

# Nancy Barr, Ph.D., NREMT

barrn@usf.edu

<https://www.linkedin.com/in/nancybarr/>

## **ACADEMIC PROFILE**

Innovative professor of engineering communication with a keen interest in portfolio use in undergraduate education assessment, engineering communication curriculum development, and best practices in inclusive, engaging teaching in undergraduate and graduate courses, with a particular focus on active learning and online instruction and their effects on retention of underrepresented students in engineering. Published two journal papers and nine conference papers and presented nine conference talks. Service on multiple committees related to diversity, equity, and inclusion. Actively engaged with professional societies through conference organization, publication review, and editorial experience.

## **EDUCATION**

Michigan Technological University, Houghton, MI  
Ph.D. in Rhetoric, Theory, and Culture, 2016  
Dissertation Topic: "Extending Writing in the Disciplines (WID) to train mechanical engineering GTAs to evaluate student writing," advised by Robert Johnson, Ph.D.

Michigan Technological University, Houghton, MI  
M.S. in Rhetoric and Technical Communication, 2011  
Project Title: "Revisiting Writing Across the Curriculum: Overcoming Resistance to WAC in the ME-EM Department," advised by Elizabeth Flynn, Ph.D.

Lake Superior State University, Sault Ste. Marie, MI  
B.S. in Business Administration, Cum laude, 2000

Bay College, Escanaba, MI  
A.A. in Liberal Arts; 1992, member of Phi Theta Kappa Honor Society

## **PROFESSIONAL APPOINTMENTS**

**Assitant Professor of Instruction, August 2022-present, University of South Florida, Tampa, FL**

**Teach sections per semester online in the Professional & Technical Communication (PTC) undergraduate program. Serve on PTC advisory committee.**

**Professor of Practice - Engineering Communications, March 2007 to August 2022 (position evolved), Michigan Technological University, Houghton, MI**

Developed technical communications program for the 12th largest undergraduate mechanical engineering (M.E.) program in the U.S., deliver lectures on written, oral, visual, and group (team) communications and ethics, develop technical communications curriculum and assessment tools for four new M.E. courses as part of the revamped undergraduate curriculum, teach graduate-level engineering communication courses. Conduct departmental faculty training sessions in communications and assignment development. Manage financial and administrative functions of the \$450,000 (annual revenue) Senior Capstone Design Program involving 180-

plus students, eight faculty, and five staff members, develop and coordinate Lab GTA training program, co-advise graduate students and Engineering Ambassadors group. Inducted into the MTU Academy of Teaching Excellence.

### **COURSES TAUGHT**

#### *University of South Florida*

ENC 3250 Professional Writing, Fall 2022 (three sections)

ENC 3246 Communication for Engineers, Fall 2022 (one section), Spring 2023 (three online sections), Fall 2023 (three online sections)

ENC 3242 Introduction to Professional & Technical Communication, Spring 2023 (one online section), Fall 2023 (one online section)

#### *Michigan Technological University*

Scientific and Technical Communication (3000-level undergraduate course, Fall 2021, Spring 2022)

Society and Engineering Leadership (graduate online course, Fall 2021)

Engineering Research Communication (PhD-level course) (Spring semesters 2015-2022)

Professional Engineering Communication (master's-level course) (on-campus during Fall semesters 2016-2020 and online-only during Spring 2019-2022 and Summer 2019-2022 semesters)

Mechanical Engineering Practice 1 (Communications Component, Fall 2014-Spring 2022)

Mechanical Engineering Practice 2 (Communications Component, Spring 2015-Spring 2022)

Mechanical Engineering Practice 3 (Communications Component, Fall 2015-Spring 2022)

Mechanical Engineering Practice 4 (Communications Component, Spring 2016-2022)

Engineering Design Processes (Communications Component, Fall 2014)

Writing Skills for GRAs (Summer Track A 2013)

MEEM Lab GTA Training on Evaluating Student Technical Writing (short course, Fall 2012 present)

Senior Capstone Design I and II Topical Expert in Technical Communication and Teaming (Fall 2009-Spring 2022); Guest lectured in Fall 2022 and Spring 2023

### **STUDENT GROUP ADVISING**

Engineering Ambassadors co-advisor, 2015–spring 2022

### **GRADUATE COMMITTEES**

PhD—Donna Mathews, Fall 2020-August 2023, "What's Bollywood Got to Do With It? Contemporary Popular Item Songs and Rape Culture in India"

MSME—David Leach, May 2018, "Kinesthetic Learning Experience Simulation Using an Online Intervention To Improve Hands-On Ability"

### **JOURNAL PUBLICATIONS**

"Teaching Case Trajectories in Turmoil: A Case Study of Engineering Students' Reactions to Disruptions in Their Community of Practice," *IEEE Transaction of the Professional Communication Society*, March 2021, **Barr, N.B.** and Johnson, J.E.

"Moving Hands-On Mechanical Engineering Experiences Online: Course Redesigns and Student Perspectives," *Journal of Online Learning*, March 2021, Johnson, J.E. and **Barr, N.B.**

## **REFEREED CONFERENCE PAPERS**

- "Breaking out of the lecture rut: Using Zoom to build classroom connections," 2021 IEEE Professional Communication Society Conference, Online, October 15-16. **Barr, N.B.** (Paper accepted)
- "Revising a portfolio initiative to assess student progress in a mechanical engineering program," 2020 ASEE North Midwest Section Conference, Iowa State University. **Barr, N.B.**
- "Peer Presentations as a Student-centered Learning Approach in the Nanotechnology Class," 2020 ASEE Conference, Remote. Choi, C.K. and **Barr, N.B.**
- "Design and Implementation of an Undergraduate Model-Based Design Class," 2020 IMAC, Florida, February 2020. De Clerck, J.P., Van Karsen, C.D.; **Barr, N.B.**
- "Divergent Courses: Preparing Graduate Students for Diverse Career Paths," 2019 IEEE Professional Communication Society Conference, Aachen, Germany, July 2019. **Barr, N.B.**
- "'Helpful,' 'Irritating,' and 'Smart': Student Perspectives on Teams in a Mechanical Engineering Program," 2018 IEEE Professional Communication Society Conference, Toronto, Canada, July 2018. **Barr, N.B.** and De Clerck, J.D.
- "Starting from Scratch: Incorporating communication instruction in revised mechanical engineering curriculum," 2017 IEEE Professional Communication Society Conference, Madison, WI, July 2017. **Barr, N.B.**
- "Extending WID to train mechanical engineering GTAs to evaluate student writing," 2016 ASEE Conference, New Orleans, LA, June 2016. **Barr, N.B.**
- "Successes and Challenges in Implementation and Running of the First ME-Practice Class in the 2nd Undergraduate Year as Part of a Curriculum Revision," 2016 ASEE Conference, New Orleans, LA, June 2016. Van Susante, P.J.; **Barr, N.B.**; Blough, J.R.; De Clerck, J.R.; Miller, M.H.; Miskioglu, I.; Odegard, G.M.

## **REFEREED CONFERENCE PRESENTATIONS (in addition to aforementioned conference papers)**

- "Using Feminist Pedagogy to Challenge Traditional Approaches to Graduate Writing Instruction and Develop Commonplaces of Experience," 2021 Conference on College Composition and Communication, Remote.
- "The Performance of Portfolios Across the Curriculum," 2019 Conference on College Composition and Communication, Pittsburgh, PA.
- "Connecting the Dots: Engineering Students Connect Concepts via Reflective Essays," 2018 International Writing Across the Curriculum Conference, Auburn, AL.
- "The How and Who of Incorporating Writing Instruction in Large Enrollment Courses," 2018 U.P. Teaching and Learning Conference, Marquette, MI.
- "Reflective Essays as Assessment Tools for Mechanical Engineering Students and Faculty," 2017 U.P. Teaching and Learning Conference, Houghton, MI.
- "Reflection/Deflection: Challenges of Incorporating Reflexive Writing into a Mechanical Engineering Program," 2017 Conference on College Composition and Communication, Portland, OR.
- "Training Mechanical Engineering GTAs to Effectively Evaluate Writing," 2014 International Writing Across the Curriculum Conference, Minneapolis, Minn.
- "Revisiting Writing Across the Curriculum: Overcoming Faculty Reluctance to Integrating Writing into the Engineering Curriculum," 2012 International Writing Across the Curriculum Conference, Savannah, GA.
- "Collaborative Efforts Across Academic Boundaries Improve Student and Faculty Communication Skills," 2012 Writing Across the Peninsula Conference, Sault Ste. Marie, MI

## **PUBLICATIONS (FICTION)**

"Peace," *Write Michigan 2018 Anthology*, (Judge's Choice Runner Up in Write Michigan Short Story Contest), March 2018, Chapbook Press, ISBN 978-1943359981  
Page One: *Whiteout*, November 2009, Arbutus Press, ISBN 978-1933926179  
Page One: *Vanished*, May 2007, Arbutus Press, ISBN 978-1933926162  
Page One: *Hit and Run*, July 2006, Arbutus Press, ISBN 978-1933926155

## **PUBLICATIONS (MAGAZINES/NEWSLETTERS)**

"MTU students travel to India to test their designs for low-cost prosthetic devices," *ASEE ME News*, April 2012  
"Virtual prototyping and collaboration with Michigan Tech helps Mercury Marine refine engines," *MSC Software Customer Case Studies*, 2008  
"Home Sweet Home" *Mystery Scene Magazine*, Summer 2007  
"Television is King," *IndyCar Racing Magazine*, February 1996  
"The Ghost of Sand Point Lighthouse," *Marquette Monthly*, September 1994

## **INVITED TALKS**

"Stop Wasting People's Time: How to Deliver Meaningful and Relevant Training Sessions," IEEE Philadelphia Chapter, June 29, 2021  
"Think Like a Recruiter: Getting the Job You Want," Department of Mechanical Engineering-Engineering Mechanics Graduate Seminar, September 16, 2021.  
"Get to the point! Developing results-oriented communication," Department of Mechanical Engineering-Engineering Mechanics Graduate Seminar, September 18, 2019.  
"Acing that conference presentation: It's all about your audience," Department of Cognitive Learning and Science Graduate Seminar, March 18, 2019.

## **GRANT FUNDING**

Faculty Learning Committee Grant, Center for Innovative Teaching & Learning, University of South Florida, co-PI with Sheila Gobes-Ryan, PhD, \$1,000.  
MEEM External Advisory Board, Faculty Grant, Fall 2020, \$250.  
NEH Connections Planning Grant, "A Human-Center Engineering Initiative," Co-PI, Sept. 1, 2019-August 31, 2020, \$34,999.

## **WORKSHOPS**

Essentials of Effective Proposal Preparation, Six-part training, ASEE, January-March, 2021.  
Stanford Design School Teaching and Learning Studio, July 2020  
Consortium to Promote Reflection in Engineering Education Workshop, University of Washington, Seattle, WA, September 2017

## **SPECIAL PROJECTS**

Contributing Author, *Core Grammar for Engineers* Project, Blue Horizons Partnership, 2016.  
Member of MTU's team participating in the NSF-funded *Transforming Engineering Culture To Advance Inclusion and Diversity (TECAID)* in mechanical engineering programs. Other participating universities are Purdue University, University of Oklahoma, Oregon State

University, and Texas Tech University (2015-2018).

### **SPECIALIZED TRAINING**

Online Instructor Certification, Center for Innovative Teaching and Learning, University of South Florida, Spring 2023  
Emergency Medical Technician-Basic Course, October 2021-April 2022 for national certification IS-00800.d National Response Framework, An Introduction  
IS-00700.b An Introduction to the National Incident Management System, Emergency Management Institute, FEMA, September 2021.  
IS-0200.c Basic Incident Command System, Emergency Management Institute, FEMA, September 2021.  
IS-00100.c Introduction to Incident Command System, ICS-100, Emergency Management Institute, FEMA, April 2019.  
American Red Cross, Basic Life Support, valid through May 2023  
Quality Matters Rubric Training for Online Course Review, July 2019  
Emergency Management Institute's ICS 200 Basic Incident Command System for Initial Response  
ED 5101 Foundations of Online Teaching, 2018 Summer Track A (Grade A)  
Mental Health First Aid, National Council for Behavioral Health, offered through Michigan Technological University, June 2017.  
Cultural Competency Training — Eight-step training through Michigan Technological University's Center for Diversity and Inclusion. Topics covered include self-awareness, communication, cultural literacy, diversity, discrimination, and conflict management., June 2016  
Basic Safety Training through Michigan Technological University  
CITI Course Training for the Protection of Human Subjects in Research  
Faculty/Staff Search Committee Training through Michigan Technological University on best practices in hiring

### **SERVICE TO PROFESSION**

Reviewer, Advanced Placement Composition Exam, The College Board, Summer 2023  
Reviewer, *IEEE Transactions on Professional Communication*, 2021-present  
IEEE PROCOMM 2022 Conference Committee, chair of Publicity Committee  
Associate Editor for STEM, *Prompt Journal*, February 2021-April 2023, focused on encouraging more submissions from engineering programs, HBCUs, and Hispanic-serving institutions  
Secretary, IEEE Professional Communication Society Board of Governors, term 2019-2021  
Consortium for Graduate Communication Bibliography Committee, 2018-2019  
Reviewer, *Journal of Response to Writing*, 2018-present  
IEEE PROCOMM 2018 Conference Committee, co-chair of Proceedings Committee  
Nominee for IEEE Professional Communication Society Advisory Board (election November 2018)  
Reviewer for ASEE Conference (Ethics Division and Liberal Education/Engineering & Society Division, CoNECD), 2016-present

### **SERVICE TO DEPARTMENT/UNIVERSITY**

Member, PTC Advisory Committee, USF Department of English, fall 2022-present  
Member, ME-EM Assessment Committee, Fall 2021-Spring 2022  
Member, ME-EM Curriculum Committee, 2017-2021, focused on undergraduate assessment  
Chair, Co-Curricular Course Revision Committee (university-wide effort to revise co-curricular course program for improved transparency and effectiveness); under Tech Forward charged

with innovating Education for the 21<sup>st</sup> Century  
Facilitator, ME-EM Committee on Incorporating Data Science Concepts into the Graduate Coursework and Research, Fall 2019-Spring 2022  
MTU Incident Command Team, 2019-2022  
Chair, ME-EM Department Diversity, Equity, and Inclusion Committee, 2016-2022  
Member, Senior Capstone Design Committee, 2007-2015 (Committee replaced by Advising Team)  
Participant, MTU Campus Safe Place Program, 2007-Spring 2022  
First-Year Summer Reading Program, 2007-2021  
ME-EM Department Diversity Liaison to MTU Diversity Council, 2016-2018  
University Senate representative to Campus Climate Study Committee, December 2015-September 2018  
ME-EM Department Alternate to University Senate, Term expires in Spring 2022 (Member, Academic and Instructional Policy Committee)  
PhD student representative to Rhetoric, Theory, and Culture Graduate Program Steering Committee, MTU, Academic Year 2014-15  
Staff Representative to Provost Search Committee, 2014-2015  
Member, Senior Media Systems Engineer-IT Search Committee, 2014 and 2015 (first hire was promoted)  
Staff Representative, ME-EM Chair Evaluation Committee, 2014  
Engineering Ambassadors, Co-Advisor, 2013-present  
Member, Senior Design Training Specialist-ME-EM Search Committee, 2012 and 2018  
Chair, Fringe Benefits Committee, University Senate, 2011-2013 (member, Benefits Liaison Group)

## **PROFESSIONAL MEMBERSHIPS**

American Society for Engineering Education (ASEE), LEES, DEED, and ERM Divisions  
ASEE North Midwest Section Board, campus representative, September 2019-April 2022  
IEEE Senior Member, Society on Social Implications of Technology, Education Society, and Professional Communication Society  
National Communication Association

## **HONORS**

Inducted into Michigan Technological University Academy of Teaching Excellence in 2020  
Recognition from Provost for being in the top 10% of faculty on campus receiving an exceptional "Average of 7 Dimensions" student evaluation score for MEEM 5010 (Fall 2016, Fall 2018, Fall 2019) and MEEM 6010 (Spring 2017, Spring 2019, Spring 2020, Spring 2021)  
2018 MTU Women in Science and Engineering Leadership Award  
2016 President's Award from Women in Engineering Pro-Active Network (WEPAN) for TECAID team's efforts in creating an inclusive and diverse culture in mechanical engineering (shared with the four other participating universities)  
2014 Order of the Engineer Outstanding Link Coordinator Award (Ethics organization)  
2008 Making the Difference Rookie Award, Michigan Technological University Staff Council  
2008 and 2007 Good News Award for Editorial  
2006 Good News Award for Editorial and Certificate of Merit for Editorial  
2005 Michigan Associated Press 2nd Place for News Columns, Division 1  
2005 Michigan Press Association 3rd Place for Local Columnist, Daily Class D  
1999 Michigan Associated Press 1st Place for Enterprise Reporting, Division 1  
1999 and 1998 Good News Award for Straight News Story

## **ADDITIONAL ACTIVITIES**

### **Board of Directors, Copper Country Habitat for Humanity, January 2018 to present, Houghton, MI**

Chair of Personnel Committee, responsible for evaluating the executive director and monitoring three additional high-level staff evaluations. Member of the Building Committee, responsible for deciding when and where to purchase land for building homes and timelines for home construction and critical repairs on existing homes.

### **News Editor, May 2004 to March 2007, *Daily Mining Gazette*, Houghton, MI**

Responsible for design, pagination, and editing of daily newspaper and directing staff of five reporters, one photographer, and city editor. Wrote award-winning editorials and columns. Assisted managing editor with hiring, employee evaluations, and other personnel matters.

### **Legal Secretary, July 2002 to April 2004, Butch Quinn Law Firm, Escanaba, MI**

Provided administrative support to family law attorney in a thriving general practice firm. Duties included preparing confidential legal documents, billing, scheduling, client communications, and re-organizing ten years of files.

### **Executive Secretary to the City Manager, April 2001 to May 2002, City of Escanaba, Escanaba, MI**

Provide administrative support to city manager and director of public safety (combined police and fire). Instituted public relations program and developed dictation system to effectively and efficiently process public safety officer reports. Co-wrote a successful six-figure grant proposal for a fire fighting/rescue vehicle.

### **City Editor, March 1994 to April 2001, *Daily Press*, Escanaba, MI**

Responsibility grew from typing and rewriting news releases to full-time reporting, pagination, writing, editing, assisting with hiring decisions and training new reporters. Worked as part of a dedicated team to redesign a nearly 100-year-old award-winning daily newspaper and update content delivery modes such as the Internet.

## **PROFESSIONAL SKILLS**

- Teaching
- Leadership
- Project Planning
- Assessment
- Basic conversational Spanish and reading with a dictionary
- Curriculum Development
- Mentorship
- Budgeting
- Interdepartmental Collaboration
- Editing
- Advising
- Facilitation
- Research Process