



Solutions for Hiring Manufacturing Technology Instructors

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Dr. Karen Wosczyzna-Birch is the Executive Director and Principal Investigator of the Regional Center for Next Generation Manufacturing, an National Science Foundation Center of Excellence. She is the state director for the College of Technology, a seamless pathway in technology and engineering from all 12 public community colleges to 8 public and private universities. Dr. Wosczyzna-Birch has expertise with both the recruitment and persistence of under represented populations, especially women, to pursue careers in engineering and technological disciplines. She has presented at numerous conferences throughout the United States and was an invited speaker at the international Gender Summit in Belgium in 2016.

Wendy Robicheau

Wendy has been Project Manager with the College of Technology – Regional Center for Next Generation Manufacturing since 2012. In that time she has developed a passion for making middle and high school students, faculty and counselors aware of the educational and career pathways that are possible in STEM and manufacturing through various outreach programs. She enjoys organizing outreach initiatives such as student symposiums, counselor workshops, and any other opportunities to spread the word about career pathways in STEM.

Wendy has published and presented papers for the IEEE Integrated STEM Conference as well as other national conferences through her work with the National Science Foundation Advanced Technological Education Program. She has also participated in Women in STEM initiatives such as the CWEALF Girls and STEM Expos as well as their Roundtable Discussion on the Retention and Success of Women in STEM and enjoys participating in this important movement.

Wendy has her Master's Degree in Student Development in Higher Education at Central Connecticut State University that helps her to create initiatives that expand students' knowledge of educational and career pathways in STEM. Her focus is on students from populations that are typically underrepresented in STEM fields, including females.

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With an estimated need for 35,000 new skilled workers in Connecticut over the next two decades, there is a high demand for not only students but also instructors in manufacturing technology programs. The Regional Center for Next Generation Manufacturing (RCNGM), a National Science Foundation Manufacturing Center of Excellence, was created in 2004 with funding from the National Science Foundation's Division of Undergraduate Education - Advanced Technological Education Program to educate manufacturing technicians with necessary skills required by industry. The community colleges under the RCNGM continuously partner with other community colleges, universities, industry, and organizations in New England and at the national and international levels to provide support and expertise to students and educators in engineering and technology programs.

The RCNGM is overseen by the Connecticut College of Technology (COT), a consortium of all twelve public community colleges in Connecticut, nine public and private universities; technical and comprehensive high schools; and representatives from industry. Eight of the community colleges have new Advanced Manufacturing Technology Centers (AMTC) that were recently expanded through a US Department of Labor grant. The COT began in 1995 through state legislation to create seamless pathways in engineering and technology from certificates and A.S. degrees to B.S. degrees. The pathways have multiple points of entry and exit for job placement and stackable credentials for degree completion, including national certifications that have increased enrollments and created program stability. The COT is led by the Site Coordinators Council that meets monthly and consists of faculty and deans from all member institutions and representatives from industry and government. The Council identifies and reviews new programs based on industry needs. This model led to the NSF funding in 2004 to create the RCNGM and the award of New England Board of Higher Education's 2012 Connecticut Merit Award.

The COT-RCNGM has recognized the challenges in finding manufacturing technology instructors. The two main challenges are: 1) finding candidates that have the typical higher education credentials needed to teach in the community colleges or 2) finding candidates with extensive hands-on experience. The first step taken by the COT-RCNGM was to create a new position that substituted extensive experience within the manufacturing industry for the higher education credentials. Input was sought from current faculty, AMTC directors, deans, human resources representatives, and unions to account for all parties that would be affected by the position. For candidates without teaching experience, professional development for classroom management, curriculum development, and other applicable topics for teaching is required.

To address the second challenge in hiring advanced manufacturing instructors, stakeholders including educators, employers, and industry associations came together to develop a recruitment campaign. An initial survey was distributed to current and retired manufacturing employees to evaluate their interest in teaching the future generation of manufacturers. Survey findings concluded that there is an interest in teaching from manufacturing employees and retirees, but that they would like to have support and guidance since they do not have experience teaching in a classroom.

The survey also resulted in recommendations for outreach initiatives to assist in the recruitment of instructors. The stakeholder group began with holding a forum for interested parties to discuss the survey findings, which was the first recommendation. The COT-RCNGM and AMTCs, AARP CT, the Wallingford School District, the Connecticut Technical Education and Career System, and Central Connecticut State University decided to act on several other recommendations from the survey, including a communication campaign focused on instructors that included success stories about current manufacturing instructors and develop professional development opportunities for instructors without prior teaching experience.

The communication campaign consisted of press releases through local publications, stakeholders' social media, and the AARP CT Bulletin. AARP CT was a key player in the distribution of materials and announcements to the target audience for this campaign. In addition to press releases, three workshops were held with a "speed dating" format. Attendees would hear presentations from institutions who were currently recruiting instructors. After presentations, attendees would get to visit tables staffed by representatives from the recruiting institutions for one-on-one discussions of the institutions' needs and the retirees' skill sets. The workshops were held at institutions that were recruiting so attendees could also tour facilities. The workshops resulted in new hires at four participating institutions.

Additional recommendations from the survey will be taken into consideration as next steps. Information on the instructor communication campaign and instructor training programs will be distributed through employers, local manufacturing associations, and other groups who may have members interested in hiring instructors or having members hired as instructors. A web presence will be created where potential instructors can search for available positions and submit their resumes to a database that hiring institutions can access.

The COT-RCNGM's partnership with AARP CT is still expanding as they are interested in helping members in the 50+ population re-career. An unexpected result of starting a partnership with AARP CT was a scholarship program with for manufacturing students at community colleges. Additional student recruitment initiatives are also being discussed such as sponsorship of Intro to Manufacturing courses at the community colleges for the 50+ population. As dissemination of the partnership continues, AARP leadership has received requests to replicate successful instructor recruitment models based on the initial recommendations and initiatives from the survey. The COT-RCNGM will continue the partnership with AARP CT and other stakeholders and continue to evaluate and improve initiatives as information is gathered.