Tailored Training Assistance

Background

On November 18, Kristen Rauk, Military Recruitment Project Coordinator for McKinstry contacted Robin Baker, Transition Services Manager, at Joint Base Lewis McChord (JBLM) and Marie Bruin, Policy Associate with SBCTC, regarding partnering with a Center of Excellence in Washington to bring Mission Critical Operations (MCO) curriculum from Cleveland College, North Carolina (NC) to support a 20 week Career Skills Program on JBLM.   Marie contacted the HSEM COE Director after her review of the HSEM program description and asked us to provide input on whether the CTC system along with the HSEM Degree Program could adequately cover the full range of curriculum required for the MCO credentialing. After the initial review by the Center's subject matter experts it was determined that the Center could assist with CTC resources to craft a customized curriculum that addresses the military training requirement for MCO.

McKinstry is a full-service company that designs, builds, operates, and maintains (DBOM) high-performance, energy-efficient buildings/facilities across the country. The firm has over 1,800 employees nationally and approximately $500 million in annual revenue. McKinstry is committed to supporting the development of a MCO education/training pathway to secure future employees in this rapidly growing and high demand field.

Overview

MCO is a relatively new occupational field and there are few existing training programs and curriculum in the country. Cleveland Community College leads a consortium of NC Colleges which received a TAACCT in 2013 from the U. S. Department of Labor to develop a MCO curriculum (http://ncmco.us/about/).   Funding is available for three years for the MCO program development.

A business that relies on continual operation is defined as mission critical. Mission critical operators are individuals whose job is to keep those facilities running and protected. The need for mission critical operators is on the rise. McKinstry estimates a 30% increase within the next few years for employees with MCO knowledge, skills, and abilities (KSAs).   The Society for Manufacturing Engineers (SME) is currently engaged in a campaign to boost workforce readiness and promote employee development. SME indicates there is a critical shortage of skilled workers and this threatens the future of manufacturing in America. Industrial and information technology positions top the list of the jobs that are available in the MCO field and they are far from the only careers in the area that require knowledgeable employees.

MCO careers can be found at data centers, power plants, transportation, 911 call centers, and many other industries. The skills needed vary according to the specialized field, but the focus is on reliability and the need to keep the MCO organization running 24/7. The skills include knowledge based in operations technology such as automation, HVAC, emergency response, power management, and information technology such as networking, database administration, and cybersecurity.

Samples of the career choices that would prepare employees for a MCO career are: business intelligence/analyst, construction, electrical, HVAC, emergency response services, energy, facility maintenance, critical facility technician, information technology, computer network defense auditor, systems administrator, technicians and security. Additional information can be found by reading NCMCO project manager Mitchell Sepaugh's published work in the Jan/Feb 2014 edition of International Society of Automation's Tech Magazine: Developing a Career Pathway for a Mission-Critical Workforce (http://automation.isa.org/2014/09/developing-a-career-pathway-for-a-mission-critical-workforce/.) Cleveland Community College was recently recognized by the National Initiative for Cybersecurity Education (NICE) and added to their Cyber Education Map.

> "Mission Critical Operations (MCO) is a new project funded by U.S. Department of Labor Trade Adjustment Assistance Community College and Career Training (TAACCT) grant in 2013. The MCO project is developing a career pathway to address demand for a mission-critical workforce able to anticipate, prevent, mitigate, and respond to mission-critical breaches. Cleveland Community College (CCC), located in Shelby, N.C., is leading an interstate consortium of schools to develop the MCO program that will produce a variety of offerings. Students ranging from those who are completely new to the field to those working in the field who need complementary or updated skills will benefit from a set of stackable and latticed articulated competencies? In addition to the academic offerings, new industry certifications will be developed. Consortium members are Nash Community College (NC), Wake Technical Community College (NC), Moultrie Technical College (GA), and The University of North Carolina at Charlotte. Industry partners in the project include ISA, the Automation Federation, 7×24 Exchange Carolinas, and numerous local employers."

The North Carolina MCO program combines course work from a number of traditional operational technology and information technology programs. The project will prepare students to handle a variety of situations in infrastructure maintenance; industrial cybersecurity; supervisory control and data acquisition systems; data analytics; automation; heating, ventilating, and air conditioning; industrial management; emergency preparedness; disaster recovery; cloud computing; telepresence; and more. Programs will be available on campus and via distance education from consortium member institutions.

Key competencies include operations management, situational awareness, incident response, preventive and predictive maintenance and cybersecurity. A sample of Mission Critical Operations curriculum for Information Technology (AAS) can be found at http://ncmco.us/what-is-mco/.   Courses include introduction to computers, hardware/software/, introduction to MCO, critical infrastructure, operating systems concepts, networking basics, Linux/Unix/Widows Single User, introduction to automation, communication, writing, industrial safety, and critical site operations.

Project Activities/Outcomes
- Develop MCO pathway w/lattice/stackable certificates, AAS in MCO with pathway to BAS
- Access Open Education Resources (OER) available from grant https://www.skillscommons.org
- Identify and engage workforce system, collaborating colleges and employers
- Review the national framework to determine ability to locally customize

Business Engagement and Outreach

Center staff met on Thursday, November 21, at McKinstry' s office in Seattle to discuss the proposed development of a MCO pathway with the initial focus on military personnel transitioning through JBLM (see notes in Appendix). Center staff provided an overview of the CTC program development as it relates to MCO and recommended that long term it would be best for Washington to create a similar consortium of colleges to provide pathway certificates and degrees. North Carolina's Cleveland College MCO curriculum developed under the TAACCCT grant and registered under creative commons, is available to Washington along with textbooks and exams. Other materials may be available from NC consortium colleges upon request.

Short term objectives:
1. Create short and long term implementation plan.
2. Obtain job descriptions from McKinstry to identify needed KSAs for JBLM short term certificate.
3. Complete VIE-25 MCO Roadmap for related military specialties.
4. Describe program details including outcomes, core abilities, fundamental knowledge areas and knowledge outcomes using NC work and McKinstry requirements.
5. Crosswalk curriculum from the Cleveland MCO degrees to existing CTC programs and curriculum to expedite completing a certificate within six (6) months.
6. Establish work experience internship w/McKinstry that pathways students into permanent employment.

APPENDIX

Support of State Strategic Plans

State policy makers and planners for higher education have articulated specific objectives to increase student achievement and increase levels of educational attainment in Washington State. Specifically, this program proposal would address the following challenges to the state's education system:

Building a Working Washington11
- Increase baccalaureate capacity at community and technical colleges throughout the state.
- Help students complete their degrees in targeted, high quality, faculty-driven online learning courses and curricula that meet the workforce needs of high-demand fields.
- Serve more people including groups who have been underserved in the past.
- Close the statewide skills gap for technically trained workers.
- Contribute more to the production of baccalaureate degrees.

High Skills High Wages13
- Engage employers in identifying skill standards and develop training programs that meet their standards. (Goal 2, Objective 1, Strategy B)
- Increase the accessibility of training programs for adult workers and reduce the time it takes to complete training. (Goal 2, Objective 3, Strategy B)

Washington Student Achievement Council 2014 Strategic Action Plan14
- Expand the reach of dual-credit opportunities. Build bridges from high school to college and careers through dual-credit programs.
- Provide greater access to work-based learning opportunities.

Labor Statics

According to Bureau of Labor Statistics projections, the Tacoma MSA alone employs 130 Emergency Management Specialists (SOC 11-9161.00)—just one of the many occupational titles used to describe professionals in the HSEM field.[20] To further analyze the broader labor market, a selection of representative job titles (Table 1) were taken from the job announcements and researched for state employment data through the U. S. Department of Labor's O*net system. *Bright Outlook job* data for these job titles shows Washington State is projected to have 14% - 15% growth in the HSEM cluster from 2012 – 2022. Growth, salary, and education trends reveal the array of opportunities in HSEM occupations that exist for job seekers holding HSEM specific baccalaureate degrees.

http://www.bls.gov/oes/2009/ may/oes_45104.htm#(3) **SOC Code**	**Occupational Title**	**Washington State Annual Growth Trend**	**Washington State Median Wage**	**% of Employers Requiring a Baccalaureate Degree***
13-2099.02	Risk Management Specialists	14%	$63,900	62%
13-1199.02	Security Management Specialist	14%	$67,400	62%
13.1199.04	Business Continuity Planner	14%	$67,400	50%
11-9199.08	Loss Prevention Manager	15%	$103,000	58%

Table 1 – Growth, Salary & Education Trends

SOC Code	Occupational Title	Washington State Annual Growth Trend	Washington State Median Wage	% of Employers Requiring a Baccalaureate Degree*
13-2099.02	Risk Management Specialists	14%	$63,900	62%
13-1199.02	Security Management Specialist	14%	$67,400	62%
13.1199.04	Business Continuity Planner	14%	$67,400	50%
11-9199.08	Loss Prevention Manager	15%	$103,000	58%
11-9199.07	Safety/Security Manager	15%	$104,000	60%

Sources: http://www.onetonline.org/find/bright?b=1&g=Go   http://www.onetonline.org/crosswalk/CIP?s=43.0302&g=Go
[*Local Employer Survey results show by 2:1 employers prefer to hire new graduates with an HSEM specific baccalaureate degree over new graduates with a general baccalaureate degree.]

Business Engagement Meeting Notes – McKinstry- Seattle Office
Thursday, January 21, 2016

>   **Meeting Date:** 1/21/2016 9:30 AM
>   **Location:** Seattle Campus of McKinstry
>   **Participants:**
>   **Homeland Security-Emergency Management Center of Excellence**
>   Linda Crerar, HSEM COE, (Meeting Organizer)
>   Wendy Freitag
>   Jamie Krause
>   Victoria Leighton
>   **McKinstry**
>   Jan Scott, Talent Acquisition Director
>   Toni Rossi, Critical Facility Director
>   Anna McGough, Talent Acquisition Partner

Notes

https://my.pierce.ctc.edu/webapps/dci/curriculum_sheet_view.aspx?uid=195 - AA Degree
https://my.pierce.ctc.edu/webapps/dci/curriculum_sheet_view.aspx?uid=196 - Certificate

Introductions
- Anna to facilitate
AGENDA
Jan's Vision
- Jan to share
NCMCO Curriculum Clarification
- Tony to describe what both the certification AND AA degree are looking to teach the student

Managing the Project
- Linda & Team help McKinstry understand the process to bring the project to Life
- What type of involvement do you need from us
Next Steps
- Linda & Team
- Action Items
- Next Meeting
Break and Tour of McKinstry campus
- Anna

Notes
ACTION McK - Everything on website is free
ACTION McK - Textbook, with quizzes and tests
ACTION McK - Curriculum that is specific to Cleveland is different - need to contact them

Long-term - Would be good that the schools create a consortium and replicate in Washington.
Short term- focus on JBLM and create a pathway
ACTION create short and long term plan

McK Issues --
Certificate/license/degree due to does it mean anything in the industry - need to have people in the industry recognize the school degrees etc.

Pierce--
Possibly could get this into a curriculum in 3-6 months; or 6 weeks depending on the content/curriculum.
Possible pathway to BAS

McK - Not focused on employees but transitioning military to long term career path with success.

On the academic part - To take out the IT the balance is non-standard and based on experience.

JBLM et. al. may be a quick win, a lot of experience but not mapped and the MOS is difficult to map. Caution - does not necessarily translate to all students.

Pierce - We work with the military - have schools that have close relationships, the HSEM links to JBLM, 8 colleges that are closely connected to a military base and deliver the HSEM degree. Pierce College is

the hub of that consortium, Pierce supports the delivery of the training that said JBLM is the major base. Pierce has a MOU with JBLM.

McK
CFM or CRE would be end of path
Critical Facility Engineer-creating environment and maintaining
      e.g. submarine people

ACTION - McK We can provide the job / career pathways for McK

Pierce - We can use the curriculum that currently exists, mix and match the 34 colleges to meet the needs.

Timeline - growing 30% rate and does not look like its slowing down, if we can launch and have fruit in 4th quarter we would be happy

McK Security clearances - what is needed, if anything.

ACTION Items:
1. McK We need to know McK knowledge base/skills (KSAs for specific jobs (at what level)
2. McK Once trained, student will be able to do and at what level
    a. Hard and soft skills
3. Pierce Map MOS
4. McK and Pierce Create short term plan - fruit by 4th quarter
5. McK and Pierce Create long term plans
6. McK trends (Pierce will finalize)
    a. Career pathway - what is McK pathway
7. Partnership with McK - data, committed with interns, 60% conversion, 2015 hired ~50+
8. McK Security clearance requirements
9. McK set up internship program
10. Cadence?
    a. Linda Next week talk to JBLM/executive at Pierce College, staffing resources from both (McK and Pierce)
    b. Next Mtg - Feb, Anna and Linda to work out