## Proposal Cover Sheet

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Location/s</td>
<td>Youngstown State University: College of STEM, Williamson College of Business Administration, Eastern Gateway Community College</td>
</tr>
<tr>
<td>Project Start Date</td>
<td>04 December 2012</td>
</tr>
<tr>
<td>Interns/Co-ops Start Date</td>
<td>14 January 2013</td>
</tr>
<tr>
<td>Lead Applicant – Must be public higher education agency</td>
<td>Name and Address of Postsecondary Institution</td>
</tr>
<tr>
<td></td>
<td>Youngstown State University</td>
</tr>
<tr>
<td></td>
<td>1 University Plaza</td>
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<tr>
<td></td>
<td>Youngstown, OH 44555-3093</td>
</tr>
<tr>
<td>Chief Contact Individual must be authorized to sign agency grant contract and legally responsible as agency representative</td>
<td>Name/Title of legal representative Address, Telephone, FAX, and E-Mail</td>
</tr>
<tr>
<td></td>
<td>Peter J. Kasvinsky</td>
</tr>
<tr>
<td></td>
<td>Associate Provost for Research and Dean of the School of Graduate Studies and Research</td>
</tr>
<tr>
<td></td>
<td>209 Coffelt Hall, Youngstown State University, Youngstown, OH 44555-3093</td>
</tr>
<tr>
<td></td>
<td>330-941-3091 (phone)</td>
</tr>
<tr>
<td></td>
<td>330-941-1580 (fax)</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:pkasvinsky@ysu.edu">pkasvinsky@ysu.edu</a></td>
</tr>
<tr>
<td>Project Director(s)- Key Personnel(s)</td>
<td>Name/Title, Address, Telephone, FAX, and E-Mail</td>
</tr>
<tr>
<td></td>
<td>Stephen E. Rodabaugh, Associate Dean of the College of STEM</td>
</tr>
<tr>
<td></td>
<td>2285 Moser Hall, Youngstown State University</td>
</tr>
<tr>
<td></td>
<td>Youngstown, OH 44555-3347, 330-941-3347/3753/2512 (phones)</td>
</tr>
<tr>
<td></td>
<td>330-941-1567/3060 (fax), <a href="mailto:serodabaugh@ysu.edu">serodabaugh@ysu.edu</a> // <a href="mailto:mlpuskar@ysu.edu">mlpuskar@ysu.edu</a></td>
</tr>
<tr>
<td>Amount of state money requested</td>
<td>$1,017,405</td>
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<tr>
<td>Match money committed</td>
<td>$1,122,700</td>
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<tr>
<td>Number of internships/co-ops proposed</td>
<td>290 half-time-equivalent placements, possibly distributed into 90 full-time placements and 110 half-time placements, for a state cost of $3,508 per half-time-equivalent placement</td>
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<tr>
<td>JobsOhio key industries impacted</td>
<td>Advanced manufacturing and key related industries: biohealth, additive manufacturing, aerospace &amp; aviation, financial services, information technology</td>
</tr>
<tr>
<td>Any applicants represented by a member of the Advisory Committee?</td>
<td>Name/s:</td>
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Legal Applicant

Name: Youngstown State University
Address: 1 University Plaza
City: Youngstown Zip: 44555-3091
Phone: 330-941-3091 Fax: 330-941-1508 E-Mail: pkasvinsky@ysu.edu
CEO Name: Dr. Cynthia Anderson (President)

1) Certification by Authorized Official:
To the best of my knowledge and belief, data contained in this application are true and correct. The document has been duly authorized to comply with the required assurances.

Signature of Authorized Official: [Signature]
Typed Name and Title: Peter J. Kasvinsky, Assoc. Prov. for Res. / Dean of Grad. Studies & Res.
Date: 10/10/2017

2) Administering Entity
Agency Name: Grants and Sponsored Programs (Youngstown State University)
Address: 1 University Plaza
City: Youngstown Zip: 44555-2377 Phone: (330) 941-2377
Fax (330) 941-2705 Contact Person: Dr. Edward Orona
Title: Director E-Mail: eorona@ysu.edu

3) Business Partners (please submit separate information for each partner)
Company Name: PLEASE SEE ATTACHED PAGES FOR THIS COVER SHEET
Address: ATTACHED SHEETS USE THIS FORMAT
City: Zip: Phone: 
Fax: Contact Person: 

Title: E-Mail: 

4) Educational Partners (please submit separate information for each partner)
Name: Eastern Gateway Community College
Address: Valley Center 101 Federal Plaza East
City: Youngstown Zip: 44503 Phone: 800.682.6553
Fax: E-Mail: lmeeks@egcc.edu
President/CEO/Director Name: Dr. Laura Meeks
<table>
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<tr>
<th>1) Business Partners</th>
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<tbody>
<tr>
<td><strong>Company Name:</strong> Applied Systems and Technology Transfer</td>
</tr>
<tr>
<td><strong>Address:</strong> 241 West Federal St., Suite 508</td>
</tr>
<tr>
<td><strong>City:</strong> Youngstown</td>
</tr>
<tr>
<td><strong>Fax:</strong> (330) 599-4598</td>
</tr>
<tr>
<td><strong>Title:</strong> President</td>
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<th>2) Business Partners</th>
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<tr>
<td><strong>Company Name:</strong> Bruce &amp; Merrilees Electric Company</td>
</tr>
<tr>
<td><strong>Address:</strong> 930 Cass Street</td>
</tr>
<tr>
<td><strong>City:</strong> New Castle, PA</td>
</tr>
<tr>
<td><strong>Fax:</strong> (724) 652-8290</td>
</tr>
<tr>
<td><strong>Title:</strong> Human Resources Manager</td>
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<th>3) Business Partners</th>
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<tr>
<td><strong>Company Name:</strong> Butech Bliss</td>
</tr>
<tr>
<td><strong>Address:</strong> 550 South Ellsworth Avenue</td>
</tr>
<tr>
<td><strong>City:</strong> Salem</td>
</tr>
<tr>
<td><strong>Fax:</strong> (330) 337-0800</td>
</tr>
<tr>
<td><strong>Title:</strong> Training Coordinator</td>
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<th>4) Business Partners</th>
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<tr>
<td><strong>Company Name:</strong> Dawn Incorporated</td>
</tr>
<tr>
<td><strong>Address:</strong> 106 E. Market St., Suite 505</td>
</tr>
<tr>
<td><strong>City:</strong> Warren</td>
</tr>
<tr>
<td><strong>Fax:</strong> (330) 652-7714</td>
</tr>
<tr>
<td><strong>Title:</strong> President</td>
</tr>
</tbody>
</table>
PICAM BUSINESS PARTNERS (Continued)

5) Business Partners
Company Name: Diebold, Incorporated
Address: 5995 Mayfair Road
City: North Canton Zip: 44720 Phone: (330) 490-4000
Fax: (330) 490-3880 Contact Person: Cierra Chiwanga
Title: Assoc. Talent Acquisition Analyst E-Mail: Cierra.Chiwanga@diebold.com

6) Business Partners
Company Name: First Energy Corp.
Address: 76 S. Main Street
City: Akron Zip: 44308 Phone: (330) 761-4051
Fax: (330) 315-8461 Contact Person: Tonya Horn
Title: College Recruiting Program Lead E-Mail: thorn@firstenergycorp.com

7) Business Partners
Company Name: Gasser Chair Company
Address: 4136 Logan Way
City: Youngstown Zip: 44505 Phone: (330) 323-2234
Fax: (330) 759-2227 Contact Person: Anita Bees
Title: Human Resources Generalist E-Mail: ___________________

8) Business Partners
Company Name: I E S Systems, Inc.
Address: P.O. Box 89, 464 Lisbon Street
City: Canfield Zip: 44406 Phone: (330) 533-6683
Fax: (330) 533-7293 Contact Person: William Yobi
Title: Vice President E-Mail: bill.yobi@ies-us.com
9) Business Partners
Company Name: The John Zidian Company
Address: 574 McClurg Road
City: Boardman Zip: 44512 Phone: (330) 743-6050
Fax: (330) 965-3864 Contact Person: Michelle Gross
Title: Human Resources Director E-Mail: ___________________

10) Business Partners
Company Name: M-7 Technologies
Address: 1019 Ohio Works Drive
City: Youngstown Zip: 44510 Phone: (330) 779-0700
Fax: (330) 797-0471 Contact Person: Michael S. Garvey
Title: President E-Mail: MGarvey@m7tek.com

11) Business Partners
Company Name: Mahoning Valley Manufacturers Coalition
Address: P.O. Box 749
City: Youngstown Zip: 44555-3347 Phone: 
Fax: Contact Person: Jessica A. Borza
Title: Executive Director E-Mail: jessicaborza@mvmanufacturing.com

12) Business Partners
Company Name: Materials Research Laboratories, Inc.
Address: 290 North Bridge Street
City: Struthers Zip: 44471-2217 Phone: (330) 750-0776
Fax: (330) 750-0778 Contact Person: Andrew M. Hirt
Title: President E-Mail: ___________________
13) **Business Partners**  
Company Name: Mercury Plastics, Inc.  
Address: P.O. Box 989, 15760 Madison Road  
City: Middlefield  
Zip: 44062  
Phone: (440) 632-5281  
Fax: (440) 632-5606  
Contact Person: Paul E. Sharron  
Title: Human Resources Manager  
E-Mail: psharron@mercuryplastics.com

14) **Business Partners**  
Company Name: National Additive Manufacturing Innovation Institute  
Address: 236 Boardman Street  
City: Youngstown  
Zip: 44503  
Phone: (724) 539-8811  
Fax:  
Contact Person: Ralph Resnick  
Title: President & Executive Director  
E-Mail: ralph.resnick@ncdmm.org

15) **Business Partners**  
Company Name: Northeast Ohio Council On Higher Education (NOCHE)  
Address: 1422 Euclid Avenue, Suite 840  
City: Cleveland  
Zip: 44115  
Phone: (216) 420-9200  
Fax: (216) 420-9292  
Contact Person: Ann Womer Benjamin  
Title: Executive Director  
E-Mail: awomerbenjamin@NOCHE.org

16) **Business Partners**  
Company Name: Youngstown/Warren Regional Chamber of Commerce  
Address: 11 Central Square, Suite 1600  
City: Youngstown  
Zip: 44503-1592  
Phone: (330) 744-2131 x15  
Fax: (330) 746-0330  
Contact Person: Tony Paglia  
Title: Vice President, Government Affairs  
E-Mail: Tony@regionalchamber.com
17) Business Partners
Company Name: Treemen Industries, Inc.
Address: 691 McClurg Rd., P.O. Box 3777
City: Boardman Zip: 44513 Phone: (330) 965-3777
Fax: (330) 965-7384 Contact Person: Valerie Sherrill
Title: Controller E-Mail: __________________

18) Business Partners
Company Name: Youngstown Business Incubator
Address: 241 West Federal Street
City: Youngstown Zip: 44503 Phone: (330) 746-5003
Fax: (330) 746-6863 Contact Person: Barb Ewing
Title: Chief Operating Officer E-Mail: bewing@ybi.org
Proposal Abstract

The College of Science, Technology, Engineering, and Mathematics (STEM) at Youngstown State University (YSU), the Williamson College of Business Administration (WCBA) at YSU, the Eastern Gateway Community College (EGCC), the Northeast Ohio Council on Higher Education (NOCHE), the Mahoning Valley Manufacturing Coalition (MVMC), the Youngstown-Warren Regional Chamber of Commerce (Chamber), the Youngstown Business Incubator (YBI), and the newly formed National Additive Manufacturing Innovation Institute (NAMII), with associated business partners, have joined together to create the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM). This program significantly increases, both number and quality of transcripted co-ops and internships (CI's) in advanced manufacturing and related industries for Northeast Ohio, including Appalachia and the Mahoning Valley, and thereby significantly increases professional career placements in calendar 2013–2015 in PICAM-targeted key and career technology industries. Critical and innovative components of PICAM include the following:

- **290 new, transcripted, half-time-equivalent CI's** in calendar 2013 in **advanced manufacturing** and related key JobsOhio career technology industries: biohealth, additive manufacturing, aerospace & aviation, financial services, and information technology. These CI's partition into 90 full-time and 110 half-time placements. Placing EGCC students in CI's will be a significant PICAM focus.
- YSU-funded expansion of newly written STEM 3789, STEM 4890, STEM 4891 to transcript new STEM and EGCC CI students in key STEM industries as part of a growing collaboration between YSU and EGCC in career technology and workforce development.
- YSU-funded restructuring of bachelors programs in Accounting, Business, Finance, Industrial Systems Engineering, Management, Marketing, and Mechanical Engineering to open these curricula up for more professional practice opportunities.
- YSU-funded collaboration between STEM and WCBA: designing/implementing new joint courses in professional practice preparation and STEM-management; and hosting new semiannual, joint CI recruiting events for co-ops and internships, including CI expos.
- YSU-NAMII collaboration with NAMII member companies in identifying and promoting CI opportunities of funded projects in advanced manufacturing and related industries.
- Employer recruitment to PICAM using: partial reimbursement of CI compensation; full reimbursement for start-ups in high growth industries in which PICAM placements likely become paid, permanent positions; free employer training via partnership with NOCHE; and recruitment resources of the Chamber, NAMII, NOCHE, YBI, and other partners. Such incentives are absolutely essential for recruiting new employers for CI placements.
- Recruitment of students in STEM, WCBA, EGCC using: tuition scholarship incentives; CI Expo events; access to the best students via Choose Ohio First and STEM Leadership Society cohorts and other similar programs. Such incentives are absolutely essential to recruit new CI students, especially for upgrading employment experiences to high quality, transcripted CI's with real career placement potential.
- Full integration of PICAM with OhioMeansInternships.com and OhioMeansJobs.com using NOCHE resources—students register and upload résumés and professional practice portfolios created in transcripting CI courses.
- New STEM and Business Career Liaison (SBCL) answering to a PICAM Management Team drawn from partner organizations. Post grant, this position is funded by YSU.

The PICAM partnership requests **$1,017,405** of State funds—an average of **$3,508** per half-time-equivalent CI, matched by **$1,122,700** of private funds—an average of **$3,871** per half-time-equivalent CI, a total investment of **$7,380** per CI placement. YSU contributes **$198,373** to the PICAM project. A major addition to NE Ohio’s technology workforce will be the result.
Key Programmatic Features

(1) Business attraction and retention
From 2009 to 2011, Northeast Ohio experienced a 7% regional growth in the manufacturing sector. Regionally, manufacturing jobs represent approximately 11% of all employment. In 2011, the Youngstown-Warren-Boardman Metropolitan Statistics Area (MSA) was ranked as 14th in the nation for manufacturing job growth. As a result of this growth, the need for qualified personnel at all levels is growing. The recent growth seen in regional manufacturing has been primarily linked to traditional manufacturing industries. However, tremendous opportunities are emerging to allow the region to expand this growth into critical, targeted, and advanced manufacturing segments. Those growth segments of manufacturing offer higher wages and an economic growth forecast that promises to build the regional and state economies.

Meeting the personnel needs of current and future employers within the region is an essential element of retaining existing industries and attracting new industries to the region. In the Northeast Ohio region, this need has driven manufacturers to form consortia to push for greater availability of qualified students and graduates. To that end, they have pushed for better alignment of educational programs with their specific needs. In meeting those needs, the prospective employers have raised the expectation that industry involvement be more closely integrated into curricula and that practical application become an essential element of learning outcomes. Youngstown State University (YSU) is leading the way in closing the gap between the industry’s needs and standards, the need for higher education partnerships with local and regional companies, and aligning the higher education curricula to meet these demands and changes.

Expanded and formalized internship and co-op programs help to address some of the major needs expressed by regional industry. They provide effective pathways for feedback exchange between stakeholders, ensuring the value and relevance of the program. For the students, assessment of learning outcomes allows student-learning experiences to be developed with pedagogical rigor and the added benefit of academic credit. For the industries, active participation in the program provides access to exceptional students and exposure to emerging technology horizons.

Recent developments in the region are broadening the opportunities for advanced manufacturing. Programs such as the newly minted National Additive Manufacturing Innovation Institute (NAMII) in downtown Youngstown are bringing high-tech manufacturing to Northeast Ohio. With this initiative, some of the world’s leading manufacturers in aerospace, defense, polymers, materials, and biomedical manufacturing are being regionally engaged in technology development and commercialization activities. In working with the world’s leading companies that are applying cutting edge manufacturing processes, our students will become unique and valuable personnel resources for the region, providing an incentive for companies to remain in NE Ohio, to hire locally, and to relocate regionally and statewide.

Youngstown State University's College of Science, Technology, Engineering, and Mathematics (STEM), YSU's Williamson College of Business Administration (WCBA), and Eastern Gateway Community College (EGCC) are closing the gap between the NE Ohio manufacturing sector and the job skills needed to succeed in this workforce. By creating these partnerships and collaborations with regional businesses, and aligning curricula to meet industry standards, YSU graduates have more opportunities and value-added skillsets needed to enter the regional workforce, thus giving regional businesses the talent needed to increase the competitiveness of the manufacturing sector, not only in NE Ohio, but throughout the entire state. This will lead to retention of current business operations within Ohio, job growth within these companies, new
company migration to the state, and the opportunity for more college-bound students to enter STEM, WCBA, and EGCC programs.

(2) Student attraction/retention/completion
YSU and EGCC are uniquely invested in the local and regional communities and industries in NE Ohio. **Example 1:** STEM’s Choose Ohio First Scholarship Program (COFSP) for more than 5 years has targeted urban high poverty high schools with a ground-breaking program of mathematics preparedness linked to on campus scholarships, research project teams, and unique access to industry professionals and CI opportunities—this outreach program was recognized by OBOR in Spring 2011 as a Ohio STEM Demonstration Program. **Example 2:** STEM and the Beeghly College of Education recently inaugurated an innovative program focused on the Youngstown City School District which promotes STEM education and careers to at-risk youths: through integration of project experiences and internship/shadowing programs, students gain increased awareness of STEM career opportunities. These and several similar programs pipeline local and regional enrollment for STEM and WCBA programs. Further, these kinds of collaborations and partnerships with regional industry companies, along with the quality education and training of YSU and EGCC students, increase retention and graduation rates in STEM, WCBA, and EGCC. The projected 6-year graduation rate for the first COFSP cohort is 73.7%; cf. STEM’s average graduation rate of 46.8% and YSU’s overall rate of about 33%.

With their community involvement and STEM’s work with partner urban schools, STEM and WCBA access the younger population within the local area and attract and retain secondary school students to and in STEM and WCBA. The PICAM Program will feature tuition scholarships, which reimburse CI course fees, an incentive absolutely critical to the recruitment of new CI students, thus closing the gap between the untranscripted, part-time student employments and transcripted, high-quality CI. These transcripted CI’s will create more established pathways into job placement and creation in those JobsOhio key industries targeted by PICAM. Both STEM and WCBA are gaining in national and international recognition, which is nationally attracting students looking to pursue careers in these key industries in Ohio.

Currently, STEM has 2,618 undergraduates enrolled, WCBA 1,486, and EGCC 2532. In the previous academic year, STEM had 31 transcripted CI’s and WCBA had 132. STEM’s 6-year graduation rate, averaged over the last four such graduation rate periods, is 46.8%. Over half of the graduates from both the College of STEM (76.3%) and the WCBA (79.8%) in the 2009-2010 academic year maintained residence within the Youngstown-Warren-Boardman MSA, while 14.4 % from both WCBA and STEM relocated within Ohio from outside the state (YSU Graduate Employment Report, Academic Year 2009-2010). These statistics show that Youngstown State University’s STEM and WCBA higher education curricula, along with forged partnerships with regional industries, connect students entering the workforce to jobs available within the region and state; and, as a result, Ohio businesses continue to have a more qualified talent pool in Ohio from which to recruit and retain. PICAM’s full-scale integration with OhioMeansInternships and OhioMeansJobs (described elsewhere) will greatly intensify this connection.

(3) Student post-credential employment
As stated in the previous sections, YSU STEM and WCBA have been placing students within meaningful work-based learning experiences with local and regional businesses, working with local businesses on industry standards and aligning the curriculum to meet industry standards. Students currently utilize employment search tools such as OhioMeansJobs.com, and potential internships through OhioMeansInternships.com. YSU STEM, WCBA, and EGCC will further take advantage of the opportunity to create new partnerships, recruit new businesses, and share best practices through OhioMeansJobs.com and OhioMeansInternships.com. YSU
STEM and WCBA have joined together to hold YSU’s first Internship and Co-Op Expo. This expo will be held semiannually (the first taking place this October 2012, the second in February 2013), and will create an opportunity for YSU to recruit new companies and begin building new partnerships, creating additional job opportunities and internships for its students, and this will open up a more fluid communication system between higher education, companies, and students. This PICAM Program will create new solutions and pathways that will lead to new jobs within the State of Ohio.

(4) Sustainability
Each broad component of PICAM—employer supports, student incentives, programs and infrastructure development, is sustainable and will continue after grant closeout. See Programmatic development below.

Employer support: YSU and EGCC are committed to continuing this program and have taken the necessary steps to build upon the successful execution of the first year of the PICAM program. Through employer-partner incentives, companies will continue to hire STEM/WCBA/EGCC’s Cooperative Education and Internships (CI’s), based on the tremendous value-added experience of employers under the PICAM program. These companies will be able to test drive future career employees without the burden of fringes and healthcare, along with student coverage through YSU’s liability insurance. Local and regional businesses will have access to the brightest students prepared through a professional orientation course and vetted through professional practice processes. Companies will also have access to employer training and databases listing the best students. Through collaboration with YSU faculty CI mentors, companies will be granted access to YSU research facilities and laboratories, and have the ability to give feedback on YSU curricula.

Student incentives: Publicized success of PICAM supported placements will promote transcripted and course-documented professional experiences. The tuition scholarship, which covers the cost of the CI course fee, will entice more students to receive a transcripted CI. Students in the PICAM program will generate a CI-course portfolio that will give them a chance to test-drive a career in their field, documenting their demonstrated abilities gained through the PICAM experience, which will lead to more job opportunities with higher pay, and career success. With the partnerships established with local and regional businesses, more jobs within the state will be available to these students upon graduation.

Program and infrastructure development: Funding through the PICAM grant will produce a lasting impact through new STEM/WCBA professional preparation and STEM WCBA STEM-management courses, a rewriting of the ME/ISE and ACCT, BUS, MGT, MKT curricula, and office equipment/setup for the STEM and Business Career Liaison (SBCL). Continued program stability has been built into the current strategic plans guiding both YSU STEM and WCBA. Sustainability of the PICAM program will be supported through continued CI course enrollment. Registration fees already in place (e.g., $350 per STEM 4891 registration and $85 per STEM 4890 registration) will support and maintain the PICAM program after the use of State funds. These registrations fees will be used in conjunction with YSU’s continued investment in the direct/indirect costs assumed under the PICAM grant implementation following closeout.

(5) Financial and performance metrics
Youngstown State University STEM and WCBA utilize the national database Simplicity and through this database software created their Professional Practice Online Database (PPOD) data collection and reporting system for YSU. Students are and will be tracked through their transcripting CI: ACCT 4840, BUS 4860, FIN 4850, MGT 4845, MKT 4850, STEM 3789, STEM 4890, and STEM 4891. During CI placement students are required to keep a work activity log,
have an on-site visit from CI Faculty mentor(s), and write CI-related scholarly papers and professional presentations. After the completion of the internship, evaluations are performed by the company, faculty, and the student(s). This data collection process insures that not only are the students receiving satisfactory on-the-job training and gaining work skills, but that the local and regional companies are receiving the best academically and professionally prepared students from the higher education components (STEM, WCBA, EGCC) of the PICAM consortium.

(6) Budget narrative
The PICAM project requests **$1,017,405** to support **90 full-time** and **110 half-time** (= half-time) placements, the equivalent of **290 new half-time-equivalent placements** (full-time = two half-times): 60 full-time / 40 half-time in STEM, 30 full-time / 20 half-time in WCBA, and 50 half-time in EGCC in key advanced manufacturing and related industries. Trends in Northeast Ohio CI compensations and NACE published averages indicate a typical hourly rate of **$16/hour** for each placement: each full-time placement has a **$9,600 salary** based on 40 hours/week x $16/hour x 15 weeks; and each half-time placement has a **$4,800 salary**. Compensation for the 290 new half-time-equivalent placements total **$1,392,000**.

Employer incentives are as follows: employers are compensated $1 for each $5 in CI compensation, with the exception of 10 half-time placements which will be reimbursed 100% for selected start-ups in high-growth industries in which these positions will likely become paid, permanent positions; and free ROI employer training by NOCHE (see three paragraphs below). All these incentives, especially the 5:1 kickbacks, are absolutely essential to recruit new Mahoning Valley employers to host CI students. The employer match from CI compensation is 4/5 x ($1,392,000 – $48,000) = **$1,075,200**; and add employer fees of **$27,500** for the Spring 2013 and Fall 2013 STEM/WCBA CI EXPO’s as well as **$20,000** match from NOCHE for total employer match of **$1,122,700**.

Grant requested funds of **$1,017,405** will be expended in several ways. Employer incentives are 1/5 x $1,344,000 = **$268,000**, along with 10 pro-bono half-time placements of **$48,000**, for total employer reimbursement of **$316,800**. Tuition scholarships for new CI students comprise **$2000** for each full-time placement and **$1,000** for each half-time placement for a tuition scholarship total of **$290,000**. These scholarships are absolutely critical to recruiting new CI students—away from “chaotic” half-time employments to coherent, transcripted, high-quality CI placements—by reimbursing CI students the instructional costs of their transcripting CI courses.

Grant funds cover course-related program development/expansion: additional CI faculty mentors for **$213,613** for new CI course registrations needed to mentor new CI’s. Faculty mentors are fundamental to CI student success, developing employer-institution relationships, and career placement.

PICAM supported STEM and Business Career Liaison (SBCL) and related expenses in helping the SBCL rapidly boot up PICAM activities and recruit employers and place students both for CI’s and permanent jobs: **$40,200** for SBCL salaries and fringes with **$6,000** SBCL office expenses; **$40,000** for NOCHE to assist the SBCL with employer recruitment/ training, CI database management across institutions, project reporting, and full integration of PICAM with OhioMeansInternships and OhioMeansJobs; **$9,400** for the Regional Chamber to assist the SBCL with business development; and **$20,000** for SBCL and faculty work site travel for new CI’s—this travel line supports essential institutional contact with employers and company supervisors to insure the quality and academic and professional relevance of CI placements as...
well as career placements. **SBCL related expenses** total **$115,600**. The SBCL will be funded post-grant by YSU to assist YSU’s professional practice infrastructure to promote filling key industries positions with YSU talent.

The PICAM **$1,017,405** grant request covers: **$316,800** employer incentives for new CI’s; **$290,000** new CI student tuition incentives; CI mentoring and SBCL costs—$213,613 + $115,600 = **$329,213**; and administrative indirects of **$81,392**. YSU will fund **$198,373** project directs/indirects not covered by this grant request—see **Programmatic development** below.

(7) **Feedback loops**

Feedback loops are built into PICAM to maintain communication between students, employers, and academic institutions and to perform program assessment. Examples of assessment tools already in place under the professional development programs at YSU can be reviewed in the Appendix.

**CI courses.** The co-op and internship courses which transcript the new CI placements of PICAM furnish key feedback loops: Faculty mentors for CI placements in Ohio (as in PICAM) will make two work site visits during placement semesters and work closely with company supervisors to insure that both academic and professional expectations are met. Further, company supervisors will give feedback on YSU curricula and its appropriateness for preparing CI placements and prospective career employees for those companies; and emplaced students will submit weekly logs to faculty mentors documenting their work experience activities as well as fill out surveys giving feedback on companies, academic preparation, and quality of work experiences.

**STEM and Business Career Liaison (SBCL)** The PICAM STEM and Business Career Liaison (SBCL) will make work site visits, facilitate faculty-company relationships, and assist the professional practice coordinators in STEM and WCBA in tracking correlations between CI placement and career placement. The SBCL will facilitate program performance with the Dean of EGCC. Overall, the SBCL will assist with PICAM assessment and tracking all appropriate metrics for making that assessment.

**Professional practice coordinators.** Both professional practice coordinators in STEM and WCBA will mine long-established relationships with partner businesses for information on how well CI placements are doing.

**Management team, industry associations, and business partners.** Industry associations are represented on the PICAM management team, including NAMII. These associations, and through their member businesses, furnishes another path for important program feedback and advancement of YSU/EGCC placements within their industries.

(8) **Impact on key industry and economy**

The availability of a capable workforce with strong work ethic has been an essential element of recent manufacturing growth. A lack of adequate skilled employees for essential positions has become a major hindrance to sustaining that growth. At the same time, the region faces a very real opportunity to compete in emerging advanced manufacturing markets and attract technology-driven manufacturing companies. Growth of these emerging segments will also be heavily impacted by the availability of personnel with relevant skills.

For the traditional manufacturing segments already present in the region, the economic impact may be measured by current rates of job growth. Manufacturing employees in the Youngstown-Warren MSA have an average wage of **$67,079**, significantly higher than the state average of **$58,850**. The availability of a capable workforce with strong work ethic has been an essential element of recent manufacturing growth. A lack of adequate skilled employees for essential positions has become a major hindrance to sustaining that growth. At the same time, the region faces a very real opportunity to compete in emerging advanced manufacturing markets and attract technology-driven manufacturing companies. Growth of these emerging segments will also be heavily impacted by the availability of personnel with relevant skills.

For the traditional manufacturing segments already present in the region, the economic impact may be measured by current rates of job growth. Manufacturing employees in the Youngstown-Warren MSA have an average wage of **$67,079**, significantly higher than the state average of **$58,850**.
$41,783. These manufacturing positions represent nearly 40,000 jobs regionally. At a current growth rate of 7%, this segment is adding 2,800 jobs per year with combined average salaries of nearly $188 million.

In the advanced manufacturing segments, there is even greater opportunity for growth. For example, in just the area of additive manufacturing, industry growth projections show strong growth over the next 8 years with annual sales of additively manufactured components growing by more than $3.5 billion over that period. With the NAMII housed in Youngstown, the opportunity for Ohio to capture a disproportionate share of that revenue growth is limited only by our ability to meet the needs of those manufacturers. An essential element of those needs will be specially, skilled personnel with industry experience in additive manufacturing. Those needs are well served by robust expansion of the internship and co-op opportunities offered to our students.

Employer Partners
(1) Capacity of businesses
Recent manufacturing growth in the Mahoning Valley has enabled established business partners to consider opening up opportunities for co-op and internship opportunities for STEM, WCBA, and EGCC students. On the other hand, small businesses and start-ups, given the slow recovery from economic recession can be reluctant to open up such positions.

The meeting of PICAM’s goals of 90 full-time placements and 110 half-time placements, for the equivalent of 290 half-time placements, is assured for the following reasons:

Transcripting academically relevant half-time employments Based on data gathered by STEM and WCBA, around 300 students in those areas do academically related employments that are not CI’s. The impediments are habit, word-of-mouth, student unawareness of CI advantages to career placement, and course and instructional fees for transcripting courses. This demonstrates that area businesses are already demonstrating the capacity for achieving PICAM goals on this basis alone **IF** the students can be incentivized to do CI’s—and the PICAM student incentives are designed to do precisely that.

Opening up new CI positions at established businesses Even for established industrial partners in CI education, the employer incentives, particularly the 5:1 kickback on student compensation, will encourage our partners to open up new positions. Our letters of commitment alone indicate a potential for up to 100 new placements on this basis alone.

New CI positions at small to medium businesses The full suite of employer incentives is designed to get small businesses into the CI game: 5:1 student compensation kickbacks, free employer training and orientation for hosting/hiring CI’s, and, for start-ups in high growth industries, the prospect of free half-time internships—in this case, the PICAM team and SBCL (STEM and Business Career Liaison) would want to insure that free placements are in positions that are most likely to become paid career positions.

(2) Substantial, meaningful work assignments
PICAM has a number of safeguards in place to guarantee a high quality of work experience for the great number of new CI placements that will be added by this program: processes for setting up professional practice assignments; courses transcripting these professional practices and the associated faculty mentors; employer training and vetting; and the role of the PICAM STEM and Business Career Liaison (SBCL).
Professional practice setup  Each of STEM and WCBA have professional practice offices administered by full-time coordinators with support staff. CI’s are setup and approved by a formal, tracked process involving department chairs, faculty advisors of prospective students, and professional practice coordinators who sign-off on all steps of the process and contracts with host employers to insure the work experience meets both professional and academic expectations.

CI course safeguards  All new CI placements will be transcripted using CI courses in the Colleges of STEM and WCBA. These courses require students to have high GPA’s and be evaluated within the context of holistic review and formal approval described above. To fulfill the academic expectations of these courses, faculty mentors who are the instructors of record make at least two work site visits (unless assignment is out of state and far away) and work with company supervisors; and CI’s file a weekly log with their faculty advisors, write a scholarly paper related to their professional practice, present their experience at a CI conference and, as appropriate, professional conferences. These courses also provide employers the opportunity to assess institutional curricula and its appropriateness in meeting their employment needs.

Employer training:  Employers will be vetted either through prior history with CI’s from STEM/WCBA or will undergo an orientation, in some cases in partnership with NOCHE. The College of STEM has partnered before with NOCHE and maintains an active relationship with them. YSU will have students register both in OhioMeansInternships and in OhioMeansJobs.

STEM and Business Career Liaison (SBCL):  The various components of PICAM will be managed by the SBCL, who answers to a management team that includes the respective coordinators of the professional practice offices in STEM/WCBA, and who will, in addition to faculty mentors, be making work site visits, particularly for employers who are new to CI placements (e.g., small businesses).

(3) Salaries of professional practice positions
The budget for PICAM pegs the typical hourly rate for the 290 new CI half-time equivalent positions of this program at around $16/hour. This is a prudent and reasonable rate in Northeast Ohio given the following data and considerations:
   (a) Data from the Office of STEM Student Professional Services in STEM and the Office of Professional Practice in WCBA show that recent hourly rates in STEM run from $14/hour to $22/hour and in WCBA from $7/hour to $20/hour.
   (b) Recently published data from NACE give hourly rates for STEM-related areas from $18/hour to $20/hour.
   (c) The reimbursement of $1 for each $5 paid by employers for 200 of the new CI placements means that, for a position with $15 hour pay rate, the effective rate for employers is $12/hour.

(4) Diversity of positions
YSU STEM and WCBA already have established and trusted partnerships between local and regional businesses. And through the new partnerships being developed, especially those via NAMII, YSU has attached letters of commitment for the PICAM program that will create more opportunities and the necessary alignment across the multi-platforms for Ohio to succeed and progress within the key JobsOhio industries.  See Placements in diversely sized businesses below.
(5) **Need for positions**
As stated previously, Ohio and specifically the Youngstown-Warren Regional Area have already seen an increase in advanced manufacturing, which will lead to the attraction of technology-driven manufacturing businesses. As for the traditional manufacturing industry, a current growth rate of 7%, is adding 2,800 jobs per year with combined average salaries of nearly $188-million. With the NAMII housed in Youngstown, the opportunity for Ohio to capture a disproportionate share of that revenue growth is limited only by our ability to meet the needs of those manufacturers. Through the PICAM program, YSU and EGCC will also take advantage of these opportunities and have students and partner businesses utilize OhioMeansJobs and OhioMeansInternships to further streamline and propel the success of JobsOhio key industries.

**Higher Education Partners**

(1) **Capacity of higher education institutions**
The academic divisions partnering on PICAM—STEM at YSU, WCBA at YSU, and EGCC—have the capacity to furnish far more than 90 full-time placement students and 110 half-time placement students for new CI positions as part of PICAM.

(a) Data from the Office of STEM Student Professional Services in STEM and the Office of Professional Practice in WCBA show that in recent years, the combined STEM and WCBA student registrations in P-POD for academically relevant employment is around 2,000. For 2011–2012, 31 STEM and 132 WCBA students did transcripted CI’s. So there is an enormous pool of students from which to draw the needed new transcripted CI’s to meet PICAM goals just from STEM and WCBA alone, with additional students available through EGCC.

(b) The historical trend of recent years is that around 300 students a year in STEM and WCBA do academically related employments that are not transcripted via STEM CI courses, employments essentially below the professional practice radar.

(c) Instructional and/or course fees associated with CI transcripting course are more than covered by the PICAM student incentives. These incentives are essential to recruiting students in the numbers needed to more than meet PICAM goals of 90 new full-time placements and 110 new half-time placements for STEM, WCBA, and EGCC students.

(2) **Transcripting CI positions**
YSU has already implemented multiple courses throughout the College of STEM and WCBA to transcript students participating in the PICAM program. The following courses will provide student tracking through upper level courses, which include the following: ACCT 4840, BUS 4860, FIN 4850, MGT 4845, MKT 4850, STEM 3789, STEM 4890, STEM 4891. It should be pointed out that STEM 3789 is ideally suited for transcripting CI students from EGCC for the same high quality professional experiences as for the other courses, particularly for those EGCC students unable to take the engineering CI course at their Steubenville campus.

(3) **Student diversity**
Student diversity is a high priority in STEM, WCBA, and EGCC. There are a number of active recruitment and enrichment programs with the goal of building pipelines for qualified, diverse students in the key industries addressed by PICAM. A few current examples:

(a) STEM Explore is a new, two-week, on-campus program for middle school students from the Youngstown-Warren metropolitan area, which exposes students to applied science and engineering through inquiry-based projects.

(b) The Choose Ohio First Scholarship Program at YSU (YSU-COFSP-08-09) invests a significant portion of its match funds each year in a month-long math bootcamp, Algebra II-to-Pre-calculus Summer Bridge Program, which targets students in urban, high-
poverty high schools in the Youngstown-Warren metropolitan area. Bridge Program students which achieve the math placement level needed for their intended STEM major are supported on campus by a Choose Ohio First scholarship as part of a scholarship-enrichment program. Currently, there are 90 COFSP supported students, and these are being systematically recruited for new CI experiences. It should be pointed out that the COFSP Bridge Program was named an Ohio STEM Demonstration Program by the Regents is Spring 2011 and given supplemental funding in that regard.

(c) The STEM Leadership Society is a new program, which recruits the best STEM-interested students to matriculate in the College of STEM at YSU as a select, live-and-learn community. Diversity is a high priority with SLS, CI experiences are promoted, and many SLS students are supported with scholarships, some from STEM’s COFSP.

(4) Programmatic development
PICAM incorporates several components of programmatic and infrastructural development, which are permanent and will continue after PICAM closes out (see also Sustainability above):

(a) Development of a new, joint STEM-WCBA professional practice preparation course, which will focus on résumé writing, interview skills, professional conduct and expectations, and social etiquette. This development will be funded by YSU.

(b) Development of a new, joint STEM-WCBA STEM-management course, which will focus on the business and management side of applied science and engineering and engineering technology. This development will be funded by YSU.

(c) Development in STEM of a new, alternative curriculum, of five years duration, for each of Mechanical Engineering and Industrial Systems Engineering which opens up more opportunities for new CI experiences. This development will be funded by YSU.

(d) Development in WCBA of a new, alternative curriculum for each of Accounting, Business, Finance, Management, and Marketing, which opens up more opportunities for new CI experiences. This development will be funded by YSU.

(e) Hiring a PICAM STEM and Business Career Liaison (SBCL) to oversee implementation of all PICAM components and serve as a consultant with regional key industries to facilitate SU and EGCC talent being placed in those industries. The SBCL will be a permanent addition to the YSU professional practice efforts and will be funded post-PICAM by special STEM CI fees generated by the additional and higher levels of transcripted CI placements. These special fees are generated by the transcripting courses in addition to the usual state subsidies and usual tuition and instructional fees.

(f) Significant expansion of STEM CI course registrations. STEM CI courses are new with the 2011–2012 academic year and still being ramped up. PICAM will significantly expand the registrations for these courses and subsequently generate income from their special course fees.

(5) Connecting employers and students
PICAM incorporates several tools for connecting students and employers:

(a) Registration with OhioMeansInternships.com will be mandated of all PICAM student participants. It will also be mandated of all COFSP supported students.

(b) It will be mandated that PICAM CI students register in OhioMeansJobs.com as a condition of their professional experience and completing their transcripting CI course; and that they not only upload their résumé, but also their CI course portfolio, a portfolio created as part of the academic expectations of that course and which includes their weekly logs, the required scholarly paper, and the PowerPoint of their professional practice experience.
(c) Faculty advisors, the coordinators of the respective professional practice programs of STEM and WCBA, the PICAM SBCL, and the PICAM management team will mine their business contacts to get students placed into CI experiences.

(6) Placements in diversely sized businesses
YSU STEM and WCBA already have strong and well-established partnerships and collaborations with local and regional industry businesses for CI placement. Through the PICAM Program, YSU has reached out to numerous business-types that range from SME to larger enterprises. These businesses represent a range of area industrial stakeholders from small, high-tech companies like Materials Research Laboratory (MRL) to regional companies like First Energy and internationally recognized entities such as Diebold Inc., which have all agreed to partner with YSU STEM, WCBA, and EGCC and have available, or will create, CI positions through the PICAM Program.

Through collaborations with networking organizations like NAMII, which has about 130 business partnerships with an emphasis on additive manufacturing, NOCHE with 2,200 business registrants, MVMC, the Youngstown/Warren Regional Chamber of Commerce with 3,600 local business members, and the Youngstown Business Incubator (YBI), a nonprofit that has been nationally recognized for their work with successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services.
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See budget narrative for underlying computations and justifications.

(All non Regents funds must be supported by a signed commitment letter.)

Non-regent funds are supported by signed commitment letters in the following sense:

(1) The trend over recent years at YSU is that about 300 STEM and WCBA students do academically related, but untranscripted employment prior to graduation.

PICAM creates those program components—employer and student incentives, curricular and infrastructure development—which will transform these employment activities into academically and programmatically coherent co-ops and internships which enrich student, employer, and institution. From even just these employers and students, program goals of 290 new, transcripted part-time placement-equivalents can be met with PICAM help.

(2) At the same time, the PICAM consortium is committed to aggressively pursuing new CI positions over and above those discussed in (1), using existing business contacts, as well as the committed recruitment expertise of MVMC, NAMII, NOCHE, YBI, and the Regional Chamber.

New CI placements gained from this recruitment will be properly transcripted ab initio. The commitment letters from these industry organizations with thousands of PICAM-targeted employers in their databases, along with the commitment letters from individual such employers, show that the new transcripted CI placements of (1) will be significantly augmented by CI's in revitalized industries which are the PICAM focus.

Additional Comment: The CI courses transcripting these new CI placements, the professional practice portfolios created in these courses, the complete integration of PICAM with OhioMeansJobs via NOCHE (in part via upload of these portfolios along with résumés) will all serve the goal of STEM, WCBA, EGCC participants being placed into permanent, professional careers in a timely fashion.

It is expected that STEM and WCBA students will be permanently placed within 1–2 years of their CI, and EGCC students within 1 year.
Applied Systems and Technology Transfer  
Transforming Today’s Technology Into Tomorrow’s Jobs

Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu

05 October 2012

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

The Applied Systems and Technology Transfer (AST2) is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and AST2. We currently have 2 YSU students working for AST2. To date we have employed 5 additional YSU students who have all performed exceptionally. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at the AST2 often transition to full-time employment, which is beneficial to the intern and AST2.
- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with AST2 projects and daily business activity. AST2 also benefits from the fresh perspectives that interns often provide.
- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and AST2 staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate collaboration between these institutions and AST2. To date AST2 has partnered with YSU on 6 joint technology and education initiatives.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

John R. Scott  
President

241 West Federal St, Suite 508 | Youngstown, Ohio 44503 | 330.599.4591 Main | 330.599.4598 FAX
October 3, 2012

Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall, Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu

RE: Support for Program for Internships and Co-ops in Advance Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

Bruce & Merrilees Electric Company is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with internships has been positive and rewarding for both students and Bruce & Merrilees. We fully support this effort for the following reasons:

- **Human Resource Assistance** – Interns who excel during their professional practice time at Bruce & Merrilees more easily transition to full-time employment, which is beneficial to the intern and Bruce & Merrilees.
- **Education Opportunities** – Our interns benefit from integrating their formal education with hands-on involvement with our company’s projects and daily business activities. Bruce & Merrilees also benefits from the fresh perspectives that interns often provide.
- **Partnerships with Higher Education** – Positive relationships develop between the educational institutions and Bruce & Merrilees staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Bruce & Merrilees.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-3 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

[Signature]
Gayle Robbins  
Human Resources Manager
October 3, 2012

Stephen E. Rodabaugh, Associate Dean of Academic Programs and Outreach
College of Science, Technology, Engineering, and Mathematics
2285 Moser Hall
Youngstown State University
1 University Plaza
Youngstown, OH 44555-3347

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

Butech Bliss is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and Butech Bliss. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at the Butech Bliss often transition to full time employment, which is beneficial to the intern and Butech Bliss.

- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with Butech Bliss projects and daily business activity. Butech Bliss also benefits from the fresh perspectives that interns often provide.

- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and the Butech Bliss staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Butech Bliss.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

BUTECH BLISS

Bridget Simmons
Training Coordinator
Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu

05 October 2012

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

Dawn Incorporated is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at Dawn Incorporated often transition to full time employment, which is beneficial to the intern and our company.

- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with Dawn Incorporated projects and daily business activity. Dawn Incorporated also benefits from the fresh perspectives that interns often provide.

- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and Dawn Incorporated staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Dawn Incorporated.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Dawn R. Ochman  
President, Dawn Inc.
October 5, 2012

Stephen E. Rodabaugh
Associate Dean of Academic Programs and Outreach
College of Science, Technology, Engineering, and Mathematics
2285 Moser Hall
Youngstown State University
1 University Plaza, Youngstown, OH 44555-3347
serodabaugh@ysu.edu

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

Diebold, Incorporated is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and Diebold. We fully support co-ops and internships for the following reasons:

**Human Resource Assistance**—Interns who excel during their professional practice time at Diebold often transition to full time employment, which is beneficial to the intern and Diebold.

**Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with Diebold projects and daily business activity. Diebold also benefits from the fresh perspectives that interns often provide.

**Partnerships with Higher Education**—Positive relationships develop between the educational institutions and Diebold staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Diebold.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 6-10 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Cierra M. Chiwanga, PHR
Associate Talent Acquisition Analyst
Diebold, Incorporated
Re: Support for **Program for Internships and Co-ops in Advanced Manufacturing and Related Industries** (PICAM)

Dear Dr. Rodabaugh:

The FirstEnergy Corp. is pleased to support, as a business partner, the **Program for Internships and Co-ops in Advanced Manufacturing and Related Industries** (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the **Ohio Means Internships and Co-ops** program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and FirstEnergy. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at FirstEnergy often transition to full time employment, which is beneficial to the intern and FirstEnergy.

- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with FE projects and daily business activity. FirstEnergy also benefits from the fresh perspectives that interns often provide.

- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and FirstEnergy's staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and FirstEnergy.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire over 50 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Tonya Horn
College Recruiting Program Lead
Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu  

01 October 2012  

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)  

Dear Dr. Rodabaugh:  

The Gasser Chair Company is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and Gasser Chair. We fully support co-ops and internships for the following reasons:  

• **Human Resource Assistance**—Interns who excel during their professional practice time at Gasser Chair often transition to full time employment, which is beneficial to the intern and Gasser Chair.  

• **Education Opportunities**—Interns benefit from integrating their formal education with hands-on involvement with Gasser Chair projects and daily business activity. Gasser Chair also benefits from the fresh perspectives that interns often provide.  

• **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and Gasser Chair staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Gasser Chair.  

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Anita Bees  
HR Generalist
Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH  44555-3347  
serodabaugh@ysu.edu  

05 October 2012  

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)  

Dear Dr. Rodabaugh:  

The IES Systems is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.  

Our previous experience with co-ops and internships has been positive and rewarding for both students and IES Systems. We fully support co-ops and internships for the following reasons:  

- **Human Resource Assistance**—Interns who excel during their professional practice time at the IES Systems often transition to full time employment, which is beneficial to the intern and our IES Systems.  
- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with IES Systems projects and daily business activity. IES Systems also benefits from the fresh perspectives that interns often provide.  
- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and IES Systems’ staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and IES Systems.  

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5, positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.  

Sincerely,  

William Yobi  
Vice President IES Systems
The John Zidian Company
574 McClurg Rd
Boardman, OH 44512
330-743-6050
Fax: 330-965-3864

Stephen E. Rodabaugh
Associate Dean of Academic Programs and Outreach
College of Science, Technology, Engineering, and Mathematics
2285 Moser Hall
Youngstown State University
1 University Plaza, Youngstown, OH 44555-3347
serodabaugh@ysu.edu

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

The John Zidian Company is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and The John Zidian Company. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**: Interns who excel during their professional practice time at The Zidian Group often transition to full time employment, which is beneficial to the intern and The Zidian Group.
- **Education Opportunities**: Our interns benefit from integrating their formal education with hands-on involvement with The Zidian Group projects and daily business activity. The Zidian Group also benefits from the fresh perspectives that interns often provide.
- **Partnerships with Higher Education**: Positive relationships develop between the educational institutions and The Zidian Group staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and The Zidian Group.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of _x_ 6-10, for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Michelle Gross
HR Director
The John Zidian Company

[Signature]
Stephen E. Rodabaugh
Associate Dean of Academic Programs and Outreach
College of Science, Technology, Engineering, and Mathematics
2285 Moser Hall
Youngstown State University
1 University Plaza, Youngstown, OH 44555-3347
serodabaugh@ysu.edu

05 October 2012

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

The M-7 Technologies is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and M-7. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at the M-7 often transition to full time employment, which is beneficial to the intern and our company.
- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with M-7 projects and daily business activity. M-7 Technologies also benefits from the fresh perspectives that interns often provide.
- **Partnerships with Higher Education**—Positive relationships have developed between the educational institutions and M-7’s staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and M-7 Technologies.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-3 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Michael S. Garvey,
President
October 5, 2012

Stephen E. Rodabaugh
Associate Dean of Academic Programs and Outreach
College of Science, Technology, Engineering, and Mathematics
2285 Moser Hall
Youngstown State University
1 University Plaza, Youngstown, OH 44555-3347
serodabaugh@ysu.edu

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

I am writing to express my support for Youngstown State University’s application to the Ohio Means Internships and Co-ops program. YSU, in collaboration with Eastern Gateway Community College and other regional partners, will be able to use this opportunity to increase competitiveness in key additive manufacturing emphasis areas including additive manufacturing. In support of this effort, the Mahoning Valley Manufacturers Coalition (MVMC) is committed to working with YSU and its partners to make exciting internship and co-op opportunities available to the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) network.

MVMC is a regional collaborative of area manufacturing companies dedicated to advancing workforce development in support of manufacturing industries. We fully support co-ops and internships for our member companies, as they provide tremendous value to all parties:

- **For the employer**—Interns who excel during their professional practice time often transition to full time employment, eliminating a training period for new hires. The company also benefits from the fresh perspectives that interns often provide.
- **For the student**—Interns benefit from integrating their formal education with hands-on involvement in company projects and daily business activity, becoming aware of the application of concepts taught in the classroom for real-world activities.
- **For the higher education institution**—Positive relationships develop between the educational institutions and business enhance the professional practice experiences and career opportunities for students, and also facilitate research and technology development opportunities between these organizations.

With over XX member companies, we have access to some of the leading employers in the region, and will work with the PICAM team to provide access to job opportunities among our member companies. MVMC is pleased to support this program to create opportunities for new co-op and internship positions in this important field, and to help us meet our ongoing workforce challenges.

Best Regards,

Jessica A. Borza
Executive Director
Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH  44555-3347

Re:  Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

Materials Research Laboratories, Inc. (MRL) is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and MRL. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at MRL often transition to full time employment, which is beneficial to the intern and MRL.
- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with MRL projects and daily business activity. MRL also benefits from the fresh perspectives that interns often provide.
- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and MRL staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and MRL.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Andrew M. Hirt  
President  
Materials Research Laboratories, Inc.
Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu  

05 October 2012  

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)  

Dear Dr. Rodabaugh:  

Mercury Plastics, Inc. is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.  

Our previous experience with co-ops and internships has been positive and rewarding for both students and for Mercury Plastics, Inc. We fully support co-ops and internships for the following reasons:  

- **Human Resource Assistance**—Interns who excel during their professional practice time at Mercury Plastics, Inc. often transition to full time employment, which is beneficial to the intern and to Mercury Plastics, Inc.  
- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with Mercury Plastics projects and daily business activity. Mercury Plastics also benefits from the fresh perspectives that interns often provide.  
- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and the Mercury Plastics staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Mercury Plastics, Inc.  

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 3-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.  

Sincerely,  

Paul E. Sharron  
Human Resources Manager
October 4, 2012

Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH  44555-3347  
serodabaugh@ysu.edu

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

I am writing to express my support for Youngstown State University’s application to the Ohio Means Internships and Co-ops program. YSU, in collaboration with Eastern Gateway Community College and other regional partners, will be able to use this opportunity to increase competitiveness in key additive manufacturing emphasis areas including additive manufacturing. In support of this effort, the National Additive Manufacturing Innovation Institute (NAMII) is committed to working with YSU and its partners to make exciting internship and co-op opportunities available to the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) network.

NAMII is a newly funded program led by the National Center for Defense Manufacturing and Machining (NCDMM). It represents the pilot institute for the National Network for Manufacturing Innovation (NNMI) and is jointly funded by DoD, DOE, DOC, NASA, NIST, and NSF. The focus of the Institute is to bridge the technological and commercialization gaps in current additive manufacturing processes so that they may be broadly applied throughout the nation’s manufacturing base.

Additive manufacturing is currently one of the most important topics in advanced manufacturing. It has broad implications for high-end manufacturing production in defense, aerospace, and biomedical applications. It is also seen as an enabling technology for rapid innovation in product design and supply chain models. The NAMII consortium, currently representing nearly 150 organizations throughout the country, is actively engaged in supporting integrative research and development programs that would be well-served by having access to qualified students from the proposed program.
NCDMM and NAMII are committed to the TechBelt region and the advancement of additive manufacturing. The proposed program fills a clear need in the TechBelt region and aligns well with the mission and objectives of NAMII. Please know that NAMII will be pleased to support this program by connecting our industrial partners with the PICAM team, to create opportunities for new co-op and internship positions in this emerging field.

Sincerely,

[Signature]

Ralph L. Resnick
President & Executive Director

RLR/glc
October 11, 2012

Dr. Stephen E. Rodabaugh  
Associate Dean for Academic Programs and Outreach for the College of STEM  
Youngstown State University  
Moser Hall 2285  
Youngstown, OH 44555-3347

Dear Dr. Rodabaugh:

On behalf of the Northeast Ohio Council on Higher Education ("NOCHE"), I am pleased to provide this letter of support for Youngstown State University and Eastern Gateway Community College's "Program for Internships and Co-ops in Advanced Manufacturing and Related Industries" proposal to the Ohio Board of Regents.

NOCHE has extensive experience cultivating high quality internships and co-ops with more than 2,200 Northeast Ohio employers. NOCHE's 2012 internship and co-op studies indicate that the region has far more unstructured experiential learning programs than structured programs, which presents an opportunity to enhance and expand structured programs. This is especially true considering that employers report saving $13,513 on average by hiring interns, saving $1,659 in new-hire on-boarding costs by converting an intern into a full-time employee, and saving full-time, higher skilled employees an average of 14.6 hours per intern per week.

In its collaboration with Youngstown State University and Eastern Gateway Community College to increase internship and co-op opportunities that lead to jobs for college graduates and increased efficiency for businesses, NOCHE would do the following:

- Maximize the number of internship and co-op positions offered by assuring that they provide meaningful, attractive, and well aligned learning experiences for students and increase organizational productivity for businesses. While businesses are motivated to hire interns and co-ops to provide support for essential functions or develop a talent pipeline for the future, they often do not know how to create programs that attract college students or offer experiences that complement college instruction. With nearly a decade of experience forging alliances between business and higher education for the development of internships and co-ops, NOCHE would provide this essential training and support through face-to-face workshops, online seminars, customized training, individualized consulting, and/or a combination of these services.
- Provide data management services to link student-level data and internship/co-op information with college and university data systems and the OhioMeansInternships online database. NOCHE has extensive experience managing data for general college/university internship programs and specialized programs such as the Ohio Third Frontier Internship Program, and through this project, NOCHE would collect and manage data on internships and co-ops, student applications and placements, and outcomes and results. This would include developing feedback loops among employers, students, and institutions of higher education and the integration of relevant data with OhioMeansInternships.com so that Youngstown State University and Eastern Gateway Community College would not need to integrate their systems for this project. NOCHE would bring its expertise in data collection and reporting, especially data management unavailable on OhioMeansInternships.com.

NOCHE would expect to be compensated $40,000 for the services outlined above, and would provide an additional $20,000 in matching support. I look forward to working with Youngstown State University and Eastern Gateway Community College to expand internships and co-ops in Northeast Ohio during the entire term of the grant. If you have questions, please contact me at awomenbenjamin@noche.org or 216.420.9200 x224.

Sincerely,

Ann Womer Benjamin
Executive Director
Dear Dr. Rodabaugh:

I am writing to confirm the Youngstown/Warren Regional Chamber’s commitment to partner with Youngstown State University for its Ohio Means Internships and Co-ops funding proposal that is being submitted to the Ohio Board of Regents.

The Regional Chamber fully supports the proposal that would enable YSU’s College of Science, Technology, Engineering, and Mathematics and Williamson College of Business Administration, the Eastern Gateway Community College and the newly formed National Additive Manufacturing Innovation Institute to create the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM).

The Regional Chamber also supports the program’s overall goal of promoting and significantly increasing the number and quality of co-ops and internships in advanced manufacturing and related industries in Northeast Ohio, including Appalachia and the Mahoning Valley. We can assist the group in exposing a significant number of area businesses to information about these opportunities and expect such exposure to result in increased business participation.

We would work to ensure the education of our members (more than 2,600) and business community (an additional 2,000 targeted individuals) about the program and how they may benefit, particularly at a time when the manufacturing sector is growing in the Mahoning Valley and in need of an educated and trained workforce.

Therefore, we are proposing to do the following, at a cost of up to $9,400:

1. Host two breakfast or luncheon events (working with the partnership) to educate our members and other local businesses about internships and co-ops. Costs would cover:
   - Meals for all participants.
• Marketing of the events, including email and letters to Chamber members, press releases to the local and regional news media and possibly interviews on local TV/radio shows.
• Audio-visual equipment for the events.
• Time/mileage for Regional Chamber staff.

2. Provide marketing materials and website information that would include:
• Brochures: Up to 5,000 brochures to reach all member companies’ HR managers/CEOs and to have on hand for continuing marketing efforts (includes time, materials, printing).
• Website: Create several pages on our website and possibly create a separate landing page through a redirect (includes time and website design costs).
• Mailings: This would involve printing a cover letter, postage for mailing out up to 3,000 brochures and staff time.

The Regional Chamber looks forward to working with the program partners in promoting this exciting and much-needed initiative.

Sincerely,

Tony Paglia
Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu

09 October 2012

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

Treemen Industries, Inc. is pleased to support, as a business partner, the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) proposal being submitted by Youngstown State University, the Eastern Gateway Community College, and the National Additive Manufacturing Innovation Institute to the Ohio Board of Regents for funding under the Ohio Means Internships and Co-ops program.

Our previous experience with co-ops and internships has been positive and rewarding for both students and Treemen Industries, Inc. We fully support co-ops and internships for the following reasons:

- **Human Resource Assistance**—Interns who excel during their professional practice time at the Treemen Industries, Inc. often transition to full time employment, which is beneficial to the intern and our Treemen Industries, Inc.
- **Education Opportunities**—Our interns benefit from integrating their formal education with hands-on involvement with Treemen Industries, Inc. projects and daily business activity. The Treemen Industries, Inc. also benefits from the fresh perspectives that interns often provide.
- **Partnerships with Higher Education**—Positive relationships develop between the educational institutions and Treemen Industries, Inc. staff, which not only enhance the professional practice experiences and career opportunities for students, but also facilitate research collaboration between these institutions and Treemen Industries, Inc.

We are committed to co-ops and internships and intend to hire more students over the next year and beyond; in particular, for calendar year 2013, it is our intention to hire in the range of 1-5 positions for professional practice experiences. We look forward to participating as a business partner in Youngstown State University’s led Program for Internships and Co-ops in Advanced Manufacturing and Related Industries and in helping to make this program a success.

Sincerely,

Valerie Sherrill  
Controller
October 2, 2012

Stephen E. Rodabaugh  
Associate Dean of Academic Programs and Outreach  
College of Science, Technology, Engineering, and Mathematics  
2285 Moser Hall  
Youngstown State University  
1 University Plaza, Youngstown, OH 44555-3347  
serodabaugh@ysu.edu

Re: Support for Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)

Dear Dr. Rodabaugh:

I am writing to express my support for Youngstown State University’s application to the Ohio Means Internships and Co-ops program. YSU, in collaboration with Eastern Gateway Community College and other regional partners, will be able to use this opportunity to increase competitiveness in key additive manufacturing emphasis areas including additive manufacturing. In support of this effort, the Youngstown Business Incubator (YBI) is committed to working with YSU and its partners to make exciting internship and co-op opportunities available to the Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM) network.

YBI is recognized as the leader in information technology incubation in Northeast Ohio. We view IT as a platform technology that supports the advanced manufacturing industry, and have several companies directly engaged in the development of new advanced and additive manufacturing technologies. Our member companies have made good use of co-ops and internships, as they provide tremendous value to all parties:

• For the employer—Interns who excel during their professional practice time often transition to full time employment, eliminating a training period for new hires. The company also benefits from the fresh perspectives that interns often provide.

• For the student—Interns benefit from integrating their formal education with hands-on involvement in company projects and daily business activity, becoming aware of the application of concepts taught in the classroom for real-world activities.

• For the higher education institution—Positive relationships develop between the educational institutions and business enhance the professional practice experiences and career opportunities for students, and also facilitate research and technology development opportunities between these organizations.

We will work with the PICAM team to provide access to job opportunities among our member companies. YBI is pleased to support this program to create opportunities for new co-op and internship positions in this important field, and to help us meet our ongoing workforce challenges.

Best Regards,

Barb Ewing  
Chief Operating Officer
Appendix: PICAM Project Manager and Management Team

Membership of Management Team – individual short bios to follow

Martin A. Abraham, Dean of STEM
Betty Jo Licata, Dean of WCBA
Jerry Klinesmith, Dean of EGCC
Stephen E. Rodabaugh, Associate Dean of STEM
Anthony J. Kos, Assistant to the Dean of WCBA
Sherri L. Hrusovski, Coordinator of STEM Student Professional Services
Gwenn V. Clark, Coordinator of WCBA Office of Professional Practice
Patricia Veisz, Director of Small Business Development Center (SBDC) at YSU
Darrell Wallace, Acting Deputy Director, NAMII
Brenda Davis-Smith, Program Manager, NOCHE
PICAM STEM and Business Career Liaison (SBCL) – individual TBD

Martin A. Abraham, P.E., received his B.S. in chemical engineering from Rensselaer Polytechnic Institute and his Ph.D. from the University of Delaware. He joined Youngstown State University as Professor of Chemical Engineering and Founding Dean of the College of Science, Technology, Engineering and Mathematics in 2007, after serving as Professor and Dean of the College of Graduate Studies at the University of Toledo. The College is home to 10 departments and roughly 39 academic programs, including a newly developed PhD in Materials Science and Engineering.

Dean, Dr. Abraham maintains an active research program in reaction engineering and catalysis, with work on carbon capture, supported through a research and development relationship with a small business that focuses on applying ceramic coatings to metal foils. He has over 70 refereed publications and over 100 technical presentations in the area of green engineering and sustainability. He serves on the Board of the TechBelt Energy Innovation Center and the Executive Committee of TechBelt Initiative. He serves as editor for the American Institute of Chemical Engineer’s quarterly, Environmental Progress and Sustainable Energy. He is Fellow of the American Chemical Society and the American Institute of Chemical Engineers.

Betty Jo Licata received her BA from the State University of New York at Geneseo. She received her MBA and Ph.D. in Management from Rensselaer Polytechnic Institute. Dr. Licata is the former dean of Dahlkemper School of Business Administration at Gannon University. She also served as a faculty member and Associate Dean and Director of Graduate Programs in the College of Business Administration at Ohio University. Since 1995, Dr. Licata has served as the dean of Williamson College of Business Administration at Youngstown State University. She is a member of AACSB International and serves as an external reviewer for several accreditation agencies including AACSB, and the Higher Learning Commission. She serves as co-chair of the Public Sector/Education division of the Youngstown/Mahoning Valley United Way. She is a member of the Humility of Mary Health Partners Board of Trustees and HMHP Human Resources Committee, and the Mahoning Valley Labor-Management Committee. She also is on the Boards of Directors of Junior Achievement of Mahoning Valley, the Better Business Bureau, and the Youngstown Business Incubator. She currently serves as chairperson of the Athena Committee of the Youngstown Warren Regional Chamber. Dr. Licata received the Bronze Leadership Award from Junior Achievement.
Jerry Klinesmith graduated from Kent State University with a Bachelor’s in Education. From there his career took off in the field of Heating, Ventilation, and Air Conditioning. After working his way to field service supervisor, an opportunity opened to coordinate the HVAC program at Stark State College in North Canton. There he earned his Master’s in Business Administration from Walden University, increased his rank, served on multiple committees, and managed a growing HVAC program that expanded to over 375 students in 6 years. Today, as Dean he is responsible for over 150 people and 5 programs. He is enrolled in his Doctoral and serves on multiple committees at and for the college. Jerry is the Dean of the Business, Engineering, Information Technologies, Humanities and Social Science Departments at Eastern Gateway Community College.

Stephen E. Rodabaugh received his B.A. and M.A. in mathematics from the University of Missouri-Columbia and wrote his Ph.D. in geometric topology at the same institution. Associate Dean of Academic Programs and Outreach in the College of STEM at Youngstown State University, he also serves as Director of the Institute for Applied Topology and Topological Structures (YSU), NEOMED-YSU Liaison Officer, and Professor in the Department of Mathematics & Statistics (YSU). Dr. Rodabaugh has held positions at Charles University (Prague, Czech Republic), Bergische Universität (Wuppertal, Germany), Rhodes University (Grahamstown, South Africa), University of the Basque Country (Bilbao, Spain), Johannes Kepler Universität (Linz, Austria), and directed Ph.D. students at Åbo Akademi (Turku, Finland), JKU (Linz), Rhodes (Grahamstown), and Kent State University. With 80 publications and three monographs in topologically related disciplines (point-set, geometric, lattice-theoretic, foundations, categorical, programming semantics, topological theories, topological systems), Dr. Rodabaugh is a Topology and Category Theory Area Editor of Fuzzy Sets and Systems (North-Holland Elsevier, Amsterdam) and continuing member of the Executive Board and Program Committee of the acclaimed International Seminar on Fuzzy Set Theory (“Linz Seminar”, Linz, Austria) held annually since 1979 (www.flll.jku.at/linzseminars), having also served as Program Chair for three Seminars (1989, 1999, 2008).

Anthony J. Kos received both his BSBA and MBA from the Williamson College of Business Administration. He earned his Ph.D. form the Graduate School of Management at Kent State University in Macro-Organizational Theory. Dr. Kos joined Youngstown State University as an assistant professor in the Business Education and Technology Department in the College of Applied Science and Technology. In 1994 he moved to the Management Department in the Williamson College of Business Administration. He was promoted to associate professor. He has held leadership positions in the WCBA including MBA Director, Department Chair and Special Assistant to the Dean. Dr. Kos also served as Chair of the YSU’s Graduate Council. He is the author of numerous refereed journal articles and has presented his research nationally and internationally. In 2010 Dr. Kos was designated a Distinguished Professor in the area of service to YSU and the WCBA.
Sherri L. Hrusovski holds an undergraduate degree from Youngstown State University and a MA Education in Higher Education Administration from The University of Akron. Her involvement also includes membership with professional associations at the local, state, and national levels. These associations include Ohio Cooperative Education Association (OCEA), Cooperative Education and Internship Association (CEIA), Midwest Cooperative Education and Internship (MCEIA) and National Association of Colleges and Employers (NACE). Ms. Hrusovski currently serves as the Coordinator, STEM Professional Practice Program for the College of Science, Technology, Engineering and Mathematics. Prior to joining the University she worked as an Assistant Director with The University of Akron’s Career Center which provided a comprehensive job search services to students and alumni. In addition to the University of Akron, she worked for an agency in Youngstown, Ohio through the Job Training Partnership Act. While there she worked in the areas of academic and career advising. Hrusovski has over 20 years of diversified experience which has allowed her to be very successful in the areas of student’s relations, employee relations, and career development while at the university.

Gwenn V. Clark received her B.A. in Philosophy from Loyola University of Chicago and her M.Ed. in Counseling for Higher Education from Youngstown State University. She worked in corporate management and consulting in Chicago for 25 years in Marketing, Human Resources, Training and Development, and Organization Development. Ms. Clark has worked for the Williamson College of Business Administration for the past 12 years as the Professional Practice Program Coordinator supporting business, economics, engineering, engineering tech, and computer science students in attaining internships and cooperative education (co-op) experiences with local and regional employers. She facilitates Internship Preparation and Orientation workshops as well as others which cover resume writing, interviewing, internship/co-op search, business, social and dining etiquette and networking. Ms. Clark has also developed and taught a Professional Development course and teaches Communication for the College of Fine and Performing Arts.

Patricia Veisz has over twenty-six years of experience in grant management, having acquired over six million dollars in funding during that period. As the director of the Ohio Small Business Development Center (SBDC) and the International Trade Assistance Center (ITAC) at Youngstown State University, she is responsible for program development, grant management and administration, promotion and public relations, training program development, and fiscal management and resource networking. Other responsibilities include providing business consulting and entrepreneurship training programs for the business community. She previously administered the Third Frontier Internship Program at YSU for seven years. Patricia is also involved in the family owned business in the Youngstown area.
**Darrell Wallace** is currently an Associate Professor of Mechanical and Industrial Engineering at Youngstown State University (YSU) and the Founding Director of YSU’s Advanced Manufacturing Workforce Initiatives (AMWI). He also serves as the Deputy Director of Workforce and Educational Outreach for the newly formed National additive Manufacturing Innovation Institute (NAMII). He is a graduate of The Ohio State University with bachelor’s and master’s degrees in mechanical engineering and a doctorate in Industrial Engineering with emphases in manufacturing automation, engineering education, and cognitive engineering. Dr. Wallace has actively worked in manufacturing since his graduation from high school. He worked at Worthington Steel in Columbus, Ohio, to support himself through his undergraduate degree. Through his master’s program, he worked as a staff engineer for the Engineering Research Center for Net Shape Manufacturing where he led industry focused research projects. Throughout his doctoral research studies, Dr. Wallace engaged in manufacturing consulting for many companies with various specialties ranging from small start-ups to Global enterprises. His broad and continued engagement in the manufacturing community coupled with his background in pedagogical theory makes him uniquely qualified to coordinate workforce development activities across a wide range of industrial and academic partnerships.

**Brenda Davis-Smith** is a Program Manager at NOCHE (Northeastern Ohio Council on Higher Education). As Program Manager, Davis Smith is responsible for overseeing the day-to-day operations of NEOintern, NOCHE’s signature regional internship program. Davis Smith promotes NEOintern through campus-based outreach throughout Northeast Ohio and communications to employers and students. She is also an organizer and presenter of the “Maximize Your ROI: Return on Intern” internship management workshop series designed to educate Northeast Ohio business and nonprofit professionals about how to establish and improve internship programs. Prior to joining NOCHE, Davis Smith managed John Carroll University’s Career Services data systems and was a key player in the design and implementation of ClevelandIntern.net. Her experience integrating data from multiple institutions of higher education led her to NOCHE, which assumed responsibility for ClevelandIntern.net and rebranded it as NEOintern. Davis Smith’s background includes extensive experience in data management, programming languages, web design, content management systems, and e-marketing technologies.
Job Description of PICAM STEM and Business Career Liaison (SBCL)

The STEM and Business Career Liaison (SBCL) is critical to PICAM success, the recruitment of new transcribed CI placements of STEM, WCBA, and EGCC students, the timely placement of these students in Northeast Ohio, technology-related careers. The SBCL will be funded post-grant by YSU funded in part by the increase in STEM and WCBA CI course fees due to the increased PICAM placements.

Qualifications The SBCL should have at least a bachelor’s degree (Masters preferable), significant experience in dealing with companies related to advanced and additive manufacturing, and demonstrated commitment to working with students and industry professionals to promote placement of YSU talent in regional companies. Upon award of the PICAM grant, a YSU job search will be immediately launched to fill this position at the assistant coordinator level (A1).

Accountability The SBCL will answer to the PICAM Management Team at regularly scheduled meetings occurring at least every month during calendar 2013.

Duties For day-to-day operation of PICAM, the SBCL will work closely with the Coordinator of STEM Student Professional Services, the Coordinator of WCBA Office of Professional Practice, the Dean of EGCC, the Acting Deputy Director of NAMII, the Program Manager of NOCHE, and PICAM industry association and employer partners. Specific duties include:

1. Coordinate closely with the STEM and WCBA Coordinators and the EGCC Dean in the recruitment of CI students. This recruitment activity will include: e-mailings and postal mailings to prospective students, classroom presentations, CI EXPO’s, presentations to cohort meetings of the Choose Ohio First Scholarship Program awardees and STEM Leadership Society selectees, presentations to professional student organizations in STEM, WCBA, and EGCC, etc.

2. Coordinate closely with the STEM and WCBA Coordinators, the EGCC Dean, the Acting Deputy Director of NAMII, the NOCHE Program Manager, and MVMC, YBI, and Regional Chamber representatives in the recruitment of CI hosting companies. This recruitment activity will focus on database management, e-mailings and postal mailings, repeated visits to companies, company contacts at CI EXPO’s and job expo’s and career fairs, etc.

3. Coordinate closely with faculty instructors/mentors of the transcripting CI courses to make work site visits and facilitate work site visits and forge faculty-company contacts.

4. Work with: the YSU Grants Accounting (GA) office and the Management Team to set up and oversee employer reimbursements; and with the GA office, the Bursar’s Office, the Office of Financial Aid and Scholarships, and the STEM Coordinator of Outreach and Scholarships to set up and oversee tuition scholarships for PICAM student participants.

5. Assist the STEM and WCBA Coordinators in tracking CI progress, the students’ fulfillment of professional and academic requirements, and subsequent student placement in permanent careers in high technology and advanced manufacturing related companies.

6. Coordinate closely with the STEM and WCBA Coordinators, the EGCC Dean, the NOCHE Program Manager to track numbers of PICAM CI placements, assess the quality and success of those placements, insure student success in their professional practice experiences and their subsequent OhioMeansJobs registration with requisite materials (résumé, professional practice portfolio, PowerPoint presentations, etc.), and facilitate

7. Perform PICAM reporting for the Regents, and, in post-grant years, perform assessment that includes input from the students, the companies, and STEM, WCBA, and EGCC. This assessment will including tracking permanent career placement in Northeast Ohio technology-related companies.
Junior Year

• Research co-op and internship opportunities.
• Sharpen your job search skills.
• Log into your PPOD and PenguinLink on a regular basis.
• Make sure your cover letter and résumé have been approved.
• Participate in networking events.
• Complete a co-op or an internship.

Senior Year

• Complete another co-op/internship.
• Prepare for graduation.
• Update your résumé/cover letter/reference page.
• Keep active in Penguin Link, attend job expo’s, Interview Day, and other related events.
• Keep the end goal in mind—A professional career position in your field.

PPOD
Professional Practice On-line Database:
www.ysu.edu/ppod

PENGUINLINK:
www.ysu.edu/career-services and click on STUDENT

Sophomore Year

• Register for PPOD and PENGUIN LINK.
• Attend work/career related workshops and job expo’s and Interview Day.
• Become more engaged in your student chapter.
• Experience a mock interview.
• Maintain a solid GPA.
• Participate in a Professional Practice course.
• Update your resume
http://stem.ysu.edu/home

Senior Year

• Complete another co-op/internship.
• Prepare for graduation.
• Update your résumé/cover letter/reference page.
• Keep active in Penguin Link, attend job expo’s, Interview Day, and other related events.
• Keep the end goal in mind—A professional career position in your field.

Freshman Year

• Meet with your Professional Practice Coordinator, Sherri L. Hrusovski.
• Develop an internship/co-op search plan.
• Obtain information about co-op/internships/professional practice programs.
• Prepare a resume.
• Research careers related to your major.
• Join and participate in student chapters of professional organizations.
• Learn job search etiquette.

College of STEM
Youngstown State University
STEM, Office of Professional Practice

CONTACT INFORMATION:
Sherri L. Hrusovski, MA
Coordinator, STEM Student Professional Services
Moser Hall, Room 2055
330-941-2912 (Direct Line)
SLHRUSOVSKI@YSU.EDU
http://stem.ysu.edu

Freshman Year

• Meet with your Professional Practice Coordinator, Sherri L. Hrusovski.
• Develop an internship/co-op search plan.
• Obtain information about co-op/internships/professional practice programs.
• Prepare a resume.
• Research careers related to your major.
• Join and participate in student chapters of professional organizations.
• Learn job search etiquette.

Program for Internships and Co-ops in Advanced Manufacturing and Related Industries (PICAM)
Youngstown State University
Information for Parents and Family Members

How May the STEM Professional Practice Program Help Your Student?

- Resume and cover letter advice and critiques.
- Cooperative Education and Internships.
- On-campus employment listings.
- Career Exploration.
- Networking with employers by attending the Job Expo’s sponsored through the Career and Counseling Services.
- Career Workshops on interviewing; resume writing, finding a job, business etiquette, and other career topics.
- Career opportunities through PPOD (Professional Practice On-line Database), our powerful on-line database program for internship/co-op postings.
- Interviews with employers coming to campus to recruit talented “Penguins.”

Ways You Can Help Your Student Make Effective Career Decisions

- Tell your student to visit or call the STEM Professional Practice Program for career assistance and advice during their first year (and each year thereafter!).
- Empower your student to make a career choice that reflects his/her goals, interests, skills, abilities, and values.
- Encourage your student to explore a variety of career options early in college.
- Advise your student to draft a resume, and keep updating it throughout college.
- Emphasize the importance of learning “on-the-job” through cooperative education, internships, professional practice, or part-time employment.
- Urge your student to get involved in student organizations or volunteer in their community.
- Teach the value of networking, and help your student think of networking opportunities related to his/her career options.
- Encourage your student to seek connections between their coursework and the world of work.

Key Career Questions for First Year Students

Imagine – discovering their unique identity:
- What does your student enjoy doing?
- What does your student not enjoy doing?
- What are your student’s strengths?
- What is your student’s preferred work environment?
- What values are most important for your student?

Investigate: Career Exploration

- What careers or majors does your student want to explore?
- What does your student know about the trends, issues, and future forecast for those careers?
- What is a typical day like for someone in those careers?
- What skills, abilities, knowledge, and training does an entry level person need for those careers?

What Skills Do Employers Value Most Highly?

First:
- Related Experience
- Strong GPA (typically 3.00 or higher)

Then, transferable skills of:
- Communication (oral & written) Skills
- Analytical Skills; and Technical Skills
- Teamwork Skills
- Strong Work Ethic

Source: NACE Research Brief (1-21-2010)
STEM Computer Science Information Systems

EMPLOYER EVALUATION OF INTERNSHIP/CO-OP STUDENT

2010 INTERNSHIP SEMESTER:  □ Spring  □ Summer  □ Fall

NOTE: Use the MOUSE, TAB key or direction ARROWS to move around in this document.

<table>
<thead>
<tr>
<th>Student:</th>
<th>Employer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major:</td>
<td>Evaluator:</td>
</tr>
<tr>
<td>Class Level/Rank:</td>
<td>Department:</td>
</tr>
</tbody>
</table>

INSTRUCTIONS: The immediate supervisor should evaluate the intern's performance based on her/his knowledge, skills and abilities to complete the tasks for the internship assignment. Use your mouse to click 'x' in the appropriate box (double click to remove the 'x').

<table>
<thead>
<tr>
<th>APPROPRIATE APPEARANCE</th>
<th>COMMUNICATIONS</th>
<th>DEPENDABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Always well dressed/</td>
<td>□ Excellent verbal and written skills</td>
<td>□ Completely reliable</td>
</tr>
<tr>
<td>groomed</td>
<td>□ Good verbal and written skills</td>
<td>□ Consistently dependable</td>
</tr>
<tr>
<td>□ Well-dressed/groomed</td>
<td>□ Good verbal (written skills unknown)</td>
<td>□ Usually dependable</td>
</tr>
<tr>
<td>□ Usually well-dressed/groomed</td>
<td>□ Poor verbal and/or written</td>
<td>□ Sometimes neglectful and careless</td>
</tr>
<tr>
<td>□ Dress/grooming needs</td>
<td>□ Communication skills need attention</td>
<td>□ Unreliable</td>
</tr>
<tr>
<td>attention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Unsatisfactory dress/grooming</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JUDGMENT</th>
<th>RELATIONSHIP WITH OTHERS</th>
<th>PROFESSIONALISM (towards work)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Exceptionally mature</td>
<td>□ Builds excellent rapport with people</td>
<td>□ Outstanding/enthusiastic</td>
</tr>
<tr>
<td>□ Effective decision-making skills</td>
<td>□ Works well with most people</td>
<td>□ Very interested and industrious</td>
</tr>
<tr>
<td>□ Usually makes a good decision</td>
<td>□ Gets along satisfactorily</td>
<td>□ Average in diligence and interest</td>
</tr>
<tr>
<td>□ Often uses poor judgment</td>
<td>□ Some difficulty working with others</td>
<td>□ Somewhat indifferent</td>
</tr>
<tr>
<td>□ Consistently uses bad judgment</td>
<td>□ Works very poorly with others</td>
<td>□ Definitely not interested</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNICAL SKILLS (computers)</th>
<th>QUALITY OF WORK</th>
<th>ACHIEVEMENT OF OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Proficient with most technology</td>
<td>□ Excellent (error-free)</td>
<td>□ Exceeded objectives</td>
</tr>
<tr>
<td>□ Knowledgeable of technology</td>
<td>□ Good (minimal errors made)</td>
<td>□ Met all objectives</td>
</tr>
<tr>
<td>□ Understands technology basics</td>
<td>□ Average (acceptable errors)</td>
<td>□ Met most objectives</td>
</tr>
<tr>
<td>□ Needs more technical courses</td>
<td>□ Fair (several errors)</td>
<td>□ Failed to meet most objectives</td>
</tr>
<tr>
<td>□ Lacks sufficient technical skills</td>
<td>□ Very poor (too many errors)</td>
<td>□ Did not complete any objectives</td>
</tr>
</tbody>
</table>

APPLICATION OF KNOWLEDGE – Rate the Intern's ability to apply knowledge of their technical discipline (e.g. computer science, computer information systems, information technology) to completing the internship assignments. Please select one:

□ Always able to apply knowledge and skills to solving problems and completing projects
□ Usually able to apply knowledge and skills to solving problems and completing projects
□ Occasionally able to apply knowledge and skills to solving problems and completing projects
□ Sometimes unable to apply classroom knowledge to solving problems
□ Unable to apply classroom knowledge to projects

OVERALL PERFORMANCE RATING FOR INTERN

□ Exceptional  □ Exceeded expectations  □ Satisfactory  □ Needs improvement  □ Unsatisfactory

STRENGTHS:

AREAS NEEDING FURTHER DEVELOPMENT:

EVALUATOR’S COMMENTS:

Evaluator’s Signature: ___________________________  Date: __________

Student’s Signature: ___________________________  Date: __________
College of Science, Technology, Engineering & Mathematics
EMPLOYER EVALUATION OF COOPERATIVE EDUCATION STUDENT

<table>
<thead>
<tr>
<th>Student:</th>
<th>Employer:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Major: | Evaluator: |
-------|------------|
       |            |

Semester: | Department: |
-----------|-------------|
         |             |

INSTRUCTIONS: The immediate supervisor should evaluate the student objectively, comparing him/her with other personnel assigned the same or similarly classified jobs – or with individual standards. Please check the appropriate boxes below.

**ATTITUDE** (towards work)
- Outstanding/enthusiastic
- Very interested and industrious
- Average in diligence and interest
- Somewhat indifferent
- Definitely not interested

**ABILITY TO LEARN**
- Learns very quickly
- Learns readily
- Average in learning
- Rather slow in learning
- Very slow in learning

**TECHNICAL SKILLS**
- Proficient with most technology
- Knowledgeable of technology
- Understands technology basics
- Needs more technical courses
- Lacks sufficient technical skills

**DEPENDABILITY**
- Completely dependable
- Above average dependability
- Usually dependable
- Sometimes neglectful and careless
- Unreliable

**JUDGMENT**
- Exceptionally mature
- Above average in making decisions
- Usually makes the right decision
- Often uses poor judgment
- Consistently uses bad judgment

**QUALITY OF WORK**
- Excellent (error free)
- Good (minimal errors made)
- Average (acceptable errors)
- Fair (several errors)
- Very poor (too many errors)

**RELATIONSHIP WITH OTHERS**
- Exceptionally well accepted
- Works well with others
- Gets along satisfactorily
- Some difficulty working with others
- Works very poorly with others

**EXPECTATIONS** (of skills/abilities)
- Exceeds expectations
- Above average
- Meets expectations
- Below average
- Failed to meet expectations

**ACHIEVEMENT OF OBJECTIVES**
- Outstanding performance
- Exceeded objectives
- Met all objectives
- Met most objectives
- Failed to meet most objectives

**OVERALL RATING:**
- Outstanding performance
- Exceeds required performance
- Satisfactory performance
- Needs improvement
- Unsatisfactory performance

**COMMENTS:**

Grade recommended for this student (circle one): A B C D F

Please rate 1-5 the extent to which you feel this co-op assignment will contribute to the student’s development of the following skills:

<table>
<thead>
<tr>
<th>1 = none</th>
<th>2 = slightly</th>
<th>3 = moderately</th>
<th>4 = considerably</th>
<th>5 = tremendously</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>a. Ability to apply knowledge of mathematics, science, and engineering.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>b. Ability to design and conduct experiments, as well as to analyze and interpret data.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>c. Ability to design a system, component, or process to meet desired needs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>d. Ability to function on multi-disciplinary teams developing teamwork and leaderships skills.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>e. Ability to identify, formulate, and solve engineering problems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>f. Understanding of professional and ethical responsibility.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>g. Ability to communicate effectively both written and oral.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>h. Possesses the broad education needed to understand the impact of engineering solutions in a global and societal context.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>i. Recognition of the need for and an ability to engage in life-long learning.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>j. Knowledge of contemporary issues (e.g. economics, environmental, safety, politics).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>k. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Evaluator’s Signature: Date:

Student’s Signature: Date:
### SECTION 1: Please rate yourself below based on your impression of your performance level

<table>
<thead>
<tr>
<th>PROFESSIONAL APPEARANCE: Appropriately dressed for the internship position and your company culture</th>
<th>VERBAL PRESENTATION SKILLS: Excellent presentation skills</th>
<th>RELATIONSHIP WITH OTHERS: Builds exceptional rapport with people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always well dressed/groomed</td>
<td>Very good presentation skills</td>
<td>Works well with most people</td>
</tr>
<tr>
<td>Usually well-dressed/groomed</td>
<td>Good presentation skills</td>
<td>Gets along satisfactorily</td>
</tr>
<tr>
<td>Dress/grooming needs attention</td>
<td>Fair presentation skills</td>
<td>Some difficulty working with others</td>
</tr>
<tr>
<td>Unsatisfactory dress/grooming</td>
<td>Poor presentation skills</td>
<td>Works very poorly with others</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROFESSIONALISM: Always conducted self in an appropriate/professional manner</th>
<th>WRITTEN COMMUNICATIONS: Includes emails, notes, memos, letters, reports, and any other documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually conducted self in an appropriate/professional manner</td>
<td>Excellent written skills</td>
</tr>
<tr>
<td>Sometimes conducted self in an appropriate/professional manner</td>
<td>Very good written skills</td>
</tr>
<tr>
<td>Rarely conducted self in an appropriate/professional manner</td>
<td>Good written skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JUDGMENT: Exceptionally mature</th>
<th>QUALITY OF WORK: Excellent (error-free)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good decision-making skills</td>
<td>Good (minimal errors made)</td>
</tr>
<tr>
<td>An average decision maker</td>
<td>Average (acceptable errors)</td>
</tr>
<tr>
<td>Often uses poor judgment</td>
<td>Fair (several errors)</td>
</tr>
<tr>
<td>Consistently uses bad judgment</td>
<td>Very poor (too many errors)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPUTER SKILLS: Ability to use word processing, Excel, PowerPoint, and/or any other job-related programs</th>
<th>ACHIEVEMENT OF INTERNSHIP Objectives: Exceeded objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent computer skills</td>
<td>Met all objectives</td>
</tr>
<tr>
<td>Very good computer skills</td>
<td>Met most objectives</td>
</tr>
<tr>
<td>Good computer skills</td>
<td>Failed to meet most objectives</td>
</tr>
<tr>
<td>Fair computer skills</td>
<td>Did not complete any objectives</td>
</tr>
<tr>
<td>Poor computer skills</td>
<td>Did not observe/cannot judge</td>
</tr>
<tr>
<td>Did not observe/cannot judge</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 2: Rate your ability to apply knowledge that you learned in the classroom

<table>
<thead>
<tr>
<th>APPLICATION OF KNOWLEDGE—as an accounting, advertising, business management, finance, human resources, management information systems, or marketing major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always able to apply classroom knowledge to solving problems and completing projects</td>
</tr>
<tr>
<td>Usually able to apply classroom knowledge to solving problems and completing projects</td>
</tr>
<tr>
<td>Occasionally able to apply classroom knowledge to completing the project</td>
</tr>
<tr>
<td>Usually was not able to apply classroom knowledge to the assignment</td>
</tr>
<tr>
<td>NOT APPLICABLE to my specific major</td>
</tr>
</tbody>
</table>

### SECTION 3: Check which you feel best describes your OVERALL PERFORMANCE LEVEL

- Very Strong
- Strong
- Satisfactory
- Needs Improvement
- Unsatisfactory
### SECTION 4: Complete the following based on your Internship assignment

<table>
<thead>
<tr>
<th>How did you learn about the Professional Practice Internship Program?</th>
</tr>
</thead>
<tbody>
<tr>
<td>❑ Academic Advisor</td>
</tr>
<tr>
<td>❑ Faculty suggestion</td>
</tr>
<tr>
<td>❑ Friend or family</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How did you find/locate your internship assignment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>❑ Interview Day</td>
</tr>
<tr>
<td>❑ Employer contacted me</td>
</tr>
<tr>
<td>❑ I contacted employer</td>
</tr>
</tbody>
</table>

What kind of orientation or training were you given by the Employer to familiarize you with the assignment?

What new skills did you learn?

What academic subjects/courses did your assignment utilize?

Which learning objectives did you meet/achieve?

What, if any, contributions did you make to the assignment or the organization?

How did this internship differ from what you expected?

What was the biggest surprise that you had during the internship?

Did the assignment help you test your career choice? Why or why not?

Please rate your internship from 4 to 1 (4-Excellent 3-Good 2-Fair 1-Poor) with regard to the following areas:

- Quantity of work given
- Overall work assignment
- Quality of supervision
- Degree of responsibility
- Relevance to career goals
- Value of the experience
- Technology/equipment used
- Employer communications
- Networking opportunity

Please check one or more statements that apply to you regarding this assignment.

- Asked to continue the assignment
- Enjoyed but do not want to return
- Will return for future assignments
- Did not like the assignment
- Offered a job after graduation
- Did not like my supervisor
- Would accept regular job if asked
- Did not like the organization
- Did not like the organization

What could have been done differently to have made your internship better?

YOUR OVERALL COMMENTS:

### SECTION 5: Please sign, list your course code and credit hours, then date

<table>
<thead>
<tr>
<th>Intern's Signature</th>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Date</th>
</tr>
</thead>
</table>

Don't forget to update your resume on PPOD and adjust your availability status.
Involvement

Ways Employers Can Become Involved

• Attend the STEM and WCBA Co-op/Internship Expo
  – Wednesday, October 17, 2012
  – Wednesday, February 13, 2013

• Hire a YSU student as a co-op/intern
  – For an entire year (fall, spring and summer)
  – Summer Only: As an intern/co-op

• Post available Co-op/Internship job opportunities through our online career database (PPOD)
Involvement cont.

• Interview candidates on-campus (OCI).
  – Schedule an entire day of interviews.

• Become a STEM sponsor.
  – Co-op/Internship Expo Sponsorship Packet (TBA)
  – Red/White Sponsorship Packets (TBA)

• Get involved with a wide variety of campus programs, events, company projects for students, and research projects between the company and the College of STEM.
Objectives

- Provide employers with a qualified source of pre-professional personnel available year round;
- Combine theory with practice by coordinating work experiences with classroom study;
- Strengthen the relationship and heighten cooperation between industry and the University;
- Develop student maturity, responsibility and independence;
- Improve student skills in working with other people;
- Help motivate students to excel in both the workplace and the classroom.
Student Process

- Student accepts Co-op/Internship offer
- Student obtains “Employer Offer Letter”
  - Includes student’s title and description of position, start and end date, hourly rate, supervisor’s name and contact information, work schedule and how many hours per week.
- Student obtains the Training Agreement and meets with faculty advisor to review, approve and receive access to register for the course.
- Once the Training Agreement is submitted to the STEM, Professional Practice Program . . . The Official Contract is completed and dispersed.
- And, the Work Assignment Packet (Syllabi: ASSIGNMENTS DATES AND DEADLINES for STEM Co-op/Internship Assignments and forms) is forwarded to the student.