Introduction

The 2012 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, nanotechnology, renewable, service learning, teaching methodology, tech prep/STEM, technical communication, and technical graphics. Several categories 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.


GSW  Proceedings of the 2012 ASEE Gulf Southwest Section Conference. April 4-6, 2012, El Paso, Texas. Proceedings are available on CD.


NE  Proceedings of the ASEE 2012 Northeast Section Conference. April 27-28, 2012, Lowell, Massachusetts. Due to an error on the ASEE website displaying section proceedings, these papers are not available. They are listed here as a courtesy to the authors.


Administration


Barger, Marilyn. “Florida’s Engineering Technology Pathways.” CIEC.

Buchanan, W. W. “How ASEE Can Benefit Society by Making Students Aware of Engineering Early and Then Showing How They Can Economically Go to College.”


Dalessio, Anthony P., and Elena V. Brewer. “Running a Successful Department Level Professional Development Program at a Community College with Little Access to College Funding.” *ACP*.


Dyrenfurth, Michael J. et al. “Synergies of Converging ABET, ATMAE, and Institutional Accreditation Programs.” *ACP*.

Ford, George. “Enrollments in Graduate Engineering Programs for the Next Ten Years.” *CIEC*.


McCormick, Jessica R., Eugenia Fernandez, and Danny King. “Success in Engineering and Technology Workshop: An Academic Intervention Program for Probation Students.” *ACP*.

Murphy, Mike, and Michael J. Dyrenfurth. “Examining the Role of the University in Creating Jobs.” *ACP*.

Panigrahi, Suranjan, and Ken Burbank. “A Strategic Analysis of Graduate Programs in Engineering Technology.” *ACP*.

Reid, Kenneth. “STeM to STEM: A New Bachelor of Science Degree with a Major in Engineering Education.” *NC*.

Sandowski, Mary, and Judy Birchman. “A Study to Examine the Role of Print, Web, and Social Media on Recruiting Students.” *EDGDI, ACP*.

Shull, Peter J. “Changing from Enrollment-Challenged to Resource-Challenged: Results of a Five-Year Enrollment Strategy.” *ACP*.

Viswanathan, Shekar. “Importance of Advisory Boards in Program Development and
Management.” *ACP.*

**Aerospace/Aviation**


Shetty, Dedvas, and Claudio Compana. “Precision Measurement Method of Misalignment, Cracks, Contours, and Gaps in Aerospace Industry.” *ACP.*

**Architectural**


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Molnár, Tamás. “Parzival Meets Modern Architecture,” 564-569. *ICEE.*


**Assessment**

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Bastian, Kristine Paradis, Eugenia Fernandez, and Elaine M. Cooney. “Accreditation Reciprocity: Interchangeability Challenges between Broadly Defined and Narrowly Defined Student Assessment Methods.” *ACP.*

Choo, V. “On the Topic of Assessment and Evaluation.” *GSW.*

DeTurris, Diana. “Assessment Rubric for Global Competency in Engineering Education.” *PSW.*

Goris, Tatiana V., and Michael J. Dyrenfurth. “Concepts and Misconceptions in Engineering, Technology and Science: Overview of Research Literature.” *IL/IN.*


Karimi, A., and R. D. Manteufel. “Assessment of Student Learning Outcomes in an Introductory Thermodynamics Course.” *GSW.*

Kock, Daphne C., and Mary E. Johnson. “Tinkering to Introduce Technology: Developing an Instrument to Measure Students’ Play Preferences.” *ACP.*

Maxwell, Andrew. “Management of Online Assessments as a Replacement for Exams,” 908-909. WIP. *FIE*.

Moody, Nathan et al. “Innovation Differentiation: Examining the Problem-Solving Approaches of Engineering and Technologist Students.” *IL/IN*.

O’Connell, Robert M. “Assessment Practices for Team-Based Learning in Sophomore-Level Courses.” *MW*.

Siniawski, Matthew T. et al. “Standards-Based Grading: An Alternative to Score-Based Assessment.” *PSW*.


**Biomedical/Biotechnology**


**Civil/Construction**


Duggan, John W., Michael Davidson, and Leonard Anderson. “Promoting Intra-Disciplinary Design in Civil Engineering Technology: An Approach to Comprehensive Capstone Design through Faculty and Practitioner Mentorship.” *NE*.

Durfee, Jason K. “Challenges and Successes of Creating a Living-Building Laboratory (Building as a Laboratory) for Use in the Engineering Technology Curriculum.” *ACP*.

Fiegel, Gregg L., and Daniel C. Jansen. “Look Ma, Concrete Hands!” *PSW*.


Kurtanich, David G., Nathan Schkurko, and Kenton Esbenshade. “Performance Comparison of Trickling Filter Media for a Municipal Wastewater Treatment Facility.” *Technology Interface International Journal*


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Kurkovsky, Stan, and Delvin Defoe. “Evaluating the Use of Mobile Game Development in Introductory CS Courses,” 624-626. WIP. *FIE*.

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Baltimore, Craig, and Allen Estes. “College and Industry Partnerships: The Samé, Tanzania Polytechnic, and Weld Quality.” ACP.


Bennett, Andrew, and Rekha Natarajan. “Choose Your Own Homework,” 644-645. WIP. FIE.

Berri, Sidi, Andy Zhang, and Gaffar Barakat Gailani. “Importance of Undergraduate Research in Engineering Technology Programs.” ACP.

Blake, John E. “Technological Literacy as an Element in the Structure, Assessment, and Evaluation of Engineering and Engineering Technology Degree Programs.” ACP.

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Danielson, Scott, and Chell A. Roberts. “Increasing Student Learning via an Innovative Capstone Program.” ACP.

Dyrenfurth, M., K. Newton, and R. Athinarayanan. “Engineering Technology Department Responses to the USA’s Innovation Challenge: Potential Actions.” CIEC.

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Heymans, Lori, Michael E. Pelletier, Linda A. Desjardins, and Paul J. Chanley. “Summer Bridge in Community College Program Emphasizing Engineering and Technology.” ACP.


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Keska, J. “Physical Experimentation—Cooking an Egg with a Cell Phone: Hoax or Reality?” GSW.

Korenic, Robert J. “LEEDing the Way: A Problem and Project Based Approach to Developing an Undergraduate Course in LEED.” NC.

Krupszak, John et al. “Minors as a Means of Developing Technological and Engineering Literacy for Non-Science Majors.” ACP.

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Marshall, John. “A Professional Internship: Don’t Graduate without One.” ACP.


Nakayama, Shoji, and Ge Jim. “Improving Students’ Learning Outcomes in Safety Education through Interdepartmental Collaboration.” CIEC.


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Klosowski, Piotr. “Functioning and Development of Distance Education at Silesian University of Technology,” 904-911. *ICEE.*


Meyer, Brett, Timothy Wei, David Jones, and Stuart Bernstein. “Enhancing the Distant Classroom Experience Using NUVIEW.” *MW.*

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Jianh, Hao. “Engaging Underrepresented Community College Students in
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Nagchaudhuri, Abhijit et al. “IJMES STEM Faculty, Students, and Staff Collaborate to Address Contemporary Issues Related to Energy, Environment, and Sustainable Agriculture.” *ACP.*

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Blanton, William H., Zhibin Tan, and Davin A. Strom. “The Fast Fourier Transforms for Technologists, Engineers, and Other Non-Ph.D.s.” *ACP.*

Brewer, Elena V., and Anthony P. Dalessio. “Effective Low-Budget Approach to Teaching Photovoltaic Systems to Electrical Engineering Technology Students at Community Colleges.” *ACP.*

Border, David. “Integration of National Instruments Multisim and Macintosh Mathcad into a Digital Communication Technology Curriculum.” *ACP.*

Davis, C., W. Hickman, and V. Tzouanas. “Design and Control of an Air Heater Process.” *ACP.*


Evans, William T. “Courses in Programmable Controls for Engineering Technology.” *NC.*

Farook, Omer, Chandra R. Sekhar, Jai P. Agrawal, and Ashfaq Ahmed. “Multiprocessor Embedded System Design: A Course with Hardware-Software Integration.” *ACP.*

Farook, Omer et al. “Embedded RF System Design with the rfPIC12F625.” *ACP.*


Gero, Aharon, Wishah Wajeeb Zoabi, and Nissim Sabag. “How Does Automation-Based Learning Affect Students’ Achievement and Attitudes towards Electronics?” *ACP.*

Globig, James E., and Michael J. Kozak. “The Rubber Band Rule and Other Innovative Techniques to Teach Introductory Circuit Analysis.” *ACP.*
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Khorbotly, Sami. “Adding an FPGA Component in the Digital Signal Processing Lab.” *NC.*


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Panigrahi, Suranjan. “Analysis and Overview of Techniques to Incorporate Innovation in Undergraduate Curriculum in Electrical Engineering Technology.” *IL/IN.*

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Tzouanas C., and V. Tzouanas. “Study of a Photo-Voltaic (PV) System Using Excel: Economic Analysis, Modeling, Simulation and Optimization of a Photo-Voltaic (PV) System.” *GSW.*

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Yousef, Asad, and Mohamad A. Mustafa. “Capstone Project: Electronic Name Tag System.” *ACP.*

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Zhan, Wei, Ana Elisa P. Goulart, Joseph A. Morgan, and Matt Allen Bird “Integration of Capstone Experience and Externally Funded Faculty Research.” *ACP.*

Zhoul, Zhaoxian. “Mathematical Skills in Electronics Engineering Technology Curriculum.” *SEE*

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Jackson, Kathy Schmidt, and Randy L. Vander Wal. “Taking Matters into your Own Hands: Is Creating an E-Book for You?” ACP.


Yan, Karen Chang et al. “TCNJ ADVANCE Program (TAP): Assessment and Faculty Development Initiatives for Fostering Career Advancement within a PUI Environment.” ACP.

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Schlemer, Lizbeth Thompson, Sema E. Alptekin, and Karen Bangs. “Integrating Courses through Project-Based Learning.” PSW.

Sarder, M. B. D., and Shahdad Naghshpour. “Enhancing Students’ Learning through MILL Concept.” ACP

**Industry/Government/Employers**

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Billis, Steven H., Nada Marie Anid, Alan Jacobs, and Ziqing Dong. “Infusing the Curriculum with Cutting-Edge Technologies through Partnerships with Industry,” ACP.

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Durkin, Robert J. “Startup Firms Can Benefit from Engineering Technology Capstone Courses,” CIEC.

Fattic, Jana, and Joseph Gutenson. “Industry and Institutional Partnerships for the Water Training Institute.” CIEC.

Hampton, Dave, and Jose Macedo. “Model to
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Saltz, Jeffrey, Jae Oh, and Suk-Chung Yon. “Reviewing GE IE: An Open Co-op Program.” *NE.*

Schmidt, Edie, and Kim Deranek. “Development and Education: Leading Change in Curriculum and Business Processes through Industrial/Education Partnerships.” *CIEC.*


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Abe, Tokio. “A Curriculum Improvement of MIS Course in College,” 235-244. *ICEE.*


Kam, Hwee-Joo, and Greg Gogolin. “Out-of-Class Learning: Shaping Perception of Learning and Building Knowledge of IT Professions,” 696-697. WIP. *FIE.*


McDermott, Roger et al. “Student Reflections on Collaborative Technology in a Globally Distributed Student Project,” 365-370. *FIE.*


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**Instructional Technology**

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Fisher, Tiffany, Wanda L. Worley, and Eugenia Fernandez. “Using Web 2.0 and Social Networking Technologies in the Classroom: A Comparison of Faculty and Student Perceptions.” *ACP*.


Little-Wiles, Julie M., Stephen Hundley, Wanda J. Worley, and Eric J. Bauer. “Faculty Perceptions and Use of a Learning Management System at an Urban Research University.” *ACP*.


Prodanov, Vladimir. “In-Class Lecture Recording: What Lecture Capture has to Offer to the Instructor.” *PSW*.


Walk, Steven R. “Improving Learning Technology Design through the Identification of Anthropologically Invariant Learning Behaviors in the Adoption of Educational Technology.” *ACP*.

**International**


Farnsworth, Clifton B., Mark Owen Lords, and Brian Charles Capt. “Involving Students in an International Technology Exchange.” *ACP*.

Friess, Alex, Ivan E. Esperragoza, and Dylan Connole “Enhancing Cross-Cultural Interaction in Courses with a Large Component of Visiting Study Abroad Students.” *ACP*.

Hamad, K. “Developing New Technology-Related Bachelor Programs in the Middle East.” *GSW*.


Mazumder, Quamrul, and Mohammed Rezaul Karim. “Comparative Analysis of Learning Styles of Students of USA and Bangladesh.” *ACP*.

Meisner, Robert. “The Impact of Study Abroad on Students and Hosting Companies.” *NMW*.


Reed, Brian E. et al. “Program Offerings and Curriculum Convergence between the Dublin Institute of Technology (DIT) and the University of Maryland, Baltimore County (UMBC).” *ACP*.


Sanger, Phillip Albert, Julia Ziyatdinova, and Vasily Grigoryevich Ivanov. “An Experiment in Problem-Based Learning: A Comparison of Attitudes between Russia and America.” *ACP*.


Wolfsteiner, Peter, and Brian P. Self. “A Detailed Look at the German Universities of Applied Sciences.” *ACP*. 
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### Laboratories


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Chaturvedi, Sushil K. et al. “Implementation and Assessment of a Virtual Reality Experiment in the Undergraduate Thermo-Fluids Laboratory.” *ACP.*

Cherner, Yakov, and Gary Mullett. “Simulation-Based Customizable Virtual Laboratories for Teaching Alternative Energy, Smart Grid and Energy Conservation in Engineering & Technology Programs.” *NE.*

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Dyrud, Marilyn A. “Examining Urban Legends about Technology: A Creative Approach to Addressing Social Implications.” *CIEC.*

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Dupen, Barry. “Undergraduate Design and Modification of a Tensile Testing Fixture for Biomaterials.” ACP.


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Hossain, A., H. Kadir, and M. Zahraee. “Frame by Frame Analysis and Diagnosis of a High Speed Packaging System Using Fastec In-Line Network-Ready Camera Vision Equipment.” *ACP.*


Kalla, Devi K., and Aaron Brown. “Infusing a Sustainable Green Manufacturing Course into Mechanical/Manufacturing Engineering Technology Program.” *ACP.*

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Kitto, Kathleen. “NSF ATE Renewable Energy Center.” *ACP.*

Goodman, David W., and Robert J. Durkin. “Energy Demos: Class Project versus Commercial Equipment.” *ACP.*

Pecen, Reg Recayi et al. “Design and Implementation of a 10kW Wind Power and Instrumentation System.” *ACP.*


### Service Learning


### Teaching Methodology


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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, as section newsletter editor, and as Zone IV chair. 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. In 2010, she received the McGraw Award, and in 2013, the Berger Award.

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