and presentation

Unfortunately life skills, remedial training and support services, while essential to EWDJT success,

are not supported by EPA. When students are unable to successfully concentrate on classroom instruction, they enter a downward spiral leading to failure. Even with selective recruitment and screening, some refresher instruction may be necessary to bring the entire classroom to a standard where training can continue. As with life skills training, EPA does not support remedial education. Fortunately many leveraging partners provide life skills and remedial instruction including Workforce Investment Boards, financial institutions and nonprofits such as Goodwill, the YMCA, religious, and re-entry organizations.

Another relationship between curriculum and student retention relates to the training schedule. Some EWDJT programs emulate the traditional workday scheduling classes from 8:00 AM to 5:00 PM. Others have found it necessary schedule evening and weekend classes to accommodate working students and single parents. When designing an EWDJT curriculum, consider training schedules as a critical element of the overall training program.

Funding and training considerations affecting curriculum offerings

As with life skills training, EPA funding restrictions can influence EWDJT curriculum development in two ways. The first constraint relates to funding limitations on the type of environmental training EPA will support. The second is the availability of qualified local instructors to deliver the proposed curriculum.

The EWDJT program primarily supports brownfields hazardous waste training. Grantees may choose to offer a variety of environmental training and certificates based on employer needs but with funding restrictions. While most training is likely to fall in categories that EPA supports, some may not. Air pollution remediation training, for example, is not currently supported. As just noted, life skills, remedial education, and student support is encouraged but must be funded with leveraged resources. Support from various EPA program offices may change from cycle to cycle.

Here are the contributions from various EPA program offices from the [FY2021 RFA](#):

- Brownfields hazardous waste assessment and cleanup training, including petroleum cleanup training: \$2,880,000
- Solid waste management or cleanup training: \$15,000
- Superfund site cleanup and innovative and alternative treatment technologies training: \$25,000
- Wastewater treatment training: \$10,000
- Emergency planning, preparedness, and response training: \$20,000
- Enhanced environmental health and safety training: \$15,000
- Alternative energy technologies (e.g. solar installation training, training in the preparation of formerly contaminated sites for renewable energy purposes, etc.): \$15,000
- Underground Storage Tanks: \$20,000

It should be noted that the above categories are general in nature and that many courses and certificates will fit under one or several of the categories. Because support is divided among all applicants, it is prudent to focus core curriculum development in the area of hazardous waste with supplemental awareness training in other less funded categories. When EWDJT funds are not available, grantees seek outside leveraged support to supplement their curriculum as they wish.

The second consideration that may impact curriculum is the availability of qualified training materials and instructors. OSHA certificates and other regulated training such as EPA's Renovation, Repair, & Painting (RR & P) require certified instructors with an approved curriculum. Approved materials and instructors may be certified on the federal or state level. When qualified training providers are not available, consideration must be given to revisions in curriculum offerings. With nonregulated training, it is important that the instructor is knowledgeable and qualified to provide instruction.

When using consultants for training, EWDJT programs must comply with federal purchasing rules and regulations. Consultants and contractors must participate in a competitive bidding process involving an RFP and at least three vendor bids. Once consultants or contractors have been selected, they can assist in curriculum development, facilities and training schedules.

Incorporating safety and health in the EWDJT curriculum

It is essential that EWDJT programs train and promote safety and health standards, both in the classroom, as part of the curriculum and after graduation. This is applicable whether the training is being conducted by program staff or a contracted trainer. EWDJT programs should be concerned, for the welfare of graduates, that appropriate safety and health procedures are being followed by employers. Many EWDJT grantees provide a list of safety and health rules for students. Both students and trainers are asked to sign and date this document stating that they agree to comply with all safety policies and procedures. Often environmental, health, and safety courses require students to provide a medical waiver or undergo a physical examination. Note that HAZWOPER and some other courses require program participants to sign a *Participant Liability Waiver and Release of all Claims* form. This is especially true if a self-contained breathing apparatuses (SCBA) will be used during the training.

Establishing an environmental workforce development curriculum

For EWDJT grantees to be successful in the specialized field, environmental workforce development and job training curriculum developers need to be in touch with where the jobs are.

- Environmental job opportunities are hidden among traditional occupations.
- The demand for workers is specialized and variable depending on local development projects, economies and legacy environmental issues.

- Curriculum developers must match the curriculum with recruitment, screening and ability to place graduates.
- Due to funding availability, leveraged resources must be found to deliver a comprehensive training program.
- Curriculum must be consistent with EPA program priorities.
- Course offerings will depend on the capabilities of qualified and certified trainers.
- Health and safety must always be incorporated in the EWDJT curriculum.

All of these constraints must be considered in the development of a meaningful and successful EWDJT curriculum.

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HMTRI is part of Eastern Iowa Community Colleges and has provided environmental workforce development technical assistance since the inception of EPA's Brownfields Initiative.

CONNECT notes presented represent individual opinions and ideas from Professional Learning Community participants and EWDJT grantees. They do not represent EPA policy, guidance or opinions and should not be taken as such.

For more information on HMTRI technical assistance services or to be added to our Grantee and Community Outreach Listserv, please contact Heather Ballou at hkballou@eicc.edu.



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