Introduction

The 2010 bibliography lists books, articles, and proceedings papers related to engineering technology education under the following headings: administration, aerospace/aviation, architectural, assessment, biomedical/biotechnology, civil, computers, curriculum, distance education, diversity, electrical/electronics, faculty development, industrial, industry/government/employers, information technology instructional technology, international, laboratories, liberal studies, manufacturing, mechanical, nuclear, teaching methodology, tech prep/STEM, technical communication, and technical graphics. Several categories—instructional technology, liberal studies, teaching methodology, technical communication, and technical graphics—include listings reflecting general technical education concerns.

Entries are listed according to area of primary emphasis, and items that apply to two or more academic disciplines are entered under the area of major interest. For example, ECET-related items are included under “Electrical/Electronic”; mechatronics papers are listed under “Mechanical.” We apologize for any entries that may have been missed or inadvertently placed in the wrong category.

Contributors

Engineering technology educators interested in contributing to the bibliography may contact Marilyn A. Dyrud, Communication Department, Oregon Institute of Technology, 3201 Campus Drive, Klamath Falls, OR 97601; email: marilyn.dyrud@oit.edu; phone: 541.885.1504.

Abbreviations


**GSW**  *Proceedings of the 2010 ASEE Gulf Southwest Section Conference*. March 24-26, 2010, Lake Charles, Louisiana. Proceedings are available on CD.


**NE**  *Proceedings of the ASEE 2010 Northeast Section Conference*. May 7-8, 2010, Boston, Massachusetts. Proceedings are available on CD.


**Administration**


Bekhouhe, Noureddine. “What Is the Difference between Engineering and Engineering Technology?” CIEC.

Buchanan, Walter W. “Engineering and Engineering Technology Industrial Advisory Boards.” GSW.


Cooper, Cameron Ian. “A Generalizable Neural Network for Predicting Student Retention.” NE.

DiDomenico, Charles F. “Lifelong Learning, Engineering and the Community College.” CIEC.

Donaldson, E. Shirl, and Gary Bertoline. “Utilization of a Graduate Advisory Committee for Supporting and Retention of Graduate Students to Improve the Academic Experience and Increase Completion of Degrees.” CIEC.

Dyrenfurth, Michael, Mike Murphy, and Gary Bertoline. “Quality Indicators for Engineering & Technology Education.” ACP.

Ferguson, Chip, and George Ford. “Faculty Student Advising at Western Carolina University.” SEE.

Ford, George, William McDaniel, and Paul Yanik. “Directions for Engineering and Technology Educators to Improve Program Enrollments.” SEE.

Gorls, Tatiana, and Michael Dyrenfurth. “Students’ Misconceptions in Science, Technology, and Engineering.” IL/IN.


Gupta, Surendra et al. “Academic Performance and Cooperative Employment of Transfer Scholars in Engineering & Engineering Technology Programs.” ACP.

Hadad, Alan. “Faculty Scholarship and Tenure Criteria.” CIEC.

Hadi, Yasser Abdulaziz. “Seeking ABET Accreditation of Manufacturing and Mechanical Maintenance Technology Programs at Yanbu Industrial College.” MW.

Iyer, Rupa. “Center for Life Sciences Technology–A Model for Integration of Education, Research, Outreach, and Workforce Development.” ACP.


Larson, Debra, and Marissa Mourer. “Student Recruitment by Faculty Phone-a-Thon.” *Zone*.

Lin, Joe J., Kenneth J. Reid, and P. K. Imbrie, “Comparison of Four Methodologies for Modeling Student Retention in Engineering.” *ACP*.


Moges, M. F. et al. “Expanding the Quality of Mentoring Programs for Undergraduate Students—Observations and Challenges.” *GSW*.


Spang, David, and Vladimir Genis. “Opportunities for Students and Faculty Stemming from Engineering Technology Program Reform.” *ACP*.

Stier, Kenneth. “Transitioning a Technology Program to Outcomes-Oriented TC2K Criteria.” *ACP*.


Valentine, Maureen, and Carol Richardson. “A Long-Term Look at the Success of Rochester Institute of Technology Engineering Technology Graduates.” *ACP*.

**Aerospace/Aviation**


Architectural

Davis, Daniel. “Integrating Sustainability into a Studio Design Curriculum.” *ACP*.


Hedges, Keith F. “The 2010 Haiti Earthquake: Real-Time Disaster Inquiry in the Classroom.” *MW*.


Zarzycki, Andrzej. “BIM as Design Exploration Tool in Architecture.” *NE*.


Zarzycky, Andrzej. “First Year Experience for Digital-Native Students.” *NE*.

Zarzycky, Andrzej. “Form-Making with Special Effect Simulations.” *NE*.

Assessment


Balascio, Carmine, Thomas Brumm, and Steven Mickelson. “Competency-Based Assessment of Engineering Technology Program Outcomes.” *ACP*.

Basinet, Badri, Lyn Brodie, and John Worden. “Peer Assessment of Assignment.” *FIE*.


Caplan, Marelo. “Exploring a Valid and Reliable Assessment of Engineering and Technology Education Learning in the Classroom.” *ACP*.
Castro-Cedeno, Mario, and Quamrul Mazumder. “Motivation and Maturity of Engineering and Engineering Technology Students with and without Coop Experience.” *ACP*.


Gomez-Rivas, Alberto, Lea Campbell, and George Pincus. “Cost of Assessment in Engineering Technology Programs.” *ACP*.


Guo, Minzhe, Kai Qian, Li Yang, and Prabir Bhattacharya. “A Real Time Java Programming Online Assessment System.” *WIP*.

Jones, Daniel, and Anglo Tadros. “Successful Use of Rubrics to Assess Student Performance in Capstone Projects.” *ACP*.

Jones, Allen L. “A Metric Outcome for Assessment of ABET Accreditation Outcome 3B–Designing Experiments and Analyzing the Results.” *NMW*.


Mak, Gong, and Jessica Kelly. “Systematic Means for Identifying and Justifying Key Assignments for Effective Rules-Based Program Evaluation.” *FIE*.


Menhart, Steve. “Embedding Assessment into the End of Course Evaluation Form” *GSW*.


Seybert, Thomas A. “Using Course Outcomes Achievement for Assigning Student Grades and Improving Learning.” *CIEC*.


Walk, Steven. “Student Surveys of Course Knowledge and Skills: Improving Continuous Improvement.” *ACP*.

Westheider, Virginia, and Sarai Hodges. “Employing Six Sigma as a Tool for Continuous Improvement in Engineering Technology Education.” *ACP*.


Willey, Keith, and Anne Gardner. “Perceived Differences in Tutor Grading in Large Classes: Fact or Fiction?” *FIE*.

Wright, Geoffrey, Braden Boss, Daniel Bates, and Ronald Terry. “Assessing Technology Literacy and the Use of Engineering and Technology Curricula by Utah K-12 Educators.” *ACP*.

**Biomedical/Biotechnology**


Kitto, Kathleen. “Measuring Differences in Student Outcomes in a Basic Materials Engineering Course—From Collaborative Experiences Focused on Biomedical Applications.” *ACP*.


**Civil**


Bumgartner, Ronald, George Ford, and John Patterson. “Improving Status Instruction in Four-Year Technology Programs.” *SEE*.


Ford, George, Jack Patterson, and Bradford Sims. “Recruiting and Retention Strategies for Construction Employers in the United States.” *SEE*.


Miers, Ronald, and George Ford. “Scholarship of Engagement and Project-Based Learning: Experiential-Based Learning Project for Construction Management Students at Western Carolina University.” *ACP*.


Moghadam, Bahar Zoghi. “Route to a Resourceful Water Efficiency Exploration: Residential Water Usage of Water Efficiency Section of USGBC, LEED Program.” *MIDAT2*.


Computers

Azemi, Asad, and Nannette D’Imperio. “Enhanced Delivery for Introductory Computer Science Courses.” WIP. *FIE*.


Harding, Troy. “Utilizing Pair Programming Techniques in a Web Development Course.” *MW*.


Jasani, Hetal. “Mobile and Wireless Networks Course Development with Hands-On Labs.” *ACP*.


Luo, HongLi. “Enhancing Learning in Data Communication and Networking with Home Network.” *ACP*.

McDonald, David. “Introductory LabVIEW Real Time Data Acquisition Laboratory Activities.” WIP. *NC*.


Miertschein, Susan, and Cheryl Willis. “An Experience with Cloud Computing in the Classroom.” *ACP*.

Navarro, Andres, and Juan V. Pradilla. “Serious 3D Game for Mobile Networks Planning.” WIP. *FIE*.

Oconnor, Terrence, Ben Sangster, and Erik Dean. “Using Hacking to Teach Computer Science Fundamentals.” *StL*.

Ohno, Asako. “A Novel Methodology to Reduce Instructors’ and Students’ Psychological Burdens in Source Code Plagiarism Detection.” WIP. *FIE*.

Pears, Arnold N. “Enhancing Student Engagement in an Introductory Programming Course.” *FIE*.

Qian, Kai, and Chia-Tien Dan Lo. “Bring Green Computing to CS Core Curriculum with a Portable Lab.” WIP. *FIE*.


Rosiene, Carolyn Pe, and Joel A. Rosiene. “Fostering Student Involvement and Collaboration in a Non-Majors’ Programming Course.” *FIE*.


Sutherland, George. “Software Teaching Software Use.” *StL*.

Tan, Song, Kai Qian, and Xiang Fu. “Intelligent Project Failure Analysis.” WIP. *FIE*.

Vu, Ky. “A Paradigm Shift in Data Security.” *CIEC*.


Zhou, Xuefu, Xiaodong Yue, and James Everly. “Computer Projects Designed to Enhance Students’ Learning Experience with Public-Key Cryptography.” *ACP*.

**Curriculum**

Agrawal, Jai, Omer Farook, and Chandra Sekhar. “A Graduate Certificate in Efficient Energy Technology.” *ACP*.

Alba-Flores, Ricio, and Youakim Al Kalaani. “Enhancing the Learning Experience in a Multidisciplinary Engineering Technology Course.” *ACP*.

Attarzadeh, Farrokh, Enrique Barbieri, and Miguel Ramos. “Enhancing the Undergraduate Experience in a Senior Design Context.” *ACP*.

Barbe, David, James Green, and Dean Chang. “25 Years of Technology Entrepreneurship.” *ACP*.

Bendkowski, Jacek. “Cultivating Virtual Communities of Learning.” *ICEE*.

Blake, John. “Technological Literary and First-Year Courses for Engineering and Engineering Technology Programs.” *ACP*. 


Castro-Cedena, Mario, and Quamrul Mazumder. “Motivation and Maturity Level of Engineering and Engineering Technology with and without Coop Experience.” ACP.

Cecere, Joseph J., and Sofia Vidalis. “Penn State’s Two Step Bachelor Degree (A Hop Skip Approach).” CIEC.

Chanley, Paul, Michael Pelletier, Linda Desjardins, and Lori Heymans. “A Green Technology Course in a Community College.” ACP.

Cochrane, Phillip. “Collaborations and Challenges: Motor Sports Studies at Indiana State University.” CIEC.


Desai, Anoop, and Phil Waldrop. “ET Contribution to University Core Curriculum through a Course on Sustainability.” ACP.

Dobrowski, Thomas. “Proposed Freshman Experience Course.” ACP.

Dubikovsky, Sergey, Alten F. Grandt, Thomas A. Goodrich, and Ronald Sterkenburg. “Undergraduate Capstone Projects Integrate Technology and Engineering Programs.” ICEE.


Ford, George and Robert Anderson. “Developing an Engineering Technology Curriculum–A Case Study at Western Carolina University.” ACP.

Frempong, Stephen. “Bringing out the Best from the Engineering Technology Students through a Senior Project Course.” ACP.


Ibeh, Christopher. “Nanoscale Trends, Opportunities and Emerging Markets.” *MW*.

Jang, Sunghoon, and Kenneth Markowitz. “Initiating the Undergraduate Research Study through the NYC-LSAMP Summer Fellowship.” *SEE*.

Jang, Sunghoon, Kenneth Markowitz, and Aparicio Carranza. “Developing a Senior Capstone Project Course in Integrating Undergraduate Teaching and Research.” *MIDAT2*.


Kanematsu, Hideyuki et al. “Conversation Analysis of PBL in Metaverse for Students from the USA, Korea and Japan.” *ICEE*.


Krupczak, John et al. “An Infrastructure to Facilitate the Creation of Courses on Technology and Engineering for Non-Engineers.” *ACP*.


Loerndorf, William, Donald Richter, and Danny Teachman. “Results from an Interdisciplinary Service Learning Pilot Project Incorporating Universal Design Concepts for ADA Compliance.” *ACP*.

Marelova, Gerry, Vladimir Genis, and David Spang. “Collaboration among Universities and Community Colleges in Developing Dual-Enrollment Programs.” *ACP*.

Mariga, Julie R. “Developing an Engineering Technology Course Focused on Virtual Teams and Global Information Technology.” *CIEE*.


Myers, Todd, and Ben Stuart. “Teaching Engineering and Technology Public Policy While Fulfilling Multiple ABET and University Requirements.” *ACP*.

Nagchakdhuri, Abhijit et al. “Broadening Student Research Experiences through Summer Exchange Programs across Campuses.” *ACP*.


Oh, Hyounkyun, Asad Yousef, and Sujin Kim. “Contemporary College Algebra Course.” *ACP*.


Razani, Mohammad. “Future Directions in Engineering and Technology Education.” *GSW*.


Robert, Jean-Marc. “A Study of Teaching Courses Both in Class and at a Distance.” *ICEE*. 
Robertson, John. “Course Change as a Darwinian Process.” *ACP*.


Shepard, Thomas. “The Use of Extra Credit to Improve Course Design.” *NMW*.


Simoneau, Robert, and Diane Dostie. “The Virtual Ideation Platform.” *NE*.

Solarek, Daniel et al. “Integrating Computer Science and Engineering Technology to Implement an ABET Accredited Program.” *ACP*.


Thomas, Charles, Loren Byrne, and Jeremy Campbell. “Creating an Interdisciplinary Introduction to Sustainability Studies Course.” *NE*.

Wu, Huanmei. “Project Based Multidisciplinary Education for Undergraduates.” *ACP*.

Wu, Yi, and Oladipo Onipede. “Evolution of a System Dynamic Course at Penn State Behrend.” *WIP. FIE*.


Young, Cynthia et al. “EXCEL in Mathematics: Applications of Calculus.” *ACP*.


**Distance Education**

Cho, Chung-Suk, and Stephen Kuyath. “The Effect of Panopto on Academic Performance and Satisfaction of Traditional-Distance Education Students.” ACP.

Emend, Susan. “Providing Access to Technology Degrees: The Strategic Use and Evaluation of Distance Learning Technologies.” EDGD.

Farook, Omar, Jai Agrawal, Chandra Sekhar, and Essaid Boutache. “Designing of a Course Content Server for the Distance Learning Delivery Format.” ACP.


Kanabar, Vijay, and Robert Schudy. “Teaching a Project-Based Web Development and IT Project Management Course at a Distance.” NE.

Kumar, Amruth N. “The Effect of Soliciting Demographic Data on the Performance of Students on Online Tests.” FIE.

Little-Wiles, Julie, Stephen Hundley, and Erich Bauer. “Designing an Online Learning Management System for a Growing Student Population: The Urban Commuter Student.” ACP.

Nichols, Argie Nell, Debra Steele, and Earlene Washburn. “The Details Make a Difference When Delivering Technology Courses via Web-Based Distant Education.” FIE.

Pioro, Barbara T. “Performance on Collaborative Tasks in Blackboard Chat Rooms and Immersion in Internet-Based Social Networks.” ICEE.


Steele, Debra, Sydney Fulbright, and Argie N. Nichols. “Age and Technology: Adult Learning Performance in Desktop Virtual Reality Environments.” FIE.

Trekles, Anastasia, and Shoji Nakayama. “Identifying Adequate Level of Instruction without Hindering Deeper Learning in Distance Learning.” WIP. FIE.

Diversity


Ciston, Shannon, Ellen Worsdall, and Jessica Swenson. “Summer Technology and Engineering Program: An Outreach Program Benefitting Women Engineering Students from Middle School through Graduate School.” ACP.
Ćwikla, Grzegorz, Adrian Kampa, and Grzegorz Golda. “E-Learning Platform as a Support in the Technical Education of Disabled People.” *ICEE.*

Enriquez, Amelito. “Improving the Participation and Retention of Minority Students in Science and Engineering through Summer Enrichment Program.” *Zone.*

Martinez, Denise et al. “First Year Retention of Hispanic, First-Generation Students.” WIP. *FIE.*

Milgram, Donna, and Daniella Severs. “Cal Women Tech Project: Recruiting and Retaining Women in Technology Programs.” *ACP.*

Ocon, Ralph, and Opal McFarlane. “Women and Leadership: Preparing (Female) Students for the Leadership Challenge.” *ACP.*

Sanchez, Maria C., Nell Papavasilou, and Hernan Maldonado. “GIRLS SEE Summer Camp: An Event for Future and Current Female Engineering Students.” *Zone.*

Sorkin, Sylvia, and Mary Elizabeth Gore. “Attracting and Retaining Women and Underrepresented Groups in Engineering, Science, and Related Programs.” *ICEE.*

Strayhorn, Terrell L. “Diversifying STEM: Underrepresented Students’ Experiences in Undergraduate Research Programs.” WIP. *FIE.*

Strayhorn, Terrell L. “Social Barriers and Supports to Underrepresented Minorities’ Success in STEM Fields.” WIP. *FIE.*

Study, Nancy. “Long-Term Impact of Improving Visualization Abilities of Minority Engineering and Technology Students: Preliminary Results.” *EDGD.*

**Electrical/Electronics**

Alaraje, Nasser, and Aleksander Sergeyev. “Developing an Industry-Driven Graduate Certificate in Test Engineering for Electrical Engineering Technologists.” *ACP.*


Anwar, Sohail, Janet LeClair, and Arnie Peskin. “Development of Nanotechnology Concentration for an On-Line BSEET Degree.” *CIEC.*

Baig, Muhammad M., and Rafiqul Islam. “The Lab Workshop Models on Microchip’s PIC Microcontrollers in EET Program.” *GSW.*

Ball, Aaron, and Jonathan S. Busick. “A Low-Cost Conveyor System for Teaching Automation to Engineering Technology Students.” *SEE.*
Bilen, Sven, and Okhtay Azarmanesh. “Experiences with Student-Developed Software-Defined Radios in the Smart Radio Challenge.” *ACP.*

Boglione, Luciano. “Designing Printed Circuit Boards for Microwave Engineering Applications: A Teaching Tool for Engineering Technology Students.” *ACP.*


Duthie, Nathan, and Brian P. DeJong. “Mobile Star Finder.” *NC.*

Edwards, Robert, and Gerald Recktenwald. “A Guided Inquiry Approach to Teaching Fan Selection.” *ACP.*

Evans, William Ted. “A PLC Achievement Test.” *NC.*

Everly, James, and Delmer Nicholson. “Controlling a Power Supply via the Internet Provides a Capstone Design Experience in Topics of Applied Design.” *ACP.*

Fallon, Tom. “Methods for Increasing Enrollment in a Telecommunications Engineering Technology Program.” *SEE.*


Fotouchi, K., and Susan Cooledge. “Microcontroller Controller Walking Robot.” *ACP.*

Goulart, Ana, and Andrew Helton. “A New Course on IP-Based Emergency Communications.” *GSW.*

Grinberg, Ilya, Mohammed Safiuddin, Chilkuri Mohan, and Steven Macho. “Multi-Institutional Approach to Engineering Education.” *ACP.*


Hassell, Trever J., Aurenice M. Oliviera, and Wayne W. Weaver. “Control Development for Undergraduate Exposure.” *FIE.*
Hergert, David. “Instrumentation Based Mobile Laboratories for an Electromechanical Engineering Technology Distance Education Program.” *ACP*.

Islam, Rafiqlul. “Green Initiative in Campus Followed by Curriculum Development of a Course Concentrating on Selected Choices of Alternative Energy Sources in EET Program in Terms of Global and Environmental Impacts.” *ACP*.


LeClair, Janet, and Li-Fung Shih. “Implementation of a Systematic Outcomes Assessment Plan to Ensure Accountability and Continuous Improvement in a Non-Traditional Electronics Engineering Technology Program.” *ACP*.

Lee, Shiyoung, “Development of a Four-Story Elevator System for Teaching Motion Control Concept with Programmable Logic Controller.” *ACP*.

Litwhiler, Dale. “MEMS Accelerometer Investigation in an Undergraduate Engineering Technology Instrumentation Laboratory.” *ACP*.

Loker, David. “Elevator Control System Project.” *ACP*.

Mehta, Shalin et al. “An Interactive Learning Environment for DSP.” *ACP*.


Mullett, Gary. “Smart Grid, Cleantech, Sensor Networks Come of Age.” *ACP*.


Prawdzik, Nicholas and Brian DeJong. “Accelerometer-Driven RC Car.” *NC*.


Rehg, James, and Glenn Sarton. “Instructional Algorithms Enhance Student Understanding of PLC Ladder Logic Programming.” *ACP*. 
Reisdorff, Michelle Peterson. “Fuzzy Logic on an FPGA.” NMW.

Richardson, Jeffrey, and Leslie Reed. “Improving Innovation by Enhancing Creative Capabilities in Electrical and Computer Engineering Technology Students.” ACP.

Rios-Gutierrez, Fernando. “New Approach for Teaching a Microcontrollers System Design Course for Engineering Technology.” ACP.

Rios-Gutierrez, Fernando, and Youakim Al Kalaani. “Enhancing Electrical Engineering Technology Capstone Senior Design Course Experience through Industry-Based Projects.” ACP.


Sykam, Srinivasulu, and Gale Allen, “Dynamic Signal Analyzer Developed with LabVIEW-RF Tools.” NMW.

Tan, Li, and Jean Jiang. “Improving Digital Signal Processing Course with Real Time Processing Experiences for Electrical and Computer Engineering Technology Students.” ACP.

Wang, Guoping. “Preview, Exercise, Teaching, and Learning Digital Electronics Education.” ACP.


Zhou, Zhaoxian. “LabVIEW-Based Laboratory for Electronics Engineering Technology Program.” SEE.

Zhou, Zhaoxian. “Practice of Increasing Enrollment and Retention of Electronics Engineering Technology Program.” SEE.

Faculty Development


Buchanan, Walter W. “Faculty Scholarship, Research and Development in Engineering Technology.” CIEC.

Garrick, Robert et al. “Accelerating Untenured Faculty Scholarship.” CIEC.


Head, Elsa, and Adam Carberry. “What Can Teachers Learn from Engineering Experts? Using a Three-Phase Model to Improve K-12 Teachers Knowledge of Engineering and Technology.” ACP.
Hoffman, Allen H. et al. “Combining Service Learning with the NSF Research Experiences for Teachers Program.” WIP. FIE.

Hunter, Kenneth, Jessica Matson, Margaret Phelps, and Roy Loutzenheiser. “Professional Development for Science, Technology, and Mathematics Teachers.” ACP.

Johnson, Daniel, and Brian Thorn. “Balancing the Demand for Teaching and Sponsored Research Activity.” ACP.

Kimmel, Howard et al. “A Capstone Approach to Exploring Teacher Outcomes from Professional Development.” ACP.


Industrial

Bryan, Cory, Mitch Grenwalt, and Adam Stienecker. “Energy Consumption Reduction in Industrial Robots.” NC.


Creese, Robert, and Deepak Gupta. “Combined Individual-Team Based Project.” ACP.

Heidari, Farzin. “Design and Implementation of Scoring Rubrics for the Industrial Technology Program.” GSW.


Yildiz, Faruk, and Mark Dearing. “Self-Powered Athletics Field Striping Machine.” GSW.
Industry/Government/Employers

Agrawal, Ashok, and Amy Sonderman. “Collaborating with Local Industry for Pre-Employment Training.” CIEC.


Ball, Aaron, and George Ford. “A Case Study: An Energy Audit for a Small Municipality in North Carolina.” SEE.


Benedict, Barry A. “Industry-University Consortia and Conflicts of Interest.” ICEE.


Foster, Phillip R. “Effective Continuous Quality Improvement through Structured Cooperation between the Industrial Advisory Board and Faculty.” GSW.


Hudson, William B., and Craig O. Thompson. “Addressing Intellectual Property (IP) and Student Needs in Industry Collaborative Student Projects.” NMW.

Midturi, S. “A Link between Industry and Engineering and Engineering Technology Institutions.” GSW.

Miyazato, Shinichi. “Education by University-Industry Coordination with Joint Research Project.” ICEE.

Mullet, Gary J. “The Verizon NextStep Program–A Fifteen-Year Partnership.” CIEC.

Omar, Maher, Abdallah Shanableh, and Kaled Hamad. “Thoughts on the University-Industry Relations.” CIEC.


Raju, V. “Engineering Competencies and the Need for Education and Training in Industry.” CIEC.

Ślosarek, Jan, Blazej Sobota, and Ewa Mendec. “Collaboration between Universities and Industry Based on Experience of the Silesian University of Technology.” *ICEE*.


Westheider, Virginia H., Patrick Brown, Janet Dong, and Jay Lee. “Bringing the University to the Community and the Community to the University via Collaboration with Business and Industry Partners.” *CIEC*.


**Information Technology**

Burger, Carol J. “Information Technology Career Interest: Cross-Cultural Study of College Women in Australia, New Zealand, & the United States.” *SEE*.


Nankivell, Kim, Joy Colwell, and Jana Worthington. “Preparing the Information Technology Professionals of Tomorrow: What Information Technology Programs Can Do to Ensure Their Graduates Are Employable.” *ACP*.


**Instructional Technology**


Click, Steven M. “Using Camtasia Relay on a Tablet PC to Record Lectures in the Classroom: Experiences of a First-Time User.” *SEE*.


Dell, Elizabeth. “Using Web-Based Resources in an Introduction to Materials Science Course to Develop Communication and Problem-Solving Skills.” *StL*.

Dow, Douglas E. “Integrating Web-Based Learning Modules into a Traditional Course.” *NE*.

Erdmans, Charlotte, and Bruce Harding. “Leveraging the Internet and Limited On-Campus Resources to Teach Information Literacy Skills to Future Engineering Practitioners.” *ACP*.


Harley, Gabriel et al. “Enhancing Student Classroom Engagement through Social Networking Technology.” *ACP*.


Johnson, Craig. “Effectiveness of Videos in Casting Education.” *ACP*.

Johnson, Craig. “Use of Video in Casting Education.” *WIP. Zone*.


Malik, Manish. “Supporting Exam Revision in Google Talk and Examopedia Wiki.” *FIE*.


Miller, Scott, and Jeffrey Connor. “Student Use of Technology in a Large Lecture.” *ACP*.

Nathan, Rungun. “Faculty’s Use of Tablet-PC to Enhance Learning for Technology Students.” *ACP*.


Spezialetti, Madalene. “The Video Scenario Approach for Developing Computational and Entrepreneurial Thinking Skills.” WIP. *FIE*.


**International**

Adithan, M., and Robert Creese. “Globalization and Higher Education: A Case Study from India.” *ACP*.

Arciero, Ariana, Benjamin Flores, and Helmut Knaust. “International Conference Participation for Undergraduate Scholars through the University of Texas System Louis Stokes Alliance for Minority Participation.” WIP. *FIE*.

Bojar, Gabor. “Globalization from a Small Country Perspective.” *ACP*.


Cottrell, David. “Integrating Cultural Development into a Multidisciplinary Seminar Course: Broadening the Student Horizon to Enhance Appreciation for Contemporary Global Issues.” *ACP*.


Dave, Janak, and Janet Dong. “Global Experiential Learning for Engineering Technology Students.” *ACP*.


Hopcraft, Francis J. “The Integration of Co-op Program into International NGO Work.” *NE*.


Lou, Shi-Jer et al. “A Study of Project-Based STEM Learning in Taiwan.” *ACP*.


Olaleye, James, Emmanuel Abiodun, Joseph Olusina, and Francis Derby. “A Comparative Study of Land-Surveying Education at the University of Lagos and the Pennsylvanian State University.” *ACP*.


### Laboratories

Attarzadeh, Farrokh et al. “Advances in CLABS Methodology for Engineering Technology Laboratories.” *GSW*.


Chen, Xuemin, Yongpeng Zhang, Lawrence Kehinde, and David Olowokere. “Developing Virtual and Remote Undergraduate Laboratory for Engineering Technology.” *ACP*.


Cochrane, Phillip, Barbara Eversole, and Carroll Graham. “Improving Laboratory Performance.” *CIEC*. 


Egbert, Robert. “A Laboratory Format for Improved Student Participation.” *MW*.


Krupczak, John, and Kate Disney. “Portable Laboratories for General Education Engineering Courses.” *ACP*.


Seeling, Patrick. “Portable Student Labs Implementation.” WIP. *FIE*.


Zhang, Yongpeng, Cajetan Akujuobi, Yonghui Wang, and Suxia Cui. “Engineering Technology Laboratory Enhancement with LabVIEW.” *ACP*.
**Liberal Studies**

Bertha, Carlos. “How to Teach an Engineering Ethics Course Using Cases.” *ACP*.


Castro-Sitiriche, Marcel J., Christopher Papadopoulos, and Héctor J. Huyke. “Interdisciplinary Integration in Philosophy of Technology.” WIP. *FIE*.


Colwell, Joy. “Soft Skills for the New Economy: Their Place in Graduate Education in Engineering and Engineering Technology.” *ACP*.


Dyrud, Marilyn A. “Ethics’ Orphan: Unintended Consequences.” *ACP*.

Dyrud, Marilyn A. “Problem Solving in Engineering and Ethics: Points of Intersection.” *CIEC*.

Dyrud, Marilyn A. “Remembering the Past to Inform the Future: Engineering and the Holocaust.” *Zone*.


Gunn, Craig. “Novel Writing in a College of Engineering.” WIP. *NC*.

Gunn, Craig. “Promoting an Interest in Engineering through Art.” *ACP*.

Halada, Gary P. “Teaching by Disaster: The Ethical, Legal and Societal Implications of Engineering Disaster.” *MIDATI*.

Hoshino, Yuko, and L. Wayne Sanders. “Cultivating Cultural Competencies through Various Classes.” *ICEE*.

Ilic, Vojislav. “Humanities in Engineering and Engineering in Humanities.” *ICEE*. 

Layton, David. “Using the College Science Fiction Class to Teach Technology and Ethics: Themes and Methods.” *ACP*.


Magana, Alejandra J., and Donna Riley. “First-Year Students’ Perceptions of the Societal and Ethical Implications of Nanotechnology.” *ACP*.


May, Jill et al. “Can One Measure of Ethical Competence Be Useful in Varied Undergraduate, Multidisciplinary Settings?” WIP. *FIE*.


Monaghan, Gloria A. “Across the Universe: Cyborgs and Students in the Garden.” *NE*.

Monaghan, Gloria A. “Creativity and Engineering: Constructing Poems.” *NE*.


Nathans-Kelly, Traci et al. “In-Situ Ethics: The Ethical Sensibility That Engineers Bring to Their Work.” *ACP*.


Tuck, Joanne. “Designers of Death: Nazi Engineers during the Holocaust.” *NE*. 
Walk, Steven. “Increasing Technological Literacy through Improved Understanding of Technology Emergence and Diffusion.” *ACP*.

Walczak, Kelley et al. “Institutional Obstacles to Integrating Ethics into the Curriculum and Strategies for Overcoming Them.” *ACP*.

Wilson, Sara E. “Responsible Conduct of Research in Engineering: Addressing the America COMPETES Act.” *MW*.

**Manufacturing**


Chattopadhyay, Somnath. “Selection of Material, Shape, and Manufacturing Process for a Connecting Rod.” *ACP*.


Feola, Sandy. “CareerME: Encouraging an Advanced Manufacturing Worker Pipeline.” *ACP*.


Genis, Vladimir et al. “Development of the Laboratory-Based Course in Lean Six Sigma Nanomanufacturing.” *ACP*.


Jaksic, Nebojsa. “Teaching PLCs Using the Kolb Learning Cycle.” *ACP*. 
Johnson, Michael, Ram Prasad Diwakakaran, and Justin Zsiros. “Conveying the Importance of Manufacturing Process Design Using Simulation Results and Empirical Data.” ACP.

Leduc, Alan, Gary Hadley, and Mark Ratzlaff. “Immersive Learning Using Lean Six Sigma Methodology in the Manufacturing Engineering Technology Capstone Course.” ACP.


Mohammed, Jaby, Ramesh Narang, and Jihad Albayyari. “Developing a New Manufacturing Engineering Technology Curriculum.” ACP.


Peterson, Harry C. “Ethical and Honesty Issues of Web-Based On-Line Courses Compared with Traditional Classroom Courses.” NMW.

Peterson, Harry C. “Insights Learned from Conversion of Web-Based On-Line Courses Back to Traditional Classroom Presentations.” NMW.


Salehpour, Amir, and Sam Antoline. “Rapid Prototyping as an Instruction Tool to Enhance Learning.” *ACP*.


Tsang, Tzu-Ling (Bill), Richard Chou, and Yongjin Kwon. “Engineering Educators: Internet Based Manufacturing Enhancement.” *GSW*.


Wells, David. “Challenges and Responses over a Quarter-Century of Manufacturing Education.” *ACP*.


White, William L. “Integrating Written and Oral Communications into a Manufacturing Processes Class.” *NC*.

Zhou, Ziliang, and Anthony Donaldson. “Project-Based Learning in Manufacturing Process.” *WIP. FIE*.

**Mechanical**


Altan, Taylan, John T. Berry, and John E. Wyatt. “Whatever Happened to Product Realization? Will Technology Programs Succeed Where Engineering Programs Have Failed?” *SEE*.


Choudhury, Ifte. “Effect of Absenteeism on Student Performance in a Mechanical and Electrical Construction Course.” *GSW*.

Cook, Kevin et al. “Implementing a Formal Collaborative Mechanical Engineering Technology Internship Program with Campus Research Activities.” *ACP*.


Denton, Nancy, Marc Williams, and Joseph Kmc. “Mass Unbalance in an MET Course.” *ACP*.

Durfee, Jason, and Hani Saad. “Using a Living-Building Laboratory (Building as a Laboratory) as a Thermodynamics Project in the Engineering Technology Curriculum.” *ACP*.

Faulkenberry, Luces, and Wajiha Shireen. “Undergraduate ad Graduate Research Projects in Plug-In Hybrid Electric Vehicles (PHEVS) Supported by Centerpoint Energy.” *ACP*.


Fleishman, Steven, and Eric Leonhardt. “An Alternative Ride–Undergraduate Students and Faculty at Western Washington University Design a Hybrid Electric Bus.” *ACP*.


Hincapie, Juan Richard Jones and Jerry K. Keska, “Reduction of Frequency Fluctuation Deviation of Void Fraction in Water-Air Heterogeneous Mixture Flow.” *GSW*.


Keska, Jerry K., “Instrumentation Emphasis in Undergraduate Mechanical Engineering Programs.” *ACP*.

Keska, Jerry K. “Physical Experimentation Laboratory in a Mechanical Engineering Program with a Teaching Segment on Data Validation.” *GSW*.


Kitto, Kathleen L. “Understanding the Effectiveness of Cognitive and Social Constructivism, Elements of Inductive Practice and Student Learning Styles on Selected Learning Outcomes in Materials Engineering.” FIE.


Liang, Wilson (Zhongming). “CAD Models of Movable Clamps in Fixture Design.” CIEC.


Malali, Praveen, Pooja Bais, Robert Choate, and Sushil Chaturvedi. “Uncertainty Analysis and Instrument Selection Using a Web-Based Virtual Experiment.” ACP.

McDonald, David. “Engineering and Technology Education for Electric Vehicle Development.” ACP.

McHugh, Ryne. “Virtual Prototyping of Mechatronics for 21st century Engineering and Technology.” IL/IN.


Mondragon-Torres, Antonio F. “The Millennium Generation: Are They Ready for the Ultra-Low Power Challenge?” NE.


Nathan, Rungun. “Using Fill-In Worksheets in a Mechanics Class.” ACP.

Njock-Libii, Josue. “Using Microsoft Windows to Compare the Energy Dissipated by Old and New Tennis Balls.” ACP.

Pandian, Shunmugham R. “Intelligent Mechatronic Technologies for Green Energy System.” GSW.

Passmore, Lucas et al. “Sources of Students’ Difficulties with Couples and Moments in Statics.” ACP.


Sridhana, B. “Course-Related Activities for Mechanical Vibration in the Absence of a Formal Laboratory.” *ACP*.


Yang, Tuzhao, and Carl Lundgren. “Wood Chip Compost Heater.” *StL*.


Younis, Nashwan. “Visualized Photostress Images for Stress Concentration Instruction.” *ACP*.


**Nuclear**

Ciu, Suxia, John Fuller, Pamela Holland-Obioman, and Warsame A. Ali. “Educate New Generation on Nuclear Technology.” *NE*.


**Teaching Methodology**


Couch, Alva L. “Re-Engineering the Value Proposition for Class Attendance in the Digital Age.” *NE*.
Daniels, Laws, and Åsa Cajander. “Experiences from Using Constructive Controversy in an Open Ended Group Project.” *FIE.*

Darwish, M. Mukaddes, and Sharath Neelakanta. “Integrating LITEE Case Studies in Construction Engineering and Engineering Technology Education.” *GSW.*

Demetry, Chrysanthe. “An Innovation Merging ‘Classroom Flip’ and Team-Based Learning.” WIP. *FIE.*


Fleischman, Steven. “Western Washington University’s Hybrid Bus—A Multidisciplinary Approach to Project-Based Education.” *ACP.*


Gu, Y. T., and A. Tan. “Visualization—A Powerful Tool for Effective Teaching of Dynamics.” *ICEE.*

Hahn, Laura. “Using Participatory Action Research to Investigate Student Learning in Engineers without Borders.” WIP. *FIE.*

Hamlin, Brett, Jonathan Riehl, AJ Hamlin, and Amy Monte. “What Are You Thinking? Over Confidence in First Year Students.” WIP. *FIE.*

Hoffman, Allen H. “Encouraging Innovation by Having Students Develop Their Own Course Design Projects.” WIP. *FIE.*


Hundley, Stephen et al. “Great Environments for Student Success.” *ACP.*

Islam, M. Nazrul. “Student Involvement in the Class.” *MIDAT1.*

Kelley, David, and Mary Sadowski. “Peer Evaluation with a Team Design Project.” *EDGD.*

Kim, Kahyun “Sophie,” and Lisa D. McNair. “Self-Managed Teaming and Team Effectiveness in Interdisciplinary Capstone Design.” *FIE.*


Laws, Elizabeth M. “A Method of Setting Examination Papers and Generating the Solutions.” *ICEE.*

Laws, Elizabeth M. “Personalising the Examination Paper by Harnessing Energy.” *ICEE.*

Lewelling, Kevin R. “Using In-Class Teamwork Learning Modules in Digital Systems to Improve Conceptual Understanding.” *MW.*

Mallory, James, Vicki Robinson, and Gary Long. “Using Second Life® to Enhance Student Learning of Technical Concepts.” *StL.*


Matusovich, Holly, Michele Cooper, and Katherine Winters. “Understanding the Role of Graduate Teaching Assistants in Contributing to Student Motivation.” *WIP. FIE.*

Muller, Orna, and Bruria Haberman. “A Non-Linear Approach to Solving Linear Algorithmic Problems.” *FIE.*

Nathan, Rungun. “Fill-In Worksheets: A Tool to Increase Student Engagement.” *ACP.*

O’Connell, Robert M., Gavin Duffy, Ted Burke, and David Dorran. “Practical Aspects of Teaching via the Group-Based Learning Environment.” *MW.*

Osakue, Edward E., and Graham Thomas. “Using Project Assignment to Improve Students’ Knowledge and Skills.” *CIEC.*

Pereira, Anna, and Michele Miller. “A Hands-On Ability Intervention.” *WIP. FIE.*

Reid, Kenneth J., and Daniel Ferguson. “Measuring and Enhancing the Entrepreneurial Mindset of Freshman Engineering Students.” *WIP. FIE.*

Robertson, John. “The Case for Technology Case Studies.” *ACP.*

Rockland, Ronald et al. “Technology and Learning Objects in the Engineering Technology Classroom.” *ACP.*

Rutkowski, Jerzy. “Application of Bloom’s Taxonomy for Increasing Teaching Efficiency–Case Study.” *ICEE.*

Samples, Jerry. “Leadership 107: Student Centeredness–A Balance.” *ACP.*

Savage, Nancy, Samuel Daniels, and Michael Collura. “Inverting the Lecture Paradigm for a Multidisciplinary Course.” *NE.*


Shih, HuiRu et al. “Integrating Self-Regulated Learning Instruction in a Digital Logic Course.” *ACP.*


Snead, Charles V., and Jane LeClair. “Innovations to Degree Completion Strategies for Adult Learners.” *StL.*
Tsai, Hsi-Hsun. “Constructing the Norm of the Problem-Solving Abilities for Non-Traditional and Advanced Placement Students.” *ACP*.


Yang, Eunice E., and Beverly W. Withiam. “Efficient Statics Lecture through the Use of Worksheets.” *MIDATI*.

Yip-Hoi, Derek, and Jeff Newcomer. “Using LEGOs to Teach Product Design and Team-Based CAD Modeling.” *ASME*. Paper no. 37769.


**Tech Prep/STEM**


Bachnak, Rafic, Rothita Goonatilake, Eduardo Chappa, and Young-Man Kim. “Programs for Recruitment and Retention in STEM Majors.” WIP. *FIE*.

Bhatnagar, Kaninika, and Mary L. Brake. “Gender Differences in Technology Perceptions of High School Students and Their Intent to Choose Technology College Majors.” *Journal of Engineering Technology* 27, no. 2 (Fall 2010): 8-16.

Brumfield, Jonathan et al. “Techfacturing: A Summer Day Camp Designed to Promote STEM Interest in Middle School Students through Exposure to Local Manufacturing Facilities.” *SEE*.


Clemente, Mark A. “The Use of Modeling and Simulation as an Instructional Strategy in High School Math and Science Classes.” *SEE*.


Doppalapudi, Harinath. “Summer Learning Camps on Robotics for Middle and High School Students.” *GSW*.


Gilbert, Richard, Marilyn Barger, and Andrew Hoff. “STEM at Work.” *ACP*.


Gunn, Craig. “Grandparents University–Providing the Spark to Elementary Students.” WIP. *NC*.

Hall, David, Michael Swanborn, and Heath Tims. “2D Trusses as a Mechanism for Teaching K12 Fundamental STEM Topics.” WIP. *FIE*.


Jackson, Michael, Santosh Kucinec, and Elaine Lewis. “Solar Energy as a Forum to Introduce Microelectronic and Nanofabrication Basics to the K-12 Community.” *StL*.

Jackson, Michael et al. “Excelsior Scholars Summer Program: Introducing K-12 Students to Microelectronic and Nanofabrication through Photovoltaics.” *FIE*.

Jaksic, Nebojsa et al. “Maturing of a Multidisciplinary Cohort of STEM Scholars: Year Three.” *Zone*.


Lawanto, Oenardi. “Understanding the Correlation between Goal Orientation and Self-Efficacy for Learning and Performance in an Engineering Design Activity in Grades 9-12.” *Zone*.


Mano, Chad, Vicki Allan, and Donald Cooley. “Effective In-Class Activities for Middle School Outreach Programs.” *FIE*.

Massa, Nicholas, Michele Dischino, Judith Donnelly, and Fenna Hanes. “Problem-Based Learning in Sustainable Technologies: Increasing the STEM Pipeline.” *ACP*.

Massi, Lisa et al. “YES: A NSF S-STM Scholarship Program Experience at the University of Central Florida.” *ACP*.


Perez, Dorene et al. “Guitar Building Gives High School Students a Taste of Engineering.” *IL/IN*.

Pulecio, Javier F., Alexandra Pilecio, Michaela Westlake, and Sanjukta Bhanja. “A Snapshot of Young America’s Perspective towards STEM.”


Strutz, Michelle. “Identifying Engineering Interest and Potential in Middle School Students: Developing an Instrument.” *IL/IN*.

Westheider, Virginia, and Patrick Brown. “University and Urban High Schools Team to Use Lego Robots to Teach Physics.” *ACP*.

Zilora, Stephen J. “Preparing High School Students for College with Informatics.” *NE*.

---

**Technical Communication**
Alley, Michael, Joanna Garner, and Sarah Zappe. “Projected Words Per Minute: A Window into the Potential Effectiveness of Presentation Slides.” ACP.


Conrad, Susan, Peter Dusicksa, and Timothy Pfeiffer. “Understanding Student and Workplace Writing in Civil Engineering.” Zone.


Estell, John K., Kenneth Reid, and Laurie Laird. “Cheeseburger, Fries, and a Coke: It’s about the Presentation.” ACP.


Harvey, Roberta, and Jennifer Kadlowsec. “Retention and Application of Writing Skills Learned in Sophomore Clinic I.” WIP. FIE.

Lockwood, Sarah, Daryl Caswell, and Marjan Eggermost. “Communications Instruction in First Year Engineering: The Glue.” ACP.

McCullough, Claire L. “A Comedy of Errors: Teaching Oral Presentation Skills Using a Spectacularly Bad Presentation.” SEE.

Nicometo, Christine et al. “‘More Than Engineers’–How Engineers Define and Value Communication Skills on the Job.” ACP.


Richards, Beth, and Ivana Milanovic. “Partnership between Engineering and Professional Writing.”


**Technical Graphics**


Clark, Aaron, Jeremy Ernst, and Brian Downs. “A Survey of Graphic Professionals Focused on Distance Education Trends in Technical/Engineering.” *ACP*.

Connolly, Patrick et al. “Relational Geometry in Surface-Driven Modeling.” *EDGD*.

Connolly, Patrick et al. “Spatial Ability Testing with Augmented Reality.” *ACP*.

Haque, Mohammed. “Multidimensional Construction Visualizations with Examples: Suggested Topics for Graduate Course.” *ACP*.


Jones, Bruce W. “Teaching Computer Graphics in an Online Environment.” *EDGD*.


Lane, Diamant, and Niall Seery. “Freehand Sketching as a Catalyst for Developing Concept-Driven Competencies.” *ACP*.


Pan, Rui (Celia Shih-Ping Kuo, and Johannes Strobel. “Interplay of Computer- and Paper-Based Sketching in Design.” *ACP*.


Seery, Niall, Diamant Lane, and Donald Cantly. “Pedagogical Challenges Facing Design and Communication Graphics.” *EDGD*.


Yip-Hoi, Derek. “CAD Instruction Techniques for Advanced Assembly Modeling and Mechanics Design.” *ACP*.

Yip-Hoi, Derek. “Strategies for Teaching CAD Automation to Engineers and Technologists.” *ACP*.

**Acknowledgments**

The annual bibliography is a special project of ASEE’s Engineering Technology Council. Our thanks to the many engineering technology professionals who took time from their busy schedules to contribute their publication listings.
Biography

Marilyn Dyrud is a full professor in the Communication Department at Oregon Institute of Technology and regularly teaches classes in business and technical writing, public speaking, rhetoric, and ethics; she is part of the faculty team for the Civil Engineering Department’s integrated senior project.

She is active in ASEE as a regular presenter, moderator, and paper reviewer; she has also served as her campus’ representative for 17 years, as chair of the Pacific Northwest Section, and as section newsletter editor. She was named an ASEE Fellow in 2008 and has compiled the bibliography for more than 20 years. Currently, she is on two division boards, Engineering Technology and Engineering Ethics, and serves as Zone IV chair. In 2010, she received the McGraw Award.

In addition to ASEE, Marilyn is active in the Association for Practical and Professional Ethics and the Association for Business Communication, serving on the editorial boards of two journals and editing a teaching section for ABC’s pedagogical journal.