

CURRICULUM VITAE

I. PERSONAL DATA

Name: Leslie A. Potter
Rank: Senior Lecturer
Department: Industrial and Manufacturing Systems Engineering
Office Address/Phone: 3004 Black Eng., Ames, Iowa 50011, 319-269-5835
Date of Employment: January 01, 2001
Faculty Status: Voting member

II. EDUCATION

M.S. Penn State University, Industrial and Manufacturing Engineering, 1996,
Emphasis in Manufacturing
B.S. Iowa State University, Industrial and Manufacturing Systems Engineering,
1991, With Distinction

III. ACADEMIC EXPERIENCE

Senior Lecturer, Department of IMSE, Iowa State University, 2008-present
Lecturer, Department of IMSE, Iowa State University, 2001-2008
Adjunct Instructor, Dept. of Industrial Technology, University of Northern
Iowa, 1999-2000
Research Assistant, Penn State University, 1994-1996
Program Assistant for engineering administration (student representative, resident
assistant, peer tutor), Iowa State University, 1989-1991
Research Assistant, Iowa State University, 1991

IV. INDUSTRY EXPERIENCE

Capstone projects managed - 188, 2001-2013
Iowa Health Systems, Des Moines, Iowa, Spring 2013

- 8 projects and teams, 30 students
- Layout, scheduling, productivity, quality, inventory management and control

Lennox, Marshalltown, Iowa, Fall 2012

- 7 projects and teams, 27 students
- Process capability, ergonomic risk mitigation, layout, productivity, inventory management and control, quality control, work instructions

John Deere Waterloo Works (2 sites), Waterloo, Iowa, Spring 2012

- 8 projects and teams, 25 students
- Inventory layout, product presentation, vendor managed inventory, mistake proofing, process capability

GMT (2 sites), Waverly and Nashua, Iowa, Spring 2012

- 2 projects and teams, 7 students
- Productivity, layout, flexibility, capacity

John Deere Des Moines Works, Ankeny, Iowa, Fall 2011

- 5 projects and teams, 16 students
- Process capability, material flow, layout, scheduling, quality control

Whirlpool, Amana, Iowa, Spring 2011

- 6 projects and teams, 23 students
- Quality control, ergonomics, scrap reduction, material flow, inventory presentation, receiving and warehouse scheduling

Iowa Health Systems (3 sites), Des Moines, Iowa, Fall 2010

- 8 projects and teams, 31 students
- Inventory management, inventory control, scheduling, lead time reduction, layout, mistake proofing

Snap-on Tools, Algona, Iowa, Spring 2010

- 8 projects and teams, 31 students
- Layout, quality control, maintenance PM's, vendor managed inventory, quick die change, fixture design, assembly productivity

Iowa Health Systems (2 sites), Des Moines and Waterloo, Iowa, Fall 2009

- 6 projects and teams, 21 students
- Inventory management, setup reduction, equipment management, process flow, productivity

Rockwell Automation, Cedar Rapids, Iowa, Spring 2009

- 4 projects, 8 teams, 34 students
- Paint preparation, scheduling, plating preparation, rework reduction

Snap-on Tools, Algona, Iowa, Fall 2008

- 8 projects and teams, 30 students
- Equipment design, paint utilization, one-piece flow, setup reduction, packing productivity, scrap reduction, WIP reduction

Kinze, Williamsburg, Iowa, Spring 2008

- 9 projects and teams, 36 students
- SMED, material flow, kanban, inventory control, tool storage, productivity, process improvement

Snap-on Tools, Algona, Iowa, Fall 2007

- 7 projects and teams, 29 students
- Defect reduction, setup reduction, schedule attainment, rework reduction, productivity

Tone's Spices, Ankeny, Iowa, Spring 2007

- 7 projects and teams, 27 students
- Process improvement, productivity, scrap reduction, material handling

Advanced Component Technologies, Northwood, Iowa, Fall 2006

- 7 projects and teams, 29 students
- Ergonomics, cell layout, information flow, fixture design, equipment justification, setup reduction

John Deere Foundry, Waterloo, Iowa, Spring 2006

- 7 projects and teams, 24 students
- Machine capacity, energy analysis, downtime reduction, benchmarking, logistics, inventory control and kitting

Waverly Health Center, Waverly, Iowa, Spring 2006

- 5 projects and teams, 19 students
- Layout, maintenance productivity, supply cost reduction, materials management, process flow

Omega Cabinets, Waterloo, Iowa, Fall 2005

- 8 projects and teams, 29 students
- Tool design, packaging design, scrap reduction, material handling, process capability, process design

Hagie, Clarion, Iowa, Spring 2005

- 8 projects and teams, 30 students
- Equipment justification, layout, inventory management, process improvement

Kiefer Built, Kanahwa, Iowa, Fall 2004

- 4 projects and teams, 14 students
- Process flow, assembly layout, safety and ergonomics

John Deere Waterloo Works (TCAO), Waterloo, Iowa, Spring 2004

- 10 projects and teams, 37 students
- Productivity, simulation, layout, ergonomics, TPM, VSM, mistake proofing, defect reduction

Paragon, International, Nevada, Iowa, Fall 2003

- 5 projects and teams, 18 students
- Inventory management, kanban, layout, equipment justification

Eaton, Belmond, Iowa, Spring 2003

- 9 projects and teams, 33 students
- Mistake proofing, process automation, continuous flow, productivity, TPM, setup reduction, pull system implementation

Lennox, Marshalltown, Iowa, Fall 2002

- 10 projects and teams, 40 students
- Defect reduction, variation reduction, process capability, lean implementation, equipment design, line balancing, layout, material presentation, material handling, setup reduction

Lennox, Marshalltown, Iowa, Spring 2002

- 5 projects and teams, 21 students
- Line balancing, productivity, layout, ergonomics, lean implementation

John Deere Waterloo Works (DTO), Waterloo, Iowa, Fall 2001

- 10 projects and teams, 34 students
- Material flow, process flow, layout, equipment justification, ergonomics, mistake proofing

John Deere Waterloo Works (DTO), Waterloo, Iowa, Spring 2001

- 7 projects and teams, 27 students
- Process flow, reduced tonnage, ergonomics, waste reduction, productivity, defect reduction, mistake proofing

Other course projects managed, 7 to date:

IE490X - John Deere, Waterloo, Iowa, Spring 2006

- 1 project and team, 4 students
- Kaizen

IE421/422X – Caterpillar and Lennox, Spring 2008

- 2 projects, 8 students
- Kaizen

IE421/422X – Caterpillar and John Deere, Spring 2007

- 4 projects, 15 students
- Kaizen

Total industry projects managed to date for ISU: 195

John Deere Waterloo Works, Waterloo, Iowa. 1991-2003.

Retained on leave of absence. 1998-2003.

Supply Management Engineer. 1997-1998. Purchasing analyst for electric and electronic components for all tractor models produced in Waterloo.

Supervisor. 1996-1997. Shop floor supervisor for small row crop (6000 and 7000 series) tractor transaxle assembly line. Responsible for work direction and development of 65 UAW employees, facilitating assembly and shipment of quality product on-time to four major customers (North America, Germany, Brazil, and Mexico), and managing a \$4 million budget.

Major Projects: Quality and productivity improvements through implementation of lean manufacturing principles. Managed Career Development Team creation and implementation. Travel to Mannheim, Germany, to meet with customers and work to improve relations and product quality.

Quality Engineer. 1995. Inboard planetary axle assembly and major axle component machining. Responsible for supervision of 8 UAW wage inspectors full-time and approximately 15 UAW workers as needed.

Major Project: DOE for analysis of impact of measurement system, feature type & size and surface finish on gage R&R results for machined castings.

Quality Engineer. 1993-1994. Inboard planetary axle assembly and major axle component machining. Responsible for investigating customer complaints to root cause solutions, dispositioning defective/discrepant material, reviewing processes and specifications, directing inspector's duties, establishing audit procedures, and conducting quality improvement planning sessions.

Major Projects: Establish processes for tracking quality information.
Increase communication of quality-related information to wage and salaried personnel, customers, suppliers.
ISO9000 preparation and registration.

Manufacturing Engineer. 1992-1993. Inboard planetary axle assembly.
Responsible for processing and industrial engineering, including new process implementation, decision change implementation, labor costing, build sheet and standards maintenance, process maintenance, process improvements, and ergonomics.

Major Projects: Implementation of new product and updates.
Increase department productivity by 25%.

Project Engineer. 1991-1992. Industrial engineering projects for Z-Building at Westfield Avenue Site. Responsible for projects spanning multiple departments and buildings.

Major Projects: Final drive carrier sub-assembly relocation study.
Analysis of inter- and intra-departmental trucking for ten departments located in remote building site.
New product improvement coordination & implementation for inboard planetary axle manufacturing.

3M, Cooperative Education

Industrial Engineer. St. Paul, Minnesota. Jan 1990-June 1990. Project work at Service Parts and Logistics Center, Hardgoods and Electronics Support Division. Warehousing facility with unionized wage employees. Suggestions worth \$25,000/year implemented.

Industrial Engineer. White City, Oregon. June 1988-Dec 1988. Project work in Dry Silver Goods Manufacturing facility, non-union wage employees. Majority of time spent in Converting Departments with focus on increasing productivity. Suggestions worth \$125,000/year implemented.

V. HONORS AND AWARDS

Technology Association of Iowa - Women of Innovation Finalist, November, 2016

MAP - Works Champion, ISU, November, 2014

College of Engineering Student Marshal Escort, Spring 2014 Commencement

Faculty of the Year Award, College of Engineering study body, April, 2013

Superior Engineering Teaching Award, College of Engineering, September, 2013

Pioneer Hi-Bred Iowa Women of Innovation Finalist, November, 2011

Don Grant Faculty Award for Excellence in Undergraduate Education,

Industrial and Manufacturing Systems Engineering, May, 2010

Outstanding Engineering Club Advisor Award, College of Engineering

student body, February, 2010
Outstanding Engineering Faculty Award, College of Engineering student
body, April, 2009
Nominated for Best Paper at ASEE National Conference in IE Division, Chicago,
June, 2006
One of top three papers presented at North Midwest Regional ASEE Conference,
October, 2005
Louis S. & Sara S. Michael Graduate Fellowship, Penn State University, 1994
Recognized by Iowa Board of Regents & Women in Science and Engineering
Advisory Committee for nominating winner Greg McClain for WSE award,
1991
National Science Foundation Honorable Mention for Graduate Student
Fellowship, 1991

HONORARY SOCIETIES

Tau Beta Pi
Alpha Pi Mu

VI. ACADEMIC AREAS OF SPECIALIZATION

Teaching interests:

Lean Manufacturing, Engineering Communications, Problem Solving,
Engineering and Professional Skill Integration, Coding, Capstone Design

Courses Taught in IMSE Department:

IE148—*Information Engineering* (freshman engineering): Spring 2014, 2015
Fall 2013, 2014, 2015, 2016
IE222—*Design and Analysis Methods for System Improvements*: Spring 2016,
2017
IE320X—*Industrial Engineering Professional Interactions*; Fall 2007; Spring
2008
IE421X/IE422X—*International Lean Manufacturing Production Systems and
Lean Manufacturing Production Systems*; Spring 2007, 2008
IE441—*Industrial Engineering Design* (capstone)
Spring 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010,
2011, 2012, 2013
Fall 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
IE 490—*Lean Manufacturing and Kaizen, Applied*; Spring 2006

Taught IE441 25 semesters,
most semesters 2 sections
each

Course	Semester	Overall Course Evaluation	Variation	N	Number of students in class
IE441	S01	3.75	0.93	21	27
IE441	F01	4.73	0.2	27	33
IE441	S02	3.75	1.11	14	22
IE441	F02	4.54	0.44	13	40
IE441	S03	4.31	0.62	27	33
IE441	F03	4.53	0.76	18	18
IE441	S04	4.58	0.32	31	37
IE441	F04	4.46	0.94	13	14
IE441	S05	4.77	0.17	25	30
IE441	F05	4.69	0.29	29	29
IE441	S06	4.50	1.07	38	42
IE441	F06	4.63	0.32	27	28
IE441	S07	4.76	0.19	21	27
IE441	F07	4.43	0-.35 (range)	28	29
IE441	S08	4.68	0.29	34	36
IE441	F08	4.41	0.33	27	30
IE441	S09	4.63	0.31	32	34
IE441	F09	4.84	0-.18 (range)	19	21
IE441	S10	4.68	0.45	19	31
IE441	F10	4.89	0.12	29	31
IE441	S11	4.95	0-0.07 (range)	20	23
IE441	F11	4.19	1.36	16	16
IE441	S12	4.80	0.30	30	32
IE441	F12	4.71	0.3	24	27
IE441	S13	5.00	0.00	24	30

			TOTAL	TOTAL
Average	4.59		606	720

Taught additional courses 19 times					
Course	Semester	Overall Course Evaluation	Variation	N	Number of students in class
IE490X	S06	no evaluations done			4
IE320X	F07	5.00	0.00	6	6
IE421X	S07	4.92	0.08	12	12
IE422X	S07	5.00	0.00	2	3
IE320X	S08	4.85	0.14	13	15
IE421X	S08	4.50	1.00	4	4
IE422X	S08	5.00	0.00	4	4
IE148	F13 - Sec 3	4.29	0.95	24	40
IE148	F13 - Sec 4	4.37	0.76	19	38
IE148	S14 - Sec 3	5.67/6.00 (=4.72/5.00)	0.49	15	36
IE148	F14 - Sec 1	4.48	1.17	21	30
IE148	F14 - Sec 2	4.79	0.17	24	35
IE148	S15 - Sec A	5.00	0.00	6	16
IE148	S15 - Sec B	Co-taught, but not instructor of record	--	--	33
IE148	F15 - Sec 1	4.43	0.85	14	33
IE148	F15 - Sec 2	3.75	1.48	20	40
IE222	S16 (2 sections combined into 1)	4.48	0.58	125	148
IE148	F16 - Sec 1	4.56	0.63	16	37
IE148	F16 - Sec 2	4.86	0.47	22	39

				TOTAL	TOTAL
Average	4.53			347	573

**OVERALL
AVERAGE = 4.57**

Research interests:

ABET Outcome Assessment
Engineering Communications
Undergraduate Research

Teaching assistants supervised, 17 to date, 2001 - present (IE222, IE148, IE441, IE320X); graders supervised, 5 to date, 2013 - present (IE148)

VII. COURSES—DEVELOPED/UPDATED

IE441—Industrial Engineering Design. Industrial design integrated with communication and professionalism skills. Updated by incorporating emphasis on realistic constraint considerations such as global impact and sustainability. New lectures developed include “Working with Unions,” “Industry Buzzwords,” “Business and Cultural Etiquette,” and “People Matter,” with emphasis on engineering and professional skill integration. Course developments include hands-on layout lab, round table presentations, and video review of proposal presentations. Taught 25 consecutive semesters from Spring 2001-Spring 2013.

IE490—Lean Manufacturing and Applied Kaizen. Developed and delivered in collaboration with Jo Min and Frank Peters. Key principles of lean manufacturing and the kaizen process taught in formal classroom setting. Applied kaizen on-site with industrial partner for one week at John Deere, Waterloo, March 2006.

IE 421/422X – International Lean Manufacturing Production Systems. Developed and delivered in collaboration with Jo Min and Frank Peters. Key principles of lean manufacturing and the kaizen process taught in formal classroom setting. Applied kaizen on-site with industrial partner for one week (Caterpillar—England, John Deere—Waterloo, Lennox—Marshalltown, Rockwell Collins—Cedar Rapids). Taught Spring 2007 & 2008.

IE 320X—Engineering Communications. Developed in collaboration with John Jackman; delivered by self. Process for effective engineering communication defined and practiced. Three-credit course to support communication skills currently taught by other ISU departments. Funded by external grant from Engineering Information Foundation. Taught Fall 2007 & Spring 2008.

IE148 – Information Engineering. Updated class to align with IMSE, COE, and ABET requirements. Incorporated new textbook, team-taught with teaching assistant, created homework/labs/quizzes/exams, implemented pair programming and peer teaching, used online instructional resources, included two written and verbal communication requirements. Three credit course. Taught Fall 2013, Spring 2014.

IE148 – Information Engineering. Revised format to include hybrid flipped instruction model for technical content and team based learning. Added three projects including e-Portfolio and group project, added additional written and verbal communication requirements. Three credit course. Taught Fall 2014, Spring 2015, Fall 2015, Fall 2016.

IE222 – Design and Analysis Methods for System Improvements. Revised format to include flipped instruction model for content and team based learning. Added two group projects including A3 and open-ended process improvement assignment with campus client (one of three eating establishments). Three credit course. Taught Spring 2016, Spring 2017.

VIII. GRANTS

White papers

Chapelle, C. A., Cotos, E., Graves, W., Hegelheimer, V., Jeffries-El, M., and Potter, L., “The Language of Writing in STEM Disciplines, ISU Presidential Initiative for Disciplinary Research, \$98,931, accepted December 2012 for writing full funding proposal. (Co-PI)

Submitted Education Research Grants

Kyoung-Yun, K., Psenka, C., Haapala, K., Okudan-Kremer, G., and Potter, L., “Linking Engagement to Learning Gains – Explorations in CYBRID Learning for the Complex Sustainable Engineering Domain,” \$550,002 (Collaborative Research; ISU portion is \$170,000), NSF – IIS – Cyberlearn & Future Learn Tech, submitted February, 2017

Funded Education and Education Research* Grants

*Potter, L., P.I. with Stone, R., and Popejoy-Sheriff, “Finding a CURE: Coure-based Undergraduate Research Experiences for Industrial Engineering Students as a Model for the College of Engineering,” ISU Miller Faculty Fellowship, \$15,000 plus \$17,000 cost share = \$32,000, February, 2017

*Chapelle, C. A., Cotos, E., Graves, W., Hegelheimer, V., Jeffries-El, M., and Potter, L., “The Language of Writing in STEM Disciplines, ISU Presidential Initiative for Disciplinary Research, \$98,931, June 2013. (Co-PI)

Peters, P.I. with Min and Potter, “Lean Manufacturing Education Support,” Caterpillar, Inc., March 2008, \$10,000.

*Potter, P.I. with Jackman, “Integrating Professional Communication Skills into an Engineering Curriculum,” Engineering Information Foundation, April 2007 - May 2008, \$24,950.

Potter, P.I. with Min and Peters, “Lean Manufacturing and Applied Kaizen,” John Deere Foundation, January - June 2006, \$4662.

Peters, P.I. with Min and Potter, “IMSE International Kaizen Course Development,” Iowa State Council on International Programs, January - June 2006, \$9000 (including Engineering International Programs Services match)

Funded Industry Support for Capstone Design (total received since 2001 = \$169,595)

Industry Reported Savings for Capstone Design

Aggregate figures to CIRAS reported over multiple semesters: greater than \$1.8 million saved (last reported 2008).

Funded Research Grants

L. Potter, Co-PI, with J. Min, "A Comparative Study for a Global Production Network," a research project funded by John Deere Waterloo Works and Institute for Physical Research and Technology, ISU, \$21,071, April - August 2007.

Professional Development Grants

ISU Professional Development Funds for Lecturers, Clinicians, and Adjunct Faculty, submitted Dec. '16, \$500 (awarded 09JAN17)

IX. TECHNICAL PUBLICATIONS

Refereed Journals:

Jacobson, B., Dorneich, M.C., Potter, L.A., "Evaluation of the learning efficiency and effectiveness of team-based learning and lecture video acceleration in a first-year engineering course," *completed*.

A.A. Karve, R.C. Voigt, L.A. Potter, "Use of Measurement Equipment for Casting Dimensional Inspection," 1997 AFS Transactions, p. 971-979.

L.A. Potter, R.C. Voigt, F.E. Peters, J.K. Lies, and M.J. Chandra, "A Statistically Based Pattern Approval Process," 1996 AFS Transactions, Vol. 104, pp.410-421.

Proceedings Articles:

Potter, L., and Popejoy-Sheriff, D., "Comparing Assistantship vs. Course-Based Undergraduate Research Opportunities," 2017 Industrial and Systems Engineering Research Conference, May, 2017 – *Accepted*

Potter, L. and Jacobson, B., "Lessons Learned from Flipping a First-Year Industrial Engineering Course," 2015 Industrial and Systems Engineering Research Conference, May, 2015.

Potter, L. "Using Industry to Drive Continuous Improvement in Capstone Design," 2012 Capstone Design Conference, Champagne-Urbana, Illinois, May, 2012.

V. Okhuysen, P. Tosta, L. Potter, F. Peters, P. Lynch, & R. Voigt, "Assessment of Measurement Systems for the Dimensional Inspection of Investment Castings," Investment Casting Institute 59th Technical Conference and Expo, 2012. (*Invited paper*) Peters, F., Potter, L., and Min, K.J.,

“Developing Students’ Understanding of Global Issues through Lean Manufacturing,” Proceedings of the 38th ASEE/IEEE Frontiers in Education Conference, 2008, Saratoga Springs, New York, October, 2008.

Potter, L., Jackman, J., Min, K.J., Search, M., “A New Engineering Communications Course Based on a Professional Communications Process,” Proceedings of the 2008 ASEE National Conference, Pittsburgh, Pennsylvania, June, 2008.

Potter, L.A., Jackman, J.K., Min, K.J., and Search, M. “Integrating Communication and Engineering Skills in an Industrial Engineering Curriculum Based on Outcome Assessment Results,” Proceedings of the Institute of Industrial Engineers IERC 2008, Vancouver, British Columbia, May, 2008. (*Invited author*)

Potter, L.A., Min, K.J., and Peters, F.E., “Effecting Improvement in an Industrial Engineering Program by Applying Outcome Assessment Results,” Proceedings of the 2007 ASEE National Conference, Honolulu, Hawaii, June, 2007.

Potter, L.A., Daniel, S., Popejoy-Sheriff, D., and Min, K.J., “ABET Outcome Assessment and Improvement through the Capstone Design Course in an Industrial Engineering Curriculum,” Proceedings of the 2006 ASEE National Conference, Chicago, Illinois, June, 2006.

Potter, L.A. and Min, K.J., “ABET Outcome Assessment in an Industrial Engineering Capstone Design Course,” Proceedings of the 2005 ASEE North Midwest Regional Conference, Brookings, South Dakota, October, 2005.

L.A. Potter, R.C. Voigt, and F.E. Peters, "A Preliminary Analysis of the Influence of Casting Feature Variables and Measurement Instruments on the Repeatability of Casting Feature Dimensions," Proceedings of the 1995 Steel Founders' Society of America Technical and Operating Conference, Chicago, Illinois, November, 1995.

F.E. Peters, R.C. Voigt, L.A. Potter, and E.C. DeMeter, "Dimensional Repeatability of Steel Castings: An Update," Proceedings of the 1995 Steel Founders' Society of America Technical Operating Conference, Chicago, Illinois, November, 1995.

X. TECHNICAL PRESENTATIONS

Potter, L., "What Engineers Write," Technology for Second Language Learners Conference, Ames, Iowa, October 2013. (*Invited speaker*)

Potter, L., "Using Industry to Drive Continuous Improvement in Capstone Design," poster presentation, 2012 Capstone Design Conference, Champagne, Illinois, May 2012.

Potter, L., Jackman, J., Min, K.J., Search, M., "A New Engineering Communications Course Based on a Professional Communications Process," ASEE National Conference, Pittsburgh, Pennsylvania, June 2008.

Potter, L.A., Jackman, J.K., Min, K.J., and Search, M. "Integrating Communication and Engineering Skills in an Industrial Engineering Curriculum Based on Outcome Assessment Results," Institute of Industrial Engineers IERC 2008, Vancouver, British Columbia, May, 2008. (*Invited speaker*)

Potter, L.A., Min, K.J., and Peters, F.E., "Effecting Improvement in an Industrial Engineering Program by Applying Outcome Assessment Results," ASEE National Conference, Honolulu, Hawaii, June, 2007.

Potter, L.A., Daniel, S., Popejoy-Sheriff, D., and Min, K.J., "ABET Outcome Assessment and Improvement through the Capstone Design Course in an Industrial Engineering Curriculum," ASEE National Conference, Chicago, Illinois, June, 2006.

Potter, L., and Min, Jo, "ABET Outcome Assessment in an Industrial Engineering Capstone Design Course," ASEE North Midwest Regional Conference, Brookings, South Dakota, October, 2005.

Potter, L., R. Voigt, F. Peters, J. Lies, and M. Chandra, "A Statistically Based Pattern Approval Process," 1996 AFS Casting Conference, Philadelphia, Pennsylvania, April, 1996.

L.A. Potter, R.C. Voigt, and F.E. Peters, "A Preliminary Analysis of the Influence of Casting Feature Variables and Measurement Instruments on the Repeatability of Casting Feature Dimensions," 1995 Steel Founders' Society of America Technical and Operating Conference, Chicago, Illinois, November, 1995.

XI. EXTENSION AND OUTREACH

Tri-Rivers Trendsetters 4-H Club, Waverly, IA, guest speaker about engineering, February, 2017.

Mentor Interview, Waverly-Shell Rock High School student, Fall, 2016.

Harlan High School, hosted 10 students during visit to IE148 class, Fall, 2015.

Clarksville Middle School SAE “A World in Motion” engineering expert, Fall, 2014, 2015.

Waverly-Shell Rock District Math Competition, proctor, Waverly, Iowa, November 2011, 2012, 2013, 2014, 2015, 2016.

Waverly-Shell Rock High School Engineering Open House, invited attendee, May, 2013, 2015, 2016.

Waverly-Shell Rock Hour of Code assistant, December, 2014.

Clarksville Middle School Lego League consultant, October, 2014.

Engineering/ISU lab day, organizer for five students from Waverly-Shell Rock Middle/High School, February 2012; April 2014.

Lego Competition organizer/facilitator, Bremer County Fair, Waverly, Iowa, July 2013, 2014.

Wartburg Engineering/Math/Computer Science Capstone class, invited speaker about IMSE graduate school opportunities, November, 2013.

Cedar Valley Homeschool, guest speaker about communication and engineering to 27 5th/6th grade students, March, 2012.

Engineering/ISU lab day, organizer for five students from Waverly-Shell Rock Middle School, February 2012.

First Lego League (FLL) team mentor, Waverly Wave-Droids, Fall 2010, Fall 2011

Wartburg New Product Design/Marketing Venture Capital Panel member, Waverly, Iowa, November, 2011.

Waverly-Shell Rock Project Lead The Way, camp guest speaker, Waverly, Iowa, 2010.

Waverly-Shell Rock Irving School Career Day, speaker, Waverly, Iowa, 2010.

Waverly-Shell Rock Project Lead The Way, camp guest speaker, Waverly, Iowa, 2009.

Hawkeye Non-Traditional Careers Conference, Committee and session speaker, Waterloo, Iowa, 1997.

Hawkeye Non-Traditional Careers Conference, Committee and session speaker, Waterloo, Iowa, 1996.

Judged 6th grade inventions at Orchard Hill School, Cedar Falls, Iowa, February, 1994.

Keynote and session speaker, Taking the Road Less Traveled, Ames, Iowa, multiple times from 1991-1994.

Presentation on Industrial Engineering to freshmen engineering students, ISU, Ames, Iowa, October, 1993.
SME Outreach—UNI Center for Urban Education, 1993.

Presentation on Manufacturing Engineering to approx. 600 freshmen engineering students at ISU, Ames, Iowa, October, 1992.

Worked with Upward Bound students, UNI, Cedar Falls, IA, June-July, 1992.

Mathcounts coach at St. Edward's School, Waterloo, Iowa, 1991-1993.

John Deere Partners in Education, 1991-1994.

K-12 Presentations on Engineering

Clarksville Middle School, 20+ students, November, 2015.
Waverly-Shell Rock Middle School Career Day, 100 students, May, 2015.
Clarksville Middle School, 20+ students, March, 2015.
Irving Elementary School, 100+ students, Waverly, Iowa, March, 2010.
Carey Elementary School, Waverly, Iowa, April, 2004.
Girl Scouts, State College, Pennsylvania, 1995.
5th grade students, Orange School, Waterloo, Iowa, March, 1994.
5th grade students, Kittrell School, Waterloo, Iowa, February, 1994.
Non-Traditional Careers Panel, Dike High School, Dike, IA, April, 1993.
Waterloo Schools, Waterloo, Iowa, February, 1994.
East High physics students, Waterloo, Iowa, February, 1993.
Keynote & session speaker, 6th-9th grade girls, Non-Traditional Careers Conf., Central Intermediate School, Waterloo, IA, January, 1993.
Columbus High School, Waterloo, Iowa, December, 1992.
East High TAG students, Waterloo, Iowa, November, 1992.
Hoover Intermediate, Waterloo, Iowa, May, 1992.
East High algebra classes, Waterloo, Iowa, May, 1992.
East High physics classes, Waterloo, Iowa, February, 1992.

Job Shadowed by Students from:

Waverly-Shell Rock & North Tama High Schools, April, 1994.
Waterloo Schools, Waterloo, Iowa, March, 1994.

East High School, Waterloo, Iowa, October, 1993.
Waterloo area high schools, Waterloo, Iowa, January, 1993.
Junior Achievement, Waterloo, Iowa, July, 1992.
East High School, Waterloo, Iowa, April, 1992.
West High School, Waterloo, Iowa, March, 1992.

Seminars/Workshops/Industrial Classes presented:

Resume Roast, seminar to IIE Student Chapter about resumes, Spring 2014, Fall 2014, Fall 2015, Spring 2017.

Professionalism in the Workplace, ISU Engineering Student Council Midwest Regional Conference, invited speaker, October, 2015.

ISU Freshmen Leaders in Engineering (FLiE), seminars (2* or 3#) on professionalism, engineering communications, email, and project planning: Fall 2008#, 2009#, 2010#, 2011#, 2012#, 2013*, 2014#.

Assessing Capstone Design, invited panelist, Capstone Design Conference, Champagne, Illinois, May 2012.

Interviewing, Career Fair, and Resumes, seminar to IIE Student Chapter, Spring 2011, Spring 2012.

Engineering Leadership Program, after dinner speech on email and internet etiquette, Ames, Iowa, Fall 2010.

Engineering Leadership Program Retreat, two seminars on communication and etiquette, Madrid, Iowa, Fall 2009.

Leadership in Engineering Networking Symposium (LENS), two seminars on “Communicating Effectively,” Spring 2009.

Upper-Level Communication Collaborations, to Center for Excellence in Teaching and Learning Faculty Forum, ISU, Spring 2009.

Interviews and Resumes, seminar to IIE Student Chapter, Fall, 2009.

Stories of Teaching and Learning Abroad, to Center for Excellence in Teaching and Learning, ISU, 2007.

Women’s Studies/Biology 307, Panel Participant for Dr. Diane Debinski, ISU, 2007.

Statistics, Process Control, and Gage R&R, to Vermeer Manufacturing, Pella, Iowa, October, 1997.

Basic Statistics, course for D541 employees at John Deere Waterloo Works, Waterloo, Iowa, 1996.

Measurement Systems Analysis Workshop, for industry participants given by Dr. Robert Voigt and research group, Penn State University, State College, Pennsylvania, 1996.

Introduction to ISO9000, course for D530 employees and Drive Train Management Group, John Deere Waterloo Works, Waterloo, Iowa, 1994.

Introduction to Ergonomics, orientation class for newly hired wage employees, John Deere Waterloo Works, Waterloo, Iowa, September, 1993.

XII. SERVICE AND PROFESSIONAL ACTIVITIES

Professional Societies

American Society for Engineering Education, 2004-present

Institute of Industrial Engineers, 2008-present

Society of Manufacturing Engineers (SME), 1991-1994

- Publicity Chairperson
- School Outreach Program
- CASA member

Society of Women Engineers (SWE)

Tau Beta Pi

IMSE Undergraduate Student Research Program, 2012-present

- Organize match process, meet with 10-25 students 3 times/semester manage communication with students/faculty, organize and facilitate presentation event each semester
- Co-designed, -initiated, and -facilitated Fall 2012

IMSE Department Editor, 2012-present

- Edited and proofread 15 manuscripts for 7 IMSE faculty, including proposal for alumni donation of \$1M (received), 2016
- Edited and proofread 19 manuscripts/posters for 10 IMSE faculty, staff, and students, including DMDII proposal which was awarded to Hu/Ryan/Wang/Sly/Krejci for \$2.6 million, 2015
- Edited and proofread 23 manuscripts/posters 25 times for 11 IMSE faculty, staff, and students including DMDII proposal which was awarded to M. Frank and F. Peters for \$2.1 million, 2014
- Edited and proofread 18 manuscripts 21 times for 9 IMSE faculty and staff, 2013
- Reviewed and edited 4 journal manuscripts a total of 6 times for 3 IMSE faculty, 2012
- Provided organization, flow, and mechanics feedback and/or rewrote manuscripts

IMSE Curriculum Assessment and Standards (ABET), 2014 – present

- Pre-audit (2018) ad hoc committee, 2016
- Assessment of faculty ABET assessments, 2015, 2016

- Creation of “model” assessment to be used as faculty resource, 2015
- IE441 SOP ad hoc committee, 2015

IMSE / English Engl 314 Ad Hoc Committee, 2014-present

- Helped design technical writing course with emphasis in Industrial Engineering
- Evaluated proposal submissions and final products
- Met with students to discuss proposals

IMSE Transfer Course Evaluations

- Evaluated 2 transfer courses for substitution for IE148, 2016
- Evaluated 5 transfer courses for substitution for IE148, 2015
- Evaluated 2 transfer courses for substitution for IE148, 2014

IMSE ABET Program Educational Objectives, Spring 2014

- Facilitated collection of survey information from faculty
- Analyzed results

ISU Freshmen Leaders in Engineering (*FLiE*), 2008-2014

- Seminars on professionalism, engineering communications, email, and project planning, 2-3/fall semester, 2008-2014
- Mentor/club advisor meeting with leadership committee semi-monthly for VEISHEA float project, Spring 2009, Spring 2010, Spring 2011

IMSE Alpha Pi Mu Student Trivia Night, Spring 2017

ISU University Museums faculty participant, The Exhibition RED, Christian Petersen Art Museum, Spring 2017

ISU Freshman Orientation – College of Engineering Faculty Representative, June 2016

IMSE Large Course Assessment Coordinator (C) / Participant (P)
 IE148, Fall 2016 – Spring 2017 - P
 IE148, Fall 2015 – Spring 2016 - C

IIE Student Paper Competition judge, Spring 2015, Spring 2016

IMSE Capstone Design Presentation attendee, Spring 2016, Fall 2016

IMSE Capstone West Point presentation judge and presentation coach, Spring 2016

IE361 Poster Presentation judge, Fall 2012, Spring 2013, Spring 2014, Fall 2015

IMSE Honors Lunch, Spring 2013, 2014, 2015

IMSE Back to School Student Picnic, Fall 2015, Fall 2016, Spring 2017

IMSE Student and Faculty award and scholarship nominations, job and graduate school recommendations including 4 major award nominations written, 2014, 2 won

IMSE Alumni Tailgate, Fall 2016

IMSE Alumni Reception, Des Moines, November 2014

Alpha Delta Pi social sorority faculty dinner, September 2014

“Flying with Faculty” dinner, Fall 2012, Fall 2016

Leadership Learning Project (LLP) advisor (through Engineering Leadership Program – ELP) to Prakash Sudhakar, Fall 2009, Spring 2010

First Lego League (FLL) state tournament judge, Spring 2010

Iowa Math and Science Coalition Board, 1997

XIII. PROFESSIONAL DEVELOPMENT/SERVICES

Seminars/Conferences/Classes Attended:

Creating a Positive Climate for Learning webinar training faculty professional development, WEPAN, May, 2015.

Linguistic perspectives on discipline-specific language symposium, Ames, Iowa, May 2014.

Preparing Publishable Thesis Chapters Panel (GR ST 529X), February 2014.

Technology for Second Language Learners Conference, Ames, Iowa, October, 2013.

Attended approximately 5 classes led by Martha Selby on Engr160 curriculum, Fall, 2013.

Attended “Excel Beyond the Basics” – one-day class, April, 2013.

Capstone Conference, Champagne-Urbana, Illinois, May, 2012.

ASEE National Conference, Pittsburgh, Pennsylvania, June, 2008.

IIE IERC National Conference, Vancouver, British Columbia, May 2008.

Shingijutsu Kaizen event participant, Snap-on Tools, Algona, Iowa, October, 2007.

ASEE National Conference, Honolulu, Hawaii, June, 2007.

Assessments for Capstone Engineering Design Workshop, ASEE National Conference, 2007.

ASEE National Conference, Chicago, Illinois, June, 2006.

ASEE North Midwest Regional Conference, Brookings, South Dakota, October, 2005.

Competitive Practices in Industry Conference, sponsored by DMAACC-Newton Campus, April, 2003.

Introductory German—8 weeks, Hawkeye Community College, Fall, 1997.

American Foundrymen's Society Conference, Philadelphia, Pennsylvania, May, 1996.

Steel Founders' Society of America Technical and Operating Conference, Chicago, Illinois, November, 1995.

SME Precision Metrology and Sensing Technology, Indianapolis, Indiana, June, 1995.

SME CMM Fundamentals, Indianapolis, Indiana, June, 1995.

Steel Founders' Society of America Technical and Operating Conference, Chicago, Illinois, November, 1994.

Introductory Spanish—8 weeks, Hawkeye Community College, Fall, 1993.

Reliability Engineering—NTU, Waterloo, Iowa, July 1993.

Other Professional Development through Employer:

Instructing Data Focus, Creative Focus, CMM Training, Fastener Training, Leadership Skills, Customer Service Training, Geometric Dimensioning and Tolerancing, Short Run SPC, Process Capability, World Class Maintenance, Facilitator Skills, Pace Rating, Gainsharing, Blueprint Reading, Project Management, Group Problem Solving Coaching Skills, ISO9000

Conference Paper Reviewer:

IIE ISERC National Conference, Pittsburgh, PA, May, 2017

ASEE – WIED, ERM, National Conference, New Orleans, June 2016

ASEE – WIED, ERM National Conference, Austin, June 2015

IIE ISERC National Conference, Nashville, TN, May, 2015
ASEE – WIED, LED National Conference, San Antonio, June 2012
Capstone Design Conference, Champagne-Urbana, May 2012
AFS National Conference, New Orleans, October 2012
ASEE – ERM National Conference (abstracts only), Vancouver, June 2011
FIE National Conference, San Antonio, October, 2009
ASEE National Conference, Pittsburgh, Pennsylvania, June, 2008
IIE IERC National Conference, Vancouver, British Columbia, May, 2008
ASEE National Conference, Honolulu, Hawaii, June, 2007
ASEE National Conference, Chicago, Illinois, June, 2006

IX. UNIVERSITY ACTIVITIES

Department Committees:

IMSE Manufacturing Faculty Search Committee, Fall 2015 – Spring 2016
IMSE Advisor Search Committee, Fall 2015
Curriculum Assessment and Standards (ABET), 2014 – present
IMSE/English Engl 314 (ad hoc), 2014 – present
IMSE Undergraduate Research Assistant Program, 2011 – present
Graduate Recruitment (ad hoc member), 2013
Black 0016/0020 Lab Remodeling (ad hoc), 2011 – 2012
COE Capstone Contract Requirements (ad hoc), 2011 – 2012
ABET Communication Improvement (ad hoc), 2011
IMSE Curriculum Committee (temporary ad hoc member), 2011
Enhancing Revenue Committee (ad hoc), 2010
Student Professionalism and Academic Integrity Committee (ad hoc), 2006
Alumni Outreach Committee (ad hoc), 2005-2006

IMSE Industrial Advisory Board Presentations:

Undergraduate Research Assistant Program, 2013, 2014, 2015, 2016
Capstone Design Update, 2007, 2009, 2011
IE421X/IE422X Lean Manufacturing Courses, 2007
IE490 Kaizen Course, 2006
Capstone Design Update, 2005

Guest Lecturer:

IE222X: Fall 2009, Spring 2011, Spring 2012, Spring 2013
IE101: Spring 2012, Fall 2012
Engr101: Fall 2011, Fall 2012

Other:

Toured Allsteel (Muscatine), 2017
Provided industry contacts to Greg Maxwell (ME) and IE361 students
Wrote letters of recommendation for numerous students for scholarships,
study abroad, internships, and graduate school 2001 - present
Mentored Ben Jacobson through his Master's Degree with IRB, collecting
data, surveys, etc. as part of IE148 curriculum - 2015

Toured Procter & Gamble (Iowa City), Terex (Waverly), John Deere (Waterloo), 2015

ABET accreditation – assessment, analysis, C5 preparation, and continuous improvement activities, 2003 – present

Collaborate with IMSE faculty and staff on course curriculum, methods, and assessment, 2001 – present

Resume review assistance to students, alumni, and parents, 2001-present

Facilitated collaboration between Wartburg College and IMSE to create 4-1 program, 2013-2014

Toured ConAgra (Waterloo), July, 2014

Met with COE faculty to develop proposal on reflection, July, 2014

Edited IMSE tour script and brochure for COE tour guides, 2010, 2013, 2014

Proctored exam for IMSE student in Waverly, June 2014

Met with Chris White (Civil, Construction, and Environmental Engineering) to assist with journal paper related to engineering writing 2013-2014

Wrote IMSE alumni newsletter article, 2011, 2012 (2), 2013, 2014, 2016

Worked with potential and previous industry partners for senior design – responded to inquiries about partnering and help them with networking, 2001-2013

Work with CIRAS as needed for industry partnerships, 2007 - 2013

Met with various faculty from Business, Industrial Technology, the Writing Center (collaboration opportunities), and also President Leath (industrial outreach) - 2012

Greg Maxwell/CELT Board – provided examples of how we teach critical thinking related to writing in capstone design, 2011

IMSE Interior Design – took photographs for faculty members, 2009

Evaluated Mechanical Engineering junior level projects for Dr. Gloria Starns, Spring 2008.

Evaluated Mechanical Engineering Capstone Design projects, Fall 2007

Engineering College Capstone Design Community Coordinator, 2007, 2008

IMSE Advisory Board Professional Panel—facilitator, 2007

Met with Horticulture faculty to discuss teaching methods, 2006

X. INDIVIDUAL ACTIVITIES

CASE (Citizens Advocating for Student Excellence), ad hoc committee member, Waverly, Iowa, May-Nov 2015

Cedar Valley Soccer Club volunteer, 2015

Iowa High School Speech Association judge, 1986-2015, 2017

4H Leader/Volunteer, 1991-present

Bremer County (Tri-Rivers Trendsetters), 2008-present

- County record book evaluation committee, 2016
- Lego Competition, July 2013, 2014
- Bremer County Alumni Award, 2013
- Bremer County Communication Workshop, April 2011
- Bremer County Family Volunteer Award, 2011

Bremer County (Janesville Super Stars), 1997-1999

Black Hawk County, 1991-1994
Waverly-Shell Rock school volunteer, 1998-present

- High School Marching Band volunteer, 2012-present
 - Uniform coordinator, 2014-present
- High School Math Team proctor/driver, 2013-present
- Iowa High School Speech contest volunteer, 2016, 2017
- Carey Elementary Art Fundraiser chair, 2006-2012
- Carey Elementary Field Trip Fundraiser chair, 2010, 2012
- Carey Elementary Parent Book Gift chair, 2006-2013
- District Citizens Advisory Council, 2010-2013
- Various other volunteer assignments, 2003-present

Waverly Public Library – community panel, March 2014
Cedar Valley Friends of the Family crisis intervention and prevention agency

- Board member, 2006-2009
- Volunteer, 2006-2014
 - Created macro for annual fundraising event, October, 2014

Wartburg College International Student host, 2007-2013
P.E.O., 1986 - 2011

- Chapters CF, JP, ML
- Offices: recording secretary, corresponding secretary, guard, chaplain

Wartburg Swim Club volunteer, 2011-2014
Waverly Area Swim Club volunteer, 2009-2016
Waverly Area Swim Club Board member, 2013-2015
Waverly-Shell Rock Soccer Association volunteer, 2004-2014
BLAST Swim Club volunteer, 2013-2014