

WENDY L. MARTIN

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EDUCATION

August 2014, **Master of Engineering Management**, University of Colorado, Boulder, Colorado

May 1993, **Bachelor of Science – Mechanical Engineering**, Purdue University, West Lafayette, Indiana

FACULTY/TEACHING EXPERIENCE

2018 - Present W. Edwards Deming Professor of Management

2014 - Present Instructor, Engineering Management Program, University of Colorado, Boulder Campus

2014 Teaching Assistant, EMEN 5005, University of Colorado, Boulder Campus

2011-2014 Half Time Faculty, Front Range Community College, Larimer Campus
Electro-Mechanical and Energy Technology Program-Fort Collins, Colorado

2010-2011 Adjunct Instructor, Front Range Community College/Larimer Campus,
Clean Energy Technology Program-Fort Collins, Colorado

Courses Taught:

University of Colorado, Boulder

EMEN-MGMT 4400	Quality Management	2017-2020
EMEN 5005	Intro to Applied Statistics	2014-2015, 2020-2021
EMEN 5042	Methods for Quality Improvement	2014-2021
EMEN 5043	Adv. Topics in Quality Systems / Eng.	2015-2021
EMEN 5040	Quality, Strategy and Value Creation	2016
EMEN 5041	Adv. Topics in Business Perf. Excellence	2015-2020

Front Range Community College

MTE 110	Teamwork and Communication	Fall 2010, Spring 2011, Fall 2011
MTE 106	Print Reading for Industry	Fall 2010, Fall 2013
MTE 125	Statistical Process Control	Spring 2011 - 2014
MTE 130	Metrology	Fall 2010 - 2013
MTE 244	Lean Manufacturing	Spring 2011
ENY 160	Energy and the Environment	Spring 2012 – 2013
EGT 201	Engineering Materials	Spring 2012
MTE 238	Fluid Power and Controls	Spring 2014

Faculty Responsibilities:

- **Leadership & Administration** – Provide leadership through maintaining currency of Quality Sciences program and assisting in program changes and program renewals, act as faculty advisor for students within the program. Undergraduate Committee and Outreach Committee member. Led hiring committee for Undergraduate Director the Engineering Management Program.
- **Curriculum Development** – Oversee the evolving curriculum through change of technology, update curriculum annually, work with department to maintain relevance and consistency of curriculum, and mentor and assist adjunct faculty. Develop online courses.
- **Community Relations** - Act as liaison to the industry, maintain program visibility within the community.

Accomplishments:

- MOOC Creator for Data Science for Quality Management
 - One of 30 most popular MOOCs on Coursera for October 2020
 - Four more courses in specialty area currently in development
 - Development of unique package for Quality Science in R
 - Course to be included as elective for new online MS in Data Science
- Online Education Committee for CEAS, COVID-19 planning
 - Keynote speaker at the “What’s Your Plan?” Symposium
 - Committee team member
- Statistician – “A Methodology to Assess the Human Factors Associated with Lunar Teleoperated Assembly Tasks” with Dr. Jack Burns
 - <https://arxiv.org/pdf/2005.08120.pdf>
- Test Bank Reviewer, *Business Statistics: For Contemporary Decision Making, 10th Edition, Ken Black*
- Previous Chair of Educational Excellence Committee within the Engineering Management Program.
- Developed and expanded curriculum for Print Reading, Statistical Process Control, Metrology, Lean Manufacturing and Engineering Materials. Developed online version of Statistical Process Control (through TAA Grant).
- Created, developed, advertised and held Annual Networking Event for local industries and students/graduates, resulting in increased job placement for students.
- Piloted, tested and implemented Course Signals, an early intervention system for student performance (developed by Purdue University), helping increase student retention.

CONSULTING

February 2021	Ball Corporation
December 2020	cGMP / GDP Training, Corden Pharma
October-Current	Instructor, NoCo Manufacturing Partnership Supervisor’s Training
July 2020	Trainer, Train the Trainer, Fresca Foods
June 2020	Trainer, Train the Trainer, Barber-Nichols

May 2020	Trainer, HR and Legal Issues, Corden Pharma
Spring 2020	Instructor, NoCo Manufacturing Partnership Supervisor's Training
Fall 2020	Instructor, NoCo Manufacturing Partnership Supervisor's Training
August 2018-Current	Consulting for Telerobotics Assembly Experiment, CU Boulder
February 2018	Consulting for Pioneer Engineering, Fort Collins, CO
January-August 2017	Consulting for Telerobotics Experiment, CU Boulder
December 2016	Consulting for development of the CU Art Museum Strategic Plan
August 2016	Consulting for Telerobotics Experiment, CU Boulder
July 2015 -2016	Ball Corporation
January 2014	Keynote Speaker, CenturyLink Network Reliability Managers
July-August 2012	Consulting for Metal Container Corporation Training for Statistical Quality Control Manager
July-August 2012	Supervisor Training for Vestas Blades, Windsor, Colorado Lean Manufacturing, Six Sigma and Quality Management
February 2012	FMEA course for Engineers at Vestas Blades, Windsor, Colorado
August 2011	Energy Boost, FRCC Continuing Education Program Metrology
July-August 2011	Supervisor Training for Vestas Blades, Windsor, Colorado Lean Manufacturing and Quality Management
November 2010	Energy Boost, FRCC Continuing Education Program Metrology
June 2008	Quality Training for New Hires Metal Container Corporation, Windsor, Colorado
August 2007	Continuous Process Improvement Course Metal Container Corporation, Windsor, Colorado

INDUSTRY EXPERIENCE

2002-2007 **Quality / SQC Manager** Metal Container Corporation

- Led plant quality improvement from average quality performance in 2003 to number one ranked supplier in quality for all commodities supplied to Anheuser-Busch, Inc. in 2004 and 2005.
- Customer service representative for the Windsor plant for customers at five filling locations, including Anheuser-Busch, Coca-Cola and Pepsi. Partnered with customers to help them achieve quality and production goals.
- Leader and member of Total Productive Manufacturing Implementation Team. Through this team's efforts in implementing TPM and maintenance fundamentals, Windsor's Asset Utilization increased by 4.2% and Productivity by 6.2% without major capital investments.
- Spearheaded plant effort in achieving status as Certified Supplier to Anheuser-Busch in December 2002. The plant met all 56 standards in the areas of Safety, Quality Systems, Continuous Improvement, Operations, Improvement Team Performance and Statistical Methods.
- Daily involvement with plant operations to set quality expectations and develop process improvements through applied statistics, procedure refinement and mechanical design.
- Coordinated annual strategic planning. Organized and directed semi-annual quality reviews for executive officers.

2001-2002 **Engineering / SQC Manager** Metal Container Corporation

- Managed budgets for fifteen accounts, including outside contractors, primary materials and repair parts.
- Plant environmental leader. Oversaw 283 environmental compliance and reporting items for local, state and federal government regulations. Maintained and refined procedures and policies for Spill Control, Hazardous Waste Disposal, Air and Water Quality. Won award with the State of Colorado for Best Demonstrated Practices.
- Developed training and certification program for Waste Treatment operators.
- Oversaw building and grounds maintenance, capital projects and contracted equipment maintenance.

1995-2001 **Statistical Quality Control Manager** Metal Container Corporation

- Advanced the operational success of the Windsor Plant through several experiments:
 - Designed and performed metal experiment to study the effect of aluminum ingot casting location on bodymaker jams, showing one supplier yielded significantly higher levels of jam rates. Disqualification of this supplier led to major improvements in plant productivity and cost.
 - Designed and performed reliability study for new design of domer. Results showed an increase in characteristic life of approximately 18 days. Implementation across the plant resulted in savings of approximately \$27,000 per year.
 - Developed and implemented process control methodology for Registered Embossing Machine. Use of PRE-Control resulted in improved process capability and elimination of fractured sidewalls.
- Pioneered and refined team systems to help ensure the success of improvement teams. Provided quality training for plant improvement teams: Process Control and Capability, Process Quality Improvement, Continuous Process Improvement, Coaches Training. Served as coach for over

ten improvement teams, and as mentor to plant coaches. Provided Process Improvement Training to the Fort Collins QA and Brewing Departments.

- Developed, implemented and managed programs for Quality Compliance for quality checks. In one year, our plant vendor rating increased by 3.3%, achieving the highest vendor rating of all MCC can plants.
- Created and instituted system and procedures for plant Standard Operating Procedures. Led pilot program for online data collection system, resulting in successful implementation across the company.

1993-1995 **Engineer, Lid Process** Metal Container Corporation

- Major contributor to improvement of lid seaming process capability. Applied detailed understanding of design of experiments to pinpoint several major sources of variability, leading to lid seaming process capability improvement and re-qualification as a supplier to the Williamsburg Brewery.
- Assisted Riverside plant in successfully lightweighting from 0.0093” to 0.0091” metal gauge, resulting in significant savings in metal cost each year.
- Taught appropriate methods of analysis for assessing seaming capability, and methods of calculating estimated mean squares to SQC Managers at the Lid Plants.
- Developed and organized method of analyses, procedures and buyoff criteria for Oklahoma City Plant equipment buyoff, including discrete gauge study for Pressco Vision Systems. Completed all vendor buyoffs on schedule and efficiently.

ADDITIONAL TRAINING

- Professional Training
 - Positive Power and Influence, SMS Inc.
 - Design of Experiments, Luftig and Associates
 - Advanced Concepts of Analysis of Variance, Dr. Ray Littlejohn
 - Correlation and Regression, Dr. Ray Littlejohn
 - Statistical Process Control, Luftig and Associates
 - Process Capability, Luftig and Associates
 - Reliability Methods, Wes Fulton
 - Robust Quality Design
- Conferences
 - Attended Teaching Professor Conference, May 2017
 - Presenter at the TIGER ROAR Learning Community, June 2015
 - Presenter at the Teaching with Technology Conference, May 2013
“Getting Feedback with Google Forms”, Longmont, Colorado
 - Presenter, Cool Careers Camp, August 2012
“Wonderful World of Wind”, Fort Collins, Colorado
 - Attended the Teaching with Technology Conference, May 2011, Fort Collins, Colorado
 - Attended the Student Learning Assessment Conference, May 2011, Westminster, Colorado
- Seminars
 - Teaching with a Purpose Program – 2012-2013
 - Student Learning Assessment Conference, May 2011, Westminster, Colorado

PUBLICATIONS

- Investigation of minimum frame rate for low-latency planetary surface teleoperations: <https://arxiv.org/abs/1706.03752>
- Quantifying Operational Constraints of Low-Latency Telerobotics for Planetary Surface Operations: <https://arxiv.org/abs/1710.01254>
- A Methodology to Assess the Human Factors Associated with Lunar Teleoperated Assembly Tasks: <https://arxiv.org/pdf/2005.08120.pdf>

HONORS/OUTSTANDING AWARDS

- Outstanding Adjunct Instructor Award, Front Range Community College/Larimer Campus (2011)

CERTIFICATIONS

- Previously held Certified Quality Engineer credential (expired)
- Certified Online Instructor through Front Range Community College

COLLEGE SERVICE

- Online Education Committee for CEAS, COVID-19 Return to Campus Preparation
- Undergraduate Committee
- Outreach Committee
- Previous Chair of Educational Excellence Committee
- Member of Professional and Educational Developers team at CU Boulder.
- Serve as State of Colorado Discipline Team Chair for Electrical and Energy Disciplines, 2011-2014
- Faculty Senate representative for Career and Technical Education, Larimer Campus

SELECTED COMMUNITY ACTIVITIES

- Member, Northern Colorado Manufacturing Partnership
- Board Member and Mentor, Fossil Ridge High School STEM Academy, 2011-2014