

Justin Sehlin

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Education:

Gustavus Adolphus College | B.A.- Physics | Graduation: May 2023

- **GPA:** Major - 3.80 Cumulative - 3.91
- **Related coursework:** Advanced Math Methods, Quantum Mechanics, Thermodynamics and Statistical Mechanics, Electromagnetic Theory, Electronics, Engineering Modeling, Engineering Materials and Mechanics, Experimental Modern Physics, Mechanics, Optics, General Chemistry, Computer Science I and II, Elementary Statistics, Financial Accounting, Entrepreneurship I, Materials Science
- **Awards:** four-time International Tennis Association scholar-athlete, President's Scholarship, Robert A. Peterson Scholarship (for National Merit Scholarship), Johnson and Peterson Fellowship (funding for summer research), eight Dean's List nominations (one per semester spent in college), and Pleasant Valley Robotics Foundation Scholarship (for over 100 hours spent volunteering at robotics camps), Sigma Pi Sigma inductee (for minimum of 3.5 GPA and research)

Iowa State University |PhD- Mechanical Engineering |Expected Graduation: December 2026

- **GPA:** 3.83
- **Related coursework:** Advanced Thermodynamics, Advanced Machine Design, Microfluidics, Responsible Conduct of Research, Mechanical Behavior and Manufacturing of Polymers and Composites, Statistical Methods for Research Workers, Technical Communication, Physical and Mechanical Properties of Polymers

Work Experience:

Reviewer | American Society of Mechanical Engineers | September 2024

- Reviewed paper and revisions for submission to the ASME Journal of Biomedical Engineering

Graduate Research Assistant | M.E., Iowa State University | December 2023- Present

- Experimental work in microfluidic spun polymeric fibers (biodegradable, carbon, hydrogel)
- Wrote and edited grant and fellowship proposals to describe the lab's research and procure funding
- Responsible for upkeep and use of lab equipment
- In charge of leading undergraduate students in projects related to my research

Teaching Assistant | M.E., Iowa State University | August 2023-December 2023

- Held office hours, proctored exams, and graded coursework for an undergraduate thermodynamics course

Team Member | Innovation Scholars Program, Mayo Clinic| October 2022-March 2023

- Worked on interdisciplinary team to give recommendations on next steps for intellectual property of Mayo Clinic Ventures (project under NDA, cannot reveal much detail)
- With a group of five students, created a 25 page research paper and 30-minute presentation to report findings

Research Assistant | Geology, Gustavus Adolphus College | June 2021- August 2021

- Assisted Dr. Elizabeth Boatman with research on the effects of fluoride uptake on the preservation of modern bone
- Used X-Ray Diffractometry, Fourier-Transform Infrared Spectroscopy, and Scanning Electron Microscopy for the characterization and analysis of material specimens
- Prepared material specimens by using wafering saws, grinding, and polishing
- Presented current state of project to multiple audiences

Teaching Assistant & Tutor|Physics, Gustavus Adolphus College|February 2021-May 2023

- Assisted underclassmen physics majors and other physics students with assignments, lab reports, and studying
- Aided 11 physics students in the laboratory by answering questions, providing guidance, and giving feedback
- Set up classrooms in advance for laboratory activities
- Taught material to an introductory physics class with over 50 students

Extracurricular activities:

Co-President & Class Representative | Society of Physics Students, Gustavus | September 2021- May 2023

- Worked alongside other club co-president to ensure that operations run smoothly
- Helped to organize activities, delegate responsibilities, schedule meetings, and plan events

Team Member | Varsity Tennis, Gustavus Adolphus College | September 2019 - May 2023

- Participated in team activities (practices, meetings, competitions, workouts) a minimum of two hours per day, 6 days per week for 5 months per year in-season with at least 20 teammates
- Ranked in top 25,000 in the world by Universal Tennis and 16th in the Central Region for NCAA Division III men's tennis

Technical Skills:

- **Beginner:** Matlab, Mathematica, Comsol, RStudio, Stick welding, X-ray diffractometry, Fourier-transform infrared spectroscopy, Material specimen preparation (wafering saws, grinding, polishing), Labview, DC and AC circuit design, Microsoft office tools (Powerpoint, Excel)
- **Intermediate:** Python, Java, Solidworks, LoggerPro, Autodesk Inventor, SigmaPlot, Oscilloscope operation, Scanning Electron Microscopy, Use and manufacturing of microfluidic devices, CNC mill operation

Non-Technical Skills:

- **Advanced:** Giving presentations (both technical and non-technical), Interpersonal skills, Writing research papers, Leadership, Researching information, Using the Lean Startup method, Time Management, Problem-solving, Group work, Communication (both written and verbal), Self-motivation, Dependability
- **Intermediate:** Spanish (speaking, understanding, reading, writing, etc.)