CURRICULUM VITAE

Nicole Kormos

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EDUCATION

University of Michigan Expected April 2030
Ph.D., Materials Science and Engineering **GPA: 4.0/4.0**

University of Michigan – Dearborn April 2025
B.S.E., Bioengineering **GPA: 4.0/4.0**
Winter 2025 CECS Dean's Medallion, High Distinction

RESEARCH EXPERIENCE

Graduate Student Research Assistant, University of Michigan Sept. 2025 – Present
DYNAMED Lab | Research Mentor: Dr. Alexandra Piotrowski-Daspit

- Exploration of novel polymer nanoparticles to improve systemic nucleic acid delivery with a focus on poly(ethylene glycol) (PEG) alternatives for nanoparticle stealth.

Undergraduate Research Assistant, University of Michigan – Dearborn Sept. 2024 – Aug. 2025
Novak Lab | Research Mentor: Dr. Caymen Novak

- Isolated primary male and female porcine lung fibroblasts to explore how sex influences cellular behavior and disease progression in pulmonary fibrosis.
- Designed and ran 3D hydrogel contraction assays to quantify fibroblast mechanical behaviors.
- Performed qPCR on 2D and 3D cultures to study fibrosis-related gene expression.

University of Michigan – Dearborn May 2024 – Sept. 2024
Summer Undergraduate Research Experience (SURE) | Research Mentor: Dr. Caymen Novak

- Participated in research-focused professional development seminars to strengthen experimental design, data analysis, and scientific communication skills.
- Organized weekly laboratory group meetings to present research progress, gain feedback, and improve methodologies.

PRESENTATIONS

Biomedical Engineering Society 2025 Annual Meeting Oct. 2025
San Diego, CA

- Poster Presentation: Kormos, N. and Novak, C. (2025). *Sex-Based Differences in Pulmonary Fibroblast Functional Phenotypes.*

Biomedical Engineering Society Research Symposium Oct. 2024
University of Michigan – Dearborn

- Poster Presentation: Kormos, N., Hinojosa, A., and Novak, C. (2024). *Sex as a Biological Variable in Pulmonary Fibroblast Mechanical Responses*.
- Awarded 2nd place.

Summer Undergraduate Research Experience (SURE) Showcase Sept. 2024
University of Michigan – Dearborn

- Poster Presentation: Kormos, N., Hinojosa, A., and Novak, C. (2024). *Sex as a Biological Variable in Pulmonary Fibroblast Mechanical Responses*. doi.org/10.7302/25279.

TEACHING EXPERIENCE

Teaching and Laboratory Assistant, University of Michigan – Dearborn Jan. 2025 – Apr. 2025
Biosensors and Instrumentation (BENG 351)

- Led hands-on laboratory sessions, enhancing students' practical skills and theoretical understanding.
- Assessed student performance through quizzes and exams, providing timely feedback.
- Conducted regular office hours to offer individualized guidance and reinforce key lecture concepts.

PROJECTS

Development of a Traction Force Microscopy System Jan. 2025 – Apr. 2025
Senior Design Capstone Project, University of Michigan – Dearborn

- Developed a traction force microscopy gel system and the corresponding algorithms in Python and MATLAB to quantify stresses and forces exerted by individual cells with existing lab microscopy equipment.
- Awarded **Best in College** and **Best in Department – Mechanical Engineering** at the 2025 Senior Design Day Competition.

ACTIVITIES AND LEADERSHIP

Tau Beta Pi Dec. 2023 – Apr. 2025
Vice President and Media Coordinator, University of Michigan – Dearborn

- Revamped the new member outreach and initiation process, doubled the initiates per term, and led the chapter to surpass 1,000 total initiates during my vice presidency.
- Founded and managed the chapter's first official social media presence and public website, significantly boosting visibility, engagement, and event participation across campus.
- Oversaw executive board initiatives, drove chapter operations, and expanded collaborations with university departments and external partners to strengthen organizational impact and professional development.

Society of Women Engineers Dec. 2023 – Apr. 2025
Active Member, University of Michigan – Dearborn

- Participated in professional development workshops, mentorship programs, and campus outreach events to promote the advancement of women in engineering.
- Engaged prospective students and represented the engineering community at university-wide events.

Biomedical Engineering Society Apr. 2024 – Apr. 2025
Active Member, University of Michigan – Dearborn

- Volunteered in STEM outreach events, educating high school students about careers in biomedical engineering and showcasing innovation within the field.
- Assisted in organizing interactive demonstrations and educational panels to inspire future engineers and promote STEM education and research.

FELLOWSHIPS AND AWARDS

Tau Beta Pi Fellowship Aug. 2025 – May 2026
Tau Beta Pi Association

EXP+ 2024-2025 Independent Student Research Grant Oct. 2024
University of Michigan – Dearborn

James and Jeraldine Poe Research Assistantship July 2024
University of Michigan – Dearborn

2024 Honor Scholar – B.S.E. Bioengineering Program Feb. 2024
University of Michigan – Dearborn

James B. Angell Scholar 2023-2025
University of Michigan – Dearborn

William J. Branstrom Prize Mar. 2022
University of Michigan – Dearborn

University Honors 2021-2025
University of Michigan – Dearborn

Chancellor's Scholarship Recipient Mar. 2021
University of Michigan – Dearborn

SKILLS

Technical: 3D Hydrogel Cell Culture, Mammalian Cell Culture, qPCR, Confocal Microscopy, Fluorescence Microscopy
Programming: MATLAB, Python, PSpice
CAD: SolidWorks, CATIA, FEBio
Data Analysis: GraphPad Prism, ImageJ, Bio Render, Google Workspace, Microsoft Office Suite