

David Wayne Melton

Graduate Program Coordinator, Professor
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EDUCATION:

Utah State University, Logan, UT

PhD in Education, emphasis in Engineering and Technology, January 2007.

Thesis: *Comparisons of Group-Based versus Individual-Based Activities in an Engineering Graphics Course within a Higher Education Learning Environment*

Committee Chairman: Dr. Kirk Becker
Members: Dr. Gary Stewardson Dr. Paul Schreuders
Dr. Scott DeBerard Dr. Maurice Thomas

Brigham Young University, Provo, UT

MS in Technology (emphasis in Manufacturing Engineering), December 2003.

Thesis: *Friction Stir Welding of Dissimilar Aluminum Alloys*.

Committee Chairman: Dr. Michael Miles
Members: Dr. Perry W. Carter Dr. Tracy W. Nelson

Brigham Young University, Provo, UT

BS in Design Engineering Technology, April 1983

CURRENT PROJECTS AND ACCOMPLISHMENTS:

- Currently the School of Technology Graduate Program Coordinator where we have increased the enrollment of the Graduate Program over the past couple of years. I work with both domestic and international students. Over 95% of the graduate program students are International Students.
- Development of the Innovation Laboratory in the School of Technology. The lab encourages and develops student's engagement in research by developing creative work and critical thinking skills. A large part of this lab is developed around 3-D scanning and printing.
- Working with students in a Study Abroad program experience entitled, "The Exploration of Italian History, Culture, Art, Fashion and Technology". This program is based on the collaboration with Florence University of the Arts in Florence, Italy, who are a current partner with EIU Study Abroad office. The summer 2019 program was the fourth successful year of the program.
- Project Manager of the NSF Empowering Undergraduate and High School Students in Learning Biomass Renewable Energy by Integrating Student-Led Research and Entrepreneurship--A Multi-Disciplinary Approach.
- Lead the organization and completion of both the 1st and 2nd School of Technology Graduate Chicago Cohort. The cohort program has now been moved to an ONLINE delivery that includes many students now in the MS Technology and MS Talent Development programs.
- Coordinated the Applied Engineering and Technology (AET) Committee in developing curriculum for current area of studies and new offerings in the Information Technologies area of study.
- Received and certified training as a Master Project Manager through the Project Management Institute (PMI) associate training group. The receiving of this certification allows for training of students in the Applied Engineering and Technology program to qualify for taking the Certified Associated of Project Management (CAPM) certification.
- Working with the AET Committee in the developing of learning objectives in all AET coursework and areas of study in preparation for the Association of Technology, Management and Applied Engineering (ATMAE) reaccreditation.

- Faculty Advisor of the Society of Manufacturing Engineers. Additional, participation in the Student Construction Club and the ATMAE Student organization.
- Developed both group and individual student workshops focusing on cover letters and resumes.
- Consistently achieving Student Evaluations scores of 4.85 average and above.

PUBLICATIONS AND PRESENTATIONS:

- McKirahan, J. and Melton, D. (2011). *Rethinking the Future Toward Increased Polymer Nanocomposites Usages*. 2011 ATMAE Conference Proceedings.
- Cloward, J. and Melton, D. (2010). *Bridging the Gulf with Hearing Protection: A Classroom Study on the Effectiveness of Alternative to Commercial Hearing Protection*. 2010 ATMAE Conference Proceedings.
- Melton, D., Izadi, M, Cloward, J., and Sheppard, A. (2009). *Direct Digital Manufacturing Systems and Processes*, 2009 ATMAE Conference.
- Melton, D. and Becker, K. (2009). *Comparisons of Group-Based versus Individual-Based Activities in an Engineering Graphics Course within a Higher Education Learning Environment*, 2009 EDGD ASEE Conference. Journal and Presentation.
- Melton, D. and Cloward, J. (2008). *Computer-Aided Engineering Design Projects On-Campus or Off-Campus*, 2008 NAIT Conference.
- Melton, D. and Stewardson, G. (2008). The American Draftsman. *The Technology Interface Journal*, Fall 2008.
- Melton, D (2007). *Comparisons of Group-Based versus Individual-Based Activities in an Engineering Graphics Course within a Higher Education Learning Environment*, 2007 NAIT Conference.
- Miles, M., Melton, D., and Nelson, T. (2005). Formability of Friction Stir Welding of Dissimilar Aluminum Alloys, *Metallurgical and Materials Transactions*, Fall 2005.
- Miles, M., Melton, D., Ridges, M., and Harrell, C.: The Benefits of Experiential Learning in Manufacturing Education, *Journal of Engineering Technology*, Spring 2005, pp. 24-28.
- Harrell, C and Melton, D (2002). Developed Teach Modules Including; 1) Developing a Manufacturing Strategy – Teaching Module; 2) Enterprise Resource Planning (ERP) – Teaching Module; 3) Assembly Process Planning – Teaching Module; and 4) Cellular Manufacturing – Teaching Module.

THESIS ADVISOR/CHAIR:

- Harmon, A. and Melton, D. (2009). *Developing of Learning Objectives for an Undergraduate Electrical Discharge Machining Technology Course using the Delphi Technique*. Eastern Illinois University.
- DeVries, R., and Melton, D. (2012). *The Effects of Teaching Styles on Student Knowledge*. Eastern Illinois University, Charleston, Illinois.
- Schulz, R. J., and Melton, D. (2012). *Necessary Competencies for Computer-Based Construction Estimating Curriculum: Delphi Study of an Expert Panel*. Eastern Illinois University, Charleston, Illinois.
- Akers, J. F., and Melton, D. (2012). *Commercial Construction Supply Chain Management Issues Involving Traveling Contractors*. Eastern Illinois University, Charleston, Illinois.
- Savitzky, N. J., and Melton, D. (2012). *Manufacturing Process and the Integration Process needed to create a Streamline Work Cell*. Eastern Illinois University, Charleston, Illinois.
- Frederick, C., and Melton, D. (2013). *The Gasification Project of Multiple Fuel Types*. Eastern Illinois University, Charleston, Illinois.
- Curry, B., and Melton, D. (2014). *Development and Implementing an Effective Training Course for CNC Milling Machine Operations*. Eastern Illinois University, Charleston, Illinois.

- Wilk, G. M., and Melton, D. (2016). *Development of Learning Objectives for an Undergraduate Computer-Aided Drafting and Design Animation Technology Course using the Delphi Technique*. Eastern Illinois University, Charleston, Illinois.
 - Brady, J., and Melton, D. (n.d.). *Evaluating and Implementing a Just-In-Time Program into Small Manufacturing Companies*. Eastern Illinois University, Charleston, Illinois.
 - Hixson, J., and Melton, D. (2018). *Processing Different Mixtures of Regionally Available Resources to Create Pellets that meet a Minimum Industrial Standard*. Eastern Illinois University, Charleston, Illinois.
 - Brown, M., and Melton, D. (n.d.). *Using a Reverse Engineering Process to Re-Create Parts that are No Longer Being Made*. Eastern Illinois University, Charleston, Illinois.
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AREAS of RESEARCH INTERESTS:

- Product Design and Development
 - Project Management and Organization Development
 - Manufacturing Information Systems and Simulations
 - Manufacturing Practices (Lean, Cellular, Quality Manufacturing System)
 - Manufacturing Processes/Fundamentals and Advanced Manufacturing Processes
 - Computer-Aided Engineering and Design
 - Material Testing and Research Methodologies
 - Renewable Energy and Environmental Concerns
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TEACHING AND RESEARCH EXPERIENCES:

**Professor, Eastern Illinois University
Charleston, Illinois**

2006 - Current

Eastern Illinois University 4102G – Senior Seminar (On-line)

- Taught class pertaining to basic principles of Technology and Society
- Directed the instruction, assignment, and assessment of 20 students
- Evaluated performance of student assign input, participation, and overall performance
- Provided direction with online discussion sessions relative to weekly topics.

Applied Engineering and Technology 1413 – Introduction to Technological Systems

- This is a recruiting course for the Applied Engineering and Technology Program
- Taught class that discuss the many different Technological Systems
- Directed the instruction, assignment, and assessment of 20 - 40 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 2043 – Computer-Aided Engineering Drawing

- Taught class and lab sections pertaining to the use of SolidWorks/AutoCAD
- Directed the instruction, assignment, and assessment of 20 - 40 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 3063 – Advanced CAD

- Taught class and lab sections pertaining to the use of advance techniques with SolidWorks
- Directed the instruction, assignment, and assessment of 24 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 3414 – Management of Applied Engineering Projects

- Taught class sections pertaining to basic principles and techniques of Project Management
- Directed the instruction, assignment, and assessment of 15-20 students

- Evaluate performance of student assign input, participation, and overall performance
- Provide 15+ hours of individual and class instruction per week.

Applied Engineering and Technology 4002 – Material Testing

- Taught class and lab sections pertaining to basic principles of materials and their testing
- Directed the instruction, assignment, and assessment of 20 - 25 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 4275 – Industrial Internships

- Support the effort in helping students secure industrial internships
- Review the resumes of over 50 students searching for industrial internships and positions
- Evaluate performance of student assign input, participation, and overall performance

Applied Engineering and Technology 4970 – Architectural Computer-Aided Design

- Taught class and lab sections pertaining to principles of architectural computer-aided design
- Directed the instruction, assignment, and assessment of 20 - 25 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 4973 – Lean Manufacturing Systems (Chicago Cohort)

- Taught class in principles of lean processes in both industrial and academia applications
- Directed the instruction, assignment, and assessment of 13 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 4943 – Manufacturing Management

- Taught class sections pertaining to principles of operations and supply chain management
- Directed the instruction, assignment, and assessment of 20-30 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Applied Engineering and Technology 4970 – Independent Student Research and Studies

- Mentor students research and studies relative to active learning scenarios
- Directed the instruction, assignment, and assessment of 10-15 students
- Evaluate performance of student assign input, participation, and overall performance

Industrial Technology 1263 – Material Technology

- Taught class pertaining to basic principles of industrial/engineering materials
- Directed the instruction, assignment, and assessment of 25 - 30 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 6+ hours of individual and class instruction per week.

Industrial Technology 3113 – Manufacturing Processes

- Taught class and lab sections pertaining to basic principles of machining processes
- Directed the instruction, assignment, and assessment of 5 - 10 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Industrial Technology 3143 – Manufacturing Fabrication

- Taught class and lab sections pertaining to basic principles of fabrication
- Directed the instruction, assignment, and assessment of 12 - 15 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Industrial Technology 3203 – Computer Numerical Control Programming

- Taught class and lab sections pertaining to basic principles of CNC programming
- Directed the instruction, assignment, and assessment of 12 - 15 students
- Evaluate performance of student assign input, participation, and overall performance

- Provide 12+ hours of individual and class instruction per week.
- Technology 5103 – Leadership in Technology
- Taught class pertaining to basic principles of Leadership in Technology
 - Directed the instruction, assignment, and assessment of 20-25 students
 - Evaluated performance of student assign input, participation, and overall performance
- Technology 5133 – Total Quality Systems
- Taught class pertaining to basic principles of Total Quality Systems and Management
 - Directed the instruction, assignment, and assessment of 20-25 students
 - Evaluated performance of student assign input, participation, and overall performance
- Technology 5143 – Research to Technology
- Taught class pertaining to basic principles of research methodology
 - Directed the instruction, assignment, and assessment of 20 to 27 students
 - Evaluate performance of student assign input, participation, and overall performance
- Technology 5173 – Global Technology
- Taught class relative to global technology, management, and sustainability
 - Directed the instruction, assignment, and assessment of 20 to 27 students
 - Evaluate performance of student assign input, participation, and overall performance
- Technology 5233 – Training System Management (Online/Hybrid)
- Taught class pertaining to basic principles of Training and Management
 - Directed the instruction, assignment, and assessment of 20 students
 - Evaluated performance of student assign input, participation, and overall performance
 - Provided direction with online discussion sessions relative to weekly topics.
- Technology 5970 – Design for Manufacturability (Chicago Cohort)
- Taught class pertaining to basic principles of Design for Manufacturability and Assembly
 - Directed the instruction, assignment, and assessment of 13 students
 - Evaluated performance of student assign input, participation, and overall performance
 - Provided direction with online discussion sessions relative to weekly topics
- Technology 5980 – Industrial Internships in Technology
- Support the effort in helping students secure industrial internships
 - Review the resumes of over 20 students searching for industrial internships and positions
- Technology 5990 – Independent Student Research and Studies
- Mentor students research and studies relative to active learning scenarios
 - Directed the instruction, assignment, and assessment of over 25 students
 - Evaluate performance of student assign input, participation, and overall performance as a committee member for over 100 students

Instructor, Assistantship, Utah State University

2003 – 2006, Logan, Utah

Industrial Technology Education 1200 – Computer Aided Design and Drafting

- Taught class and lab sections for basic drafting principles and AutoCAD
- Directed the instruction, assignment, and assessment of 30 – 40 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Industrial Technology Education 2270 – Computer Engineering Drafting

- Taught class and lab sections for basic drafting principles and AutoCAD
- Directed the instruction, assignment, and assessment of 30 – 35 students
- Evaluate performance of student assign input, participation, and overall performance
- Provide 12+ hours of individual and class instruction per week.

Teacher Assistant, Brigham Young University

2002 – 2003, Provo, Utah

Manufacturing Technology 324 – Joining Processes

- Taught discussion lab sections for joining process laboratory class.
- Directed the instruction of 30 - 35 students over 5 lab sessions.

Manufacturing Technology 331 – Metal Shaping

- Taught discussions lab sections for foundry process laboratory class.
- Directed the instruction of 25-30 students over 4 lab sessions.

Manufacturing Technology 434 - Automation

- Assisted students in assignments and study.

Manufacturing Technology 533 – Manufacturing Information Systems

- Directed the instruction of 6 students over 1 lab session.
- Provided lab instruction as needed by students.

Technology 601 – Research and Development

- Directed the instruction of 6 students over 2 seminar sessions.
- Provided direction for graduate students working on research and development of thesis.

Other Mechanical Engineering, Manufacturing Technology and School of Technology Courses

- Counseled undergraduate and potential graduate students as directed by Faculty.
- Presented seminars instructions on various topics of research and study.

INDUSTRIAL/PROFESSIONAL EXPERIENCE:

KOHLER COMPANY

1999

Union City, Tennessee

Senior Mechanical Project Engineer (1999)

- Developed and designed consumer products, packaging, and special tooling.
- Developed test procedures for the evaluations of the product reliability, safety and quality.
- Lead teams that supported the transition of design to the manufacturing and assembly of product.

NORTHERN TECHNICAL SERVICES

1998

Stevens Point, Wisconsin

Contractor (Project Engineer) – Sunrise Medical/Joerns (1998)

- Developed database (ACCESS) for recording and reviewing engineering/quality issues.
- Resolved program issues to the design, assembly and manufacturing of company product lines.
- Defined and resolved issues relative to healthcare products that relate to FDA concerns.

SNE ENTERPRISES INCORPORATION

1995 - 1998

Mosinee, Wisconsin

Product Design Engineer (1995 - 1998)

- Developed and designed consumer products, packaging, and special tooling.
- Directed teams in resolving issues in the design, CIM, assembly and manufacturing areas.
- Developed cost reduction projects for the design/manufacturing areas (achieved \$300k per year).

LOCKHEED MISSILES AND SPACE COMPANY

1983 – 1994 Sunnyvale,

California and Iuka, Mississippi

System Integration Engineer (1989 - 1994)

- Developed annual budgets for the department of Systems Engineering and Integration

- Created technical documentation (proposals, technical studies, product development, interface control documents, and test plans and requirements) that supported the development of the overall NASA program.

Equipment Design Engineer (1987 - 1989)

- Directed the design and development of NASA derived electro-mechanical devices and projects.
- Defined assembly requirements relative to size and weight restrictions, material selection, and accessibility in handling for a \$2.5M project of electromechanical assemblies (Space Shuttle).