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INTRODUCTION

The last report in this series (Getting Ready for High-Paying Careers in Maine: 2018) identified six sectors where the Maine economy is producing high-quality, high-paying jobs. It also pointed out that many of these jobs are going unfilled because Maine students and workers don't have the right kind of credentials to qualify for the jobs. The necessary credential varies by job—it can be an associate's degree, a professional certificate, work experience, or some other combination of education, training, and work.

The report concluded that there has to be a “new paradigm” for education in Maine, designed to give students exposure to the kinds of jobs available in the economy; guidance about how to prepare for those jobs; math, language, computer, and other skills necessary to qualify for the next steps of education and work; and mentoring or work experience in sectors of interest.

That report also noted that it takes time for a new paradigm to take hold—the analogy being that it is like turning the proverbial battleship around.

In the long run, every school will make these adjustments. But some employers and schools aren't interested in the long run. They note the cautionary maxim of economist John Maynard Keynes: “In the long run, we're all dead.” They are pushing forward today.

This report highlights a few of those Maine employers, schools and nonprofit organizations that are leading the charge to develop new models of partnership among education, training, and work.

There are two things in common with all of the examples. First, there is a leader. Some employer or school or nonprofit steps up and initiates the change. Secondly,

there are partners. No school or employer or nonprofit can do this alone. In every case, there is involvement of multiple organizations to make the effort a success.

That said, there is no one path to success. There is no cookbook. The road is different in every case. But the vision is the same—expanding the experience, knowledge, skills, and qualifications of Maine students and workers.

This report opens with summary lessons for employers and educators from the case studies; follows with a page on the special role of business associations; and follows with seven case studies that illustrate the creativity, initiative, and variety of school-employer partnerships now underway.

This short report is one of a series of policy briefs produced by Educate Maine. Educate Maine is a coalition of educators, business people, and advocates who believe that investment in education creates lifelong learners, opens pathways to promising careers, and grows the economy. It also produces civically engaged citizens who build vibrant communities.

For several years, Educate Maine has published *Education Indicators for Maine*, as well as this series of policy briefs.

The policy brief series is brought to you through a partnership between Educate Maine and the Maine State Chamber of Commerce, and through the generous support of the John T. Gorman and Nellie Mae Education Foundations. The production of the report was made possible by the contributions of Lisa Plimpton (research), Frank O'Hara (writing), and Pica (design and layout).

We would like to especially thank those who gave us guidance in researching the examples in this report. They include:

- Dan Coffey, Cianbro Institute Director
- Mike Bennett, VP of Health, Safety, Environmental and Human Resources for Cianbro
- Diana Kokoska, Coordinator of Computer Information Systems Department at the University of Maine at Augusta
- Dana Humphrey, Dean of Engineering, University of Maine
- Paul Butler, Principal, Bangor High School
- Cary James, Science Department Head, Bangor High School
- Catharine MacLaren, Vice President of Talent and Diversity, Northern Light Health
- Samantha Foss, RN, Nurse Manager at Northern Light Health
- Jean Ginn Marvin, Owner, Nonantum Resort
- Barbara Finkelstein, President, York County Community College
- Lisa Martin, Executive Director, Manufacturers Association of Maine
- Mark Cafiso, Local Veteran's Employment Representative, Greater Portland Career Center
- Chris Gaunce, President, Central Maine Motors Auto Group
- Matt Walsh, Chairperson, Central Maine Community College Automotive Technology



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WHAT EDUCATORS NEED TO KNOW

Educators who approach employers in the community need to be aware of the differences between schools and businesses.

First, most Maine businesses are small. Three-quarters have fewer than 10 employees¹; 90% have under 50 employees. They are smaller than most high schools.

This means that the owners and managers are extremely busy. They are managing people and supplies and processes, marketing and looking for the next sale, tracking compliance and paperwork on government regulations, and always monitoring the cash flow.

Barbara Finkelstein, President,
York County Community College

You need to be mindful of business rhythms and their timetable. In education, we tend to design courses that are convenient for our faculty to teach, and we need to shift some of our offerings to when it is convenient for students, especially adult students, to take courses.

Not unlike schools, each business has its own pattern of activity over the course of the week or year. Retail is busy on evenings and weekends and around holidays. Tourism is busy in winter and summer. Manufacturing follows the pacing of contracts. Construction starts in spring and runs until the snow flies.

So in engaging employers, it is important to talk and meet at times that are convenient for them. These times will be different for different businesses. They often will not fit in the normal 8-5 workday.

Likewise, workers in the businesses, and interns, will follow the same flow. Any educational courses must be scheduled in times and places that fit the course of the seasons, the

course of workweeks, and the timing of family obligations. They often will not fit in the normal course schedule.

Finally, small businesses are not accustomed to decision-making in a bureaucracy. They are used to making decisions and implementing them the same week. They don't have department heads, curriculum coordinators, principals, superintendents, school boards, all of whom must review new programs and give their feedback and approval. Educators must be patient with their impatience.

Matt Walsh, Automotive Technology Chairperson,
Central Maine Community College

Building a strong advisory of local businesses that participate in and support the program is really critical. Building those relationships and getting the support of local businesses. One advantage of having so many students working out in the field is that interacting with all the employers regularly helps us stay keyed in and current with what's going on in the industry.

Successful educational programs often start with one business partner, but over time they expand to multiple businesses. That is the story of the service technician training in Kennebec County and the tourism education program in York County described in the examples on the following pages.

Paul Butler, Principal, Bangor High School

It's about hustle. We have a teacher who's very invested in our partnership with the UMaine College of Engineering and making STEM broadly accessible to our students. We have a strong commitment to research. We have a supportive faculty and administration.

Barbara Finkelstein, President,
York County Community College

You need buy-in from faculty and student services. Faculty may need to be willing to change some of their work hours and schedules. Staff need to offer new and different types of orientation and student support models. In my first year at YCCC, we created a two-week Winter Session and have subsequently created two 7-week terms within the 15-week semester. We offer six seven-week sessions throughout the year. There was some initial pushback from faculty, staff, and even members of the administrative team. I worked to convince them that we need to be more flexible. We offered the two-week Winter Session for the first time in the winter of 2014-2015, and the enrollments were good. Since then these non-traditional formats have grown, and that started to change people's minds about flexible scheduling formats. Change is sometimes difficult for those in higher education.

Be creative, be persistent. If something doesn't work, try something else. It's very important to work with local employers. It sounds obvious but it's not always done well. Get off campus, meet with the people who are offering good jobs, and don't be tied to the way things have always been done.



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¹ County Business patterns, 2016 - 41,000 establishments, 30,000 under 10 employees, 38,000 under 50 employees. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=BP_2016_OOA2&prodType=table

WHAT BUSINESSES NEED TO KNOW

Like small business owners, teachers and educators face many stresses at work.

Schools and teachers are judged in part by the performance of their students on standardized tests in reading and math. In 2017, only 59% of Maine high school juniors met state reading expectations, and only 35% met math expectations. Understandably, teachers and administrators are focused on raising these scores, and in the process other priorities—like working with businesses to expose students to career options—can seem less important.

Improving student performance is complicated by the fact that an increasing proportion of students in Maine come from economically disadvantaged families. In the past 8 years, the proportion of Maine schoolchildren from disadvantaged families has increased from 41% to 47%. These students do not experience the same success as their higher income peers. Only 42% of disadvantaged juniors meet state reading expectations, and only 20% meet math standards.

Teachers face many other problems than tests, including: students who are hungry and face other traumatic stress; shortages that lead many to have to spend their own personal funds to buy classroom supplies; social and behavioral issues that are more widespread today.

In fact, partnerships with businesses, giving students a chance to see how writing and math skills are important in a job, can be important motivators to help students perform better in the classroom. But it takes time to make these arrangements work.

In addition, there are scheduling challenges schools face in making business partnerships work. Students must take a certain number of required courses to graduate, and those courses may only be offered at certain times. Students must balance their required

courses with the optional courses they wish to take, and with extracurriculars, and with Technical Center courses—before dealing with a business’s scheduling needs.

Finally, as was mentioned on the previous page, students and teachers need to get approvals at many levels before engaging in partnership activities.

With all of these obstacles, it is truly impressive how much of what is described in the following pages is actually happening. It is a tribute to the leadership and persistence of both educators and businesses.

Dan Coffey, Director of the Cianbro Institute

The skilled trades shortage is being felt throughout our country. Contractors are scrambling to find the talent needed to put the work in place. It’s so important that business, education, and government communicate to understand the workforce needs and proactively work together to implement an effective solution. Half the battle is educating our youth, parents, teachers, guidance counselors, etc. on the industry and the many fruitful career opportunities available.

Cianbro is constantly looking for opportunities to interact with schools and help students understand the multiple pathways in front of them. Just in the last year we’ve had around a dozen schools visit the Cianbro Institute. Sometimes these visits consist of a brief presentation followed by a Q&A session. Other times, we’ll set up hands-on activities for the students to get some exposure to some of the basic skills within the trades.

The first step for a business is to recognize that a school partnership is a business decision. Chris Gaunce, President of the Central Maine Motors Auto Group, noticed around

ten years ago that his company was spending a lot of money recruiting people with the right skills from far away to move to the area and work. Many times it wouldn’t work out, and another cycle of expensive recruiting and training would have to begin. Spending this human resources money on identifying and training a local workforce was not only good for the region; it was also good for the bottom line of the business.

Once this decision is made, then it is a matter of finding the right partners and persisting through the challenges.

For individual business owners who don’t have the time to work with their schools, another option is to engage an association—their local chamber, economic development group, or statewide association—to do this work for a number of businesses. That option is described on the next page.

Chris Gaunce, President, Central Maine Motors Auto Group

About ten years ago, CMMAG began to identify young people interested in entering the automotive business. Company representatives participated in career fairs at high schools and offered different ways of getting our company’s leaders into public schools; however, we found barriers with scheduling, time, transportation, lunch, snow days, etc.

Working with the Central Maine Growth Council (CMGC) and the Mid Maine Technical Center (MMTC) is easier because they get the business perspective. Public schools seem to want to dictate the terms of engagement and aren’t always flexible in dealing with businesses. The CMGC and MMTC broke down those barriers for us to create mutually successful opportunities for us and for students.



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THE ROLE OF CHAMBERS, BUSINESS ASSOCIATIONS, AND ECONOMIC DEVELOPMENT GROUPS

Intermediary organizations like industry associations, chambers of commerce, and local economic development organizations, have some inherent advantages in connecting employers and schools.

From an employer's point of view, an association representative can devote the large blocks of time needed to make the necessary administrative arrangements. From the school's point of view, an association can connect the school to multiple employers—i.e., a larger pool of potential internships and mentoring slots.

Four such arrangements are described in the following case studies:

- 1) The **Manufacturers Association of Maine** acts as an intermediary between employment agencies and its business members, helping to identify applicants and translate their skills into the language of its members' HR departments (see page 10).
- 2) The **Mid Maine Growth Council** has played a convening role with all the partners in the Central Maine Motors Auto Group (CMMAG) training program (see page 7). Council staff helped CMMAG understand and implement the curriculum requirements so that the program could qualify for the state apprenticeship program. Chris Gaunce said, "They made that clunky and arduous process smooth and seamless. We probably would not have pulled off all that paperwork without them."
- 3) **Hospitality Maine**, a trade group representing nearly 1000 of the state's restaurants and lodging businesses, is working with the Maine Department of Labor, the Community College System, and other education

providers across the state to implement a new hospitality apprenticeship program. Two entry-level apprenticeship opportunities are available, one for line cooks and one for hospitality services. Each includes at least 2,000 hours of on-the-job training and 144 hours of academic work, some of which will include the opportunity to earn college credits. Apprentices who complete either track will be nationally certified by the U.S. Department of Labor. This is an *Earn while you Learn* program. Apprentices will earn raises as their skills increase; starting wages vary among employers. The program currently includes 32 different employers from Old Town to York Harbor, with more being added weekly. (See <https://www.hospitalitymaine.com/page/Apprenticehome>).

- 4) The **Maine Energy Marketers Association (MEMA)** Technical Education Center training facility in Brunswick offers training toward certifications needed by its members in five fields including HVAC, plumbing, and oil heat. Trainees can opt for a three-month intensive program for \$10,000—including the tools they will need for the trades—that results in HVAC certification for work with boilers, heat pumps, and propane appliances. The program has been training 400 people a year for jobs with starting pay around \$40,000 per year plus benefits. Once with an employer, trainees are on the path for their journeyman's certification; most receive a pay increase within a year. MEMA is expanding the facility and will be able to double capacity to 800 students each year. They work with CTE centers, Career Centers, Community Colleges, and veterans groups to identify and recruit trainees (see <https://mtecenter.com>).



BUILDING SKILLS

CASE STUDY 1: CIANBRO INSTITUTE FOR TRAINING IN CONSTRUCTION TRADES



What It Is

The Cianbro Institute is a company-sponsored training facility that provides a construction boot camp for new and potential employees, and eight registered apprenticeship programs: Pipefitter, Millwright, Electrical, Ironworker, Carpenter, Substation, Line Worker, and Crane Operator. The Institute also provides the instruction for a Career and Technical Education Center (CTE) CTE welding program.

The Institute uses National Center for Construction Education and Research (NCCER) curricula (www.nccer.org/workforce-development-programs/disciplines), each of which is tailored to link classroom instruction with on-the-job training. The Institute is located in Pittsfield, but the training is available all over the country through television, phone apps, and mobile trailers. The NCCER curricula is used by schools across the country, and gives graduates an industry-recognized certification.

Dan Coffey, Director of the Cianbro Institute

The skilled trades shortage is being felt throughout our country. Contractors are scrambling to find the talent needed to put the work in place. It's so important that business, education, and government communicate to understand the workforce needs and proactively work together to implement an effective solution. Half the battle is educating our youth, parents, teachers, guidance counselors, etc. on the industry and the many fruitful career opportunities available.

The Institute has a paid internship program for high school graduates and college students. It is not uncommon for Cianbro to bring on 40+ interns during the summer months. At the end of the summer they all deliver a presentation to their peers, as well as leaders within the organization, recapping their internship experience.

The Institute is always looking for opportunities to interact with schools and help students understand the multiple pathways in front of them, particularly within the construction industry. In 2018, about a dozen Maine school delegations visited the Cianbro Institute. Sometimes the visits consisted of a brief presentation followed by a Q&A session. Other times, the Institute set up hands-on activities for the students to get exposure to some of the basic skills within the trades.

Mike Bennett, VP of health, safety, environmental and human resources

We continue to work closely with the educational institutions, as we have for years. We structured all our in-house educational efforts into the Cianbro Institute in 2007 with a heavy focus on registered and non-registered apprenticeship programs. What gives

us tremendous pride is we now have generations where former students at the Institute are becoming instructors. Having our own institute gives us a consistent delivery and development model that is quickly adaptable to the needs of our industry. You see more and more companies moving in the direction of creating in-house educational efforts across the country.

The Institute allows Cianbro to train existing employees, to address a shortage of skilled craftsmen, and to capitalize on the skills of experienced workers by employing them as instructors.

Who Are The Partners

The Cianbro Company, in Pittsfield, Maine, is the sponsor of the Institute. Cianbro has over 4,000 employees nationwide, and manages major construction projects in more than 40 states. The Cianbro Institute partners with colleges and universities, Career and Technical Education (CTE) Centers, Job Corps, adult education, the Maine Departments of Labor, Economic and Community Development, and Education, and local Workforce Investment Boards. The Institute works closely with an Apprenticeship Program Specialist at the Maine Department of Labor to develop specialized apprenticeship arrangements.

What Are The Results

The Institute's Construction Boot Camp has grown rapidly. Boot Camp consists of classes of 8-10 students. About 70% of Boot Campers complete the program. Cianbro held 3 Boot Camp Sessions in 2017, and hired 59 participants. In 2018, they had 12 Boot Camp sessions scheduled and, as of October, had already hired 73 participants.

For More Information

www.cianbro.com/CianbroInstitute.aspx



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GETTING IN WITH THE INN-CROWD

CASE STUDY 2: NONANTUM RESORT AND YORK COUNTY COMMUNITY COLLEGE



What It Is

Nonantum Resort in Kennebunkport and the York County Community College (YCCC) in Wells have created a condensed associate's degree program in hospitality for seasonal workers starting in 2019.

Under the new program, employees will work nine months of the year at the Inn, then study in the classroom from January through March. At the end of the program, employees will receive an Associate Degree in Hospitality and Tourism Management—all while working and being paid for full-time work at Nonantum.

YCCC will offer a sequence of courses to the Nonantum staff to allow them to earn five course credits in the winter. It starts with a math "boot camp" for two weeks. Many employees use math in their jobs every day, and are good at it, and this course will deepen their skills.

Then in a special spring 7-week term, YCCC will offer Introductory English and an Introduction to Business at the campus. Later in the spring, in a second special 7-week term, YCCC will offer two online courses: Psychology and Introduction to Hospitality Management. These courses are online because by this time of the spring, employees and students are back at work at the resort. By the end of spring they'll have five courses under their belts. YCCC will also offer a free online course-taking training for those employees and students who have not taken an online course before.

Who Are The Partners

Besides Nonantum Resort, York County Community College is talking with two resorts in Ogunquit about joining the program. The hope is to build the program by adding employers over the years.

Hospitality Maine, the statewide industry association, has collaborated with the Maine Department of Labor to create an apprenticeship program in tourism that can be an additional resource for this effort.

What Are The Results

The program is just starting in 2019. In the fall of 2018, York County Community College staff went to Nonantum and met with 9 students for orientation. The goal is to have 15 students in the introductory cohort.

Jean Ginn Marvin, *Owner, Nonantum Resort*

Our people aren't just in a job, they're on a career path. The Maine Community College System and the University of Maine System will honor these credits toward a four-year degree. There are a lot of people in this state who never went to college. Getting a two-year degree is more manageable, especially for nontraditional students.

Barbara Finkelstein, *YCCC President*

You need to be mindful of business rhythms and their timetable. In education, we tend to design and offer courses that are convenient for our faculty to teach, and we need to shift some of our offerings to when it is convenient for students, especially adult students, to take courses.

You need buy-in from faculty and student services. Faculty may need to be willing to change some of their work hours and schedules. Staff need to offer new and different types of orientation and student support models.

Be creative, be persistent. If something doesn't work, try something else. It's very important to work with local employers. It sounds obvious but it's not always done well. Get off campus, meet with the people who are offering good jobs, and don't be tied to the way things have always been done.

For More Information

Nonantum Resort

<https://www.nonantumresort.com/employment>

York County Community College (YCCC)

http://virtual.yccc.edu/_Hospitality



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STEERING WORKFORCE DEVELOPMENT

CASE STUDY 3: CENTRAL MAINE MOTORS AUTO GROUP SERVICE TECHNICIAN TRAINING

What It Is

Central Maine Motors Auto Group (CMMAG) in Waterville is an auto dealer with three sites and about 200 employees. About ten years ago, the auto dealer recognized that its workforce was getting older. They began to work with local educators and business groups to create a pipeline for a future workforce.

Here is the system that has evolved. The Mid-Maine Technical Center identifies high school juniors and seniors who may have an interest in working with cars. In the spring, 8-10 such students do a comprehensive job shadow at CMMAG where they spend a half-day each week for eight weeks visiting the different departments throughout the dealership. Students who remain interested, and are reliable and punctual, are offered a ten-week summer job washing cars. Interested students who are successful in the summer job and are eligible, can apply for the apprenticeship program.

The apprenticeship takes two years, and students switch every eight weeks between studying at Central Maine Community College and working with pay at CMMAG. The local Maine Career Centers covers the costs of transportation, books, and supplies for students with financial need. Students come out ready to test for ASE (National Institute for Automotive Service Excellence) certification, and earn an associate's degree. At this point they begin full-time employment at the dealership as a lube technician and start basic manufacturer's training. Based upon success, the student will advance to used car work, customer work, and more in-depth work over time. To get from high school student to used car tech (mid-level) it can take 3.5 years, and there are pay increases as people learn more skills and gain experience.

The Central Maine Community College automotive technology program is called "Dealer Trax," and now involves other dealerships in the area.



Chris Gaunce, President, CMMAG

We need to remain focused on this process as being an investment in your greatest asset and need, which is people. It takes patience and creativity. Over time, the investment is less if you build your workforce, rather than recruit. There's a cost to any HR development, so why not start younger?

Who Are The Partners

Partners in the program are Mid-Maine Technical Center (the area CTE Center), Central Maine Community College, the Maine Department of Labor, and the Mid Maine Growth Council.

Mid Maine Growth Council plays a convening role with all the partners. In particular, they helped the Central Maine Motors Auto Group understand and implement the curriculum requirements so that the program could qualify for the state apprenticeship program.

What Are The Results

Each year 12-15 students job shadow; 10 get hired for the power wash team; 4 continue training with CMMAG in

their senior year; and 3-4 enter the apprenticeship. Of those entering the Dealer Trax apprenticeship, nearly all complete it.

Most students when they finish their courses have already been working at a site for one or two years, and the following Monday they start working full-time at a higher pay rate.

Now the company is applying lessons learned from this program to other areas of the business, like Computing/IT, Sales, and Accounting.

Matt Walsh, CMCC Automotive Technology Chair

Anybody that has basic math and English skills can be successful. Any mechanical ability at all is helpful—just being able to understand concepts of leverage and torque, but we can work them through that. Some of the math that goes along with automotive can be challenging, and English skills are important. Cars are changing so much every year now that you're never going to know everything about any car. Mechanics need to be able to read and understand the service materials.

For More Information

Central Maine Motors Auto Group
<https://www.cmautogroup.com/careers/>

Mid-Maine Technical Center
<https://sites.google.com/mmmtc.me/mmmtc/our-programs/automotive-technology>

Central Maine Community College
<https://www.cmcc.edu/academics/programs/programs-of-study/automotive-technology/>

GROWING HEALTHY CAREERS

CASE STUDY 4: NORTHERN LIGHT HEALTH NURSING EDUCATION



What It Is

Northern Light Health (formerly Eastern Maine Healthcare Systems) is headquartered in Brewer. It operates thirteen health organizations, including nine hospitals throughout the state, and has 12,000 employees. Like other healthcare providers, Northern Light Health faces a continuing nurse shortage. Part of their solution has been to support its employees in getting training and education.

Northern Light supports its nurses to pursue lifelong learning opportunities by:

- Working with local colleges and universities and providing financial incentives to encourage nurses to complete their BSN. They offer both loan scholarships and tuition reimbursement for nurses to continue their education.
- Providing reimbursement for those nurses that successfully complete advanced certifications.
- Facilitating free CEU opportunities through both online and in-person continuing education programs.
- Providing access to online professional journals and research articles.

As a result, a young employee can rise from doing housekeeping to getting a PhD and being a clinical nursing supervisor (see remarkable story of Samantha Foss in the attached box).

Samantha Foss, RN, Nurse Manager at Northern Light

I got a job at Eastern Maine Medical Center in Bangor. I applied in housekeeping to get my foot in the door, and I worked my way up throughout nursing school. I was a housekeeper, then I worked in the lab and got on-the-job training in phlebotomy. As part of the nursing bachelor's program at that time, I earned a CNA certificate along the way. So I started working in the ER as a nursing assistant. I really liked that job—it was fast-paced and there was a lot of variety in the things we treated.

After I earned my bachelor's, I got a nursing job at a critical access hospital, Mayo Regional Hospital in Dover-Foxcroft. Part of my compensation at Mayo was a student loan repayment hiring incentive. Then I got a job in St Joseph Hospital's Emergency Department.

While I worked as a clinical supervisor in the ER, I got my master's in business at Husson University. The hospital was flexible with my work schedule so I could take classes; I got tuition reimbursement benefits; and they do loan scholarship replacement to help with costs. I've always had the support of leadership in pursuing education, and that has been important. My supervisor is great at listening to where people want to go, seeing their potential, and helping them get there. Now I'm getting my MSN to Doctorate (DNP) in nursing through Purdue University Global. The hospital offered a free nursing master's-level class (worth \$2,000) that got me on that path. Now I'm back working at Northern Light Health as a clinical nursing supervisor.

Who Are The Partners

There are 16 nursing education programs in Maine. Northern Light Health uses all of these schools and programs.

Northern Light Health is part of the Maine Department of Labor apprenticeship program. Northern Light provides initial on-the-job training through a WIOA (Workforce Innovation and Opportunity Act) grant which funds the first two months of work and training; thereafter, Northern Health takes over the payments themselves. Northern Light has partnerships for CNA (Certified Nursing Assistant) training with local Adult Education providers, Maine Community Colleges, and the University of Southern Maine. The organization provides significant training to all employees to develop soft skills. Northern Light Health has robust tuition reimbursement, and in some cases loan forgiveness.

Samantha Foss, RN, Nurse Manager at Northern Light

Knowing that your supervisor sees that you have the potential to achieve your goals is really rewarding. Having a supervisor, higher-up leaders, and colleagues that understand what it takes to balance education, work, and having a personal life is so important. I have a lot of passion for my job, and that gives me the desire to keep advancing.

For More Information

<http://nursingexcellence.emmc.org/Working-at-EMMC/Educational-Opportunities.aspx>



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CONNECTING THE DIGITS

CASE STUDY 5: TECH HIRE MAINE AND THE UNIVERSITY OF MAINE AT AUGUSTA LASER CERTIFICATE PROGRAM



What It Is

Coastal Counties Workforce, Inc. (CCWI) received a \$4 million grant from the U.S. Department of Labor in 2015 to implement TechHire Maine, a statewide, public-private partnership. The goal of the partnership is to recruit, assess, train, and place individuals in well-paying, middle- and high-skilled occupations in Maine's Information Technology (IT) industry.

TechHire Maine is comprised of CCWI, Project>Login and a broad spectrum of education and training providers ranging from adult education to four-year private colleges and universities.

The program primarily serves Maine youth (ages 17-29), who have a high school diploma or equivalent, who are experiencing barriers to employment, and who are interested in further developing their information technology skills.

CCWI, in partnership with the University of Maine at Augusta (UMA) Computer Information Systems Department, has developed five, 18-credit certificates (called "laser" certificates) in focused IT areas for eligible participants. Upon successful completion of the 18-credit certificate program, the participant receives a certificate documenting their accomplishment and understanding of

IT skills within their chosen concentration. The certificate program consists of six courses, including an internship course. The UMA program is free to TechHire enrollees.

The credits are transferable toward a bachelor's degree, so besides the credential and the work experience from doing the internship, these students are also earning credit towards an associate's or bachelor's degree.

The UMA Computer Information Systems program has five concentrations: data science, database design, programming, security, and web design & development. Participants can specialize in any of these concentrations. Participants take two classes each semester. While the UMA accelerated training offers the opportunity for online learning, it is also designed as a cohort model with required semester meetings and opportunities for study sessions with fellow students. The internship requirement is 150 hours of work, a final paper, a presentation, and an e-portfolio. The digital "e-portfolio provides a track record of their work, a resume and cover letter, and recommendation letters, all collected in one place.

Diana Kokoska, *Coordinator of Computer Information Systems Department at UMA*

It's important that we all let students know that, if they don't do well or don't like their first course, that doesn't mean that they weren't cut out to be an IT person. They may be able to find another niche, because each area has a really different skill set. They shouldn't get discouraged if the first thing they try isn't their forte.

Who Are The Partners

In addition to Coastal Counties Workforce, Inc., Educate Maine and UMA, other partners include the state Office of Adult Education, Workforce Solutions and Eastern Maine Development Corporation. The latter partners promote the program, recruit students and offer support outside school. UMA will consult with TechHire Ambassadors through Educate Maine to connect and place students into internships.

What Are The Results

The program is just starting. The first cohort started in the fall of 2018 with ten students. They signed up for courses in programming, web design & development, database, and internet security. The second cohort started in the spring of 2019.

Diana Kokoska, *Coordinator of Computer Information Systems Department at UMA*

For us the question will be, how did they do in their internships, did any of them turn into entry-level jobs? Either getting a job or pursuing a higher degree is the goal. If they do go to work, sometimes after students get a job, the employer will help fund more college courses.

For More Information

Project Login

<http://www.projectlogin.com/techhire-maine/about>

University of Maine at Augusta

<https://www.uma.edu/academics/programs/cis>



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MANUFACTURING CONNECTIONS

CASE STUDY 6: MANUFACTURERS ASSOCIATION OF MAINE MANUFACTURING CAREER CONNECTION



What It Is

The Manufacturers Association of Maine (MAME) works as an intermediary to connect its member manufacturing companies with agencies helping nontraditional job applicants—including veterans, New Mainers, public assistance to employment (Fedcap), people with disabilities, correction population, and traditional job seekers.

Lisa Martin, Executive Director,
Manufacturers Association of Maine

What's changed over the last twenty years—and the workforce shortage has always been an issue to some degree—is that in the past, employers were able to hire experienced and/or trained employees. Given the low unemployment rate now, companies are saying: “Give us someone who will show up to work every day, who wants to work, and we will train them.” Companies are retooling to train people themselves or working with trainers to develop the training they need. Companies are being very creative and are making significant investments in training.

The MAME staff work with case managers to better translate skill levels so manufacturing Human Resources (HR) staff can align job seekers with openings. For example, they work with counselors for New Mainers to communicate the language skills of job applicants accurately.

MAME sends a batch of such resumes to member manufacturers.

The staff meet with each agency, presents what is needed for skills to their staff, and ensures that MAME has a point of contact from each agency to be responsible for sending resumes.

MAME has a tracking system internally. For reach referral, they track the agency, date, company of referral, and feedback. MAME follows-up quarterly with agency staff regarding interviews and hires.

Lisa Martin, Executive Director,
Manufacturers Association of Maine

We do a significant amount of educating companies to help them hire traditional and nontraditional employees and assist the agencies that work with applicants. It's been fabulous! When it comes from a trusted partner with information to help HR decipher the resume, it opens doors for applicants they might not have looked at otherwise. Our members (hundreds of them) expect resumes from us every few weeks. In the past few years we've improved our strategies and the volume of applicants.

Who Are The Partners

Partners consist of Maine Department of Labor—Veterans program, Boots 2 Roots, Fedcap, Maine Department of Corrections and others.

Lisa Martin, Executive Director,
Manufacturers Association of Maine

For military veterans, the transferability of their skill set to manufacturing is significant. In some cases, HR managers didn't have a way to align military skills with the exact skills needed. We worked with case managers to better translate skill levels, so the HR professionals can better understand the skill levels.

Mark Cafiso, Local Veteran's Employment Rep,
Greater Portland Career Center

What we're doing with the Manufacturers Association and other trade associations is, if we have an interested job seeker, we send the resume to MAME, and they send the resume to their members. This process gets resumes in front of as many employers as possible. We've been working together for at least two years.

We measure our entered employment rate and average wages. Our clients' average wage last year was over \$23 an hour—well above the Maine average.

For More Information

<https://www.mainemfg.com/career-connection/>



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ENGINEERING EDUCATIONS

CASE STUDY 7: BANGOR HIGH SCHOOL STEM ACADEMY

Bangor High School

BANGOR SCHOOL DEPARTMENT

What It Is

Bangor High School has created a STEM (Science, Technology, Engineering, Math) Academy as an option for its students.

Students who choose to enroll in the STEM Academy complete all the traditional Bangor High School graduation requirements while simultaneously completing a challenging and enriching research-based sequence of STEM courses and experiences.

The curriculum consists of three distinct components:

- 1) Existing science and mathematics;
- 2) STEM courses introducing and developing research skills; and
- 3) A long term apprentice research experience which occurs over two summers and one and one half academic years.

Click here to download the curriculum PDF: (<https://bangorhigh.bangorschools.net/wp-content/uploads/sites/11/2016/08/STEM-Academy-Curriculum-Grid.pdf>)

The core of the program is a two-year course in Technology and Engineering. Students learn programming as sophomores, then use those skills to develop research projects that start the next summer. The course continues in the junior year.

Students have advanced placement opportunities in various courses; a chance to enter statewide science

competitions; a chance to graduate from college with a degree in advanced majors such as engineering in as few as three years; and the opportunity to take part in college-level research projects while still in high school.

Paul Butler, Bangor High School Principal

We're bringing students in, we're showing them how to be scientific thinkers, and we're coupling it with baseline science, engineering, and programming. By the time these students are juniors, they really are scientific thinkers, and they have their STEM legs under them. They're starting to do applied research. We tell students, "It's really going to take off for you." They learn to present their ideas, their methods and results, with ongoing support from high school teachers and UMaine professors.

Who Are The Partners

The University of Maine College of Engineering assists with curriculum, mentoring, and research opportunities. Local businesses and nonprofit organizations also provide mentoring and internships.



Dana Humphrey, UMaine Dean of Engineering

For students interested in engineering, my top recommendation is to participate in a pre-engineering program in high school.

What Are The Results

Three full cohorts of 12-15 students have graduated each year. One student—Paige Brown—won a \$150,000 Intel Science Talent Search prize. She went on to Stanford and now works at SpaceX. Students have been mentored on research projects by Cancer Care of Maine and the US Fish & Wildlife Service. One student who couldn't speak in front of the class as a freshman ended up giving two presentations on computer programming at national meetings. He went to the University of Maine on a full scholarship.

Paul Butler, Principal and Cary James, Science Department Head, Bangor HS

For schools and districts that can't start out with a STEM Academy, adding something like our two-year Technology & Engineering course would be a great first step. Getting qualified teachers may be the biggest barrier. Schools will probably need to hire people who are not certified as teachers, who can work up to their certification.

For More Information

<https://bangorhigh.bangorschools.net/academics/bhs-academies/stem-academy/>



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