

Rebecca Koester

Madison, WI 53715 | (994) 258-2443 | rkoester@wisc.edu

OBJECTIVE

Materials science and engineering position in the application/processing of polymer and composite components

EDUCATION

University of Wisconsin-Madison

Master of Science Materials Science & Engineering, May 20XX

GPA: 3.9/4.0

Selected Coursework: Additive Manufacturing, Polymer Processing, Engineering Design with Polymers

University of Wisconsin-Madison

Bachelor of Science Mechanical Engineering, December 20XX

GPA: 3.6/4.0

Dean's List (6 semesters)

EXPERIENCE

Polymer Engineering Center, UW-Madison

Graduate Researcher, Dec. 20XX – Present

- Performed economic study on 3D-printing of fiber reinforced composite materials focusing on part quality, material choice, and use of support material
- Designed and produced tools and fixtures with 3D-printing
- Collaborated with an interdisciplinary team of 4 graduate students

Applied Materials Inc., Santa Clara, CA

Engineering Intern, May 20XX – Aug. 20XX

- Conducted process development for thin film deposition, including tool preparation, processing wafers, measuring wafers, and documentation
- Developed projects to improve the performance of optical coatings, involving design of experiments, data analysis, and reporting
- Researched optical measurements, involving development of measurement procedures and data analysis, estimation of errors, and instructing technicians on the tools

EVA Plastics Corp., Chicago, IL

Engineering Intern, Jun. 20XX – Aug. 20XX

- Fabricated samples of composite blood vessel tissue scaffolds using electrospinning and conducted tensile tests
- Constructed an electrospinning machine collection apparatus using CNC milling to control length of aligned and randomly oriented sections of fibers, and several sample frames to test cell adhesion

Mechanical Engineering Department, UW-Madison

Graduate Teaching Assistant – Engineering Graphics, Fall 20XX

- Introduced hand drafting technique and SolidWorks drafting software to three sections of undergraduate students in mechanical engineering
- Graded assignments and provided guidance to students through weekly office hours
- Collaborated with faculty director to develop sample projects and modules

Choose one, easily readable font to use on your résumé.

(Continued on the next page)

Polymer Engineering Center, UW-Madison

Undergrad Research Assistant, Jan. 20XX – Dec. 20XX

- Conducted Dynamic Mechanical Analysis (DMA) testing in collaboration with EVA Plastics, comparing different polymer blends
- Collected data from tests (DSC, DMA, and TGA) on traditional weightlifting plates for comparison to a new honeycomb design
- Proposed design for resin trap system for Vacuum Infusion Molding and prototype for Laser-Diode Measurement of epoxy cure shrinkage in preimpregnated composites

ACADEMIC PROJECTS

Formulated Approximate Solutions Using Finite Element Method (FEM)

- Applied FEM to 2D/3D structures in elastostatic, heat transfer, and elastodynamic systems using C++
- Analyzed the systems to select appropriate variational formulas, basis, quadratures, and algorithms

Engineering Design Optimization

- Performed and examined design optimization of truss-structured bridges using MATLAB and SolidWorks by modeling, identifying appropriate tools, solving, and verifying with numerical solutions

Simulating Autonomous Vehicles with Digital Twin

- Systemized robotic operating system through digital twin simulation of physical autonomous vehicles
- Built Robot Operating System (ROS) that receives sensor signals and sends commands to digital twin

Machine Learning in Material Science

- Implemented machine learning techniques including MAST-ML and Citrination and uncovered actionable insights

TECHNICAL SKILLS

Modeling Software

Moldex3D, Rhinoceros 5, Siemens NX, AutoCAD, Slic3r (3D-Printing), MATLAB, SolidWorks

Programming Languages

Java, C++, Python

Lab and Instrumentation

Thermogravimetric Analyzer
Dynamic Mechanical Analyzer
Differential Scanning Calorimeter
Focus Variation Measurement (Alicona)
Scanning Electron Microscopy
Energy-Dispersive X-ray Spectroscopy
Electron Backscatter Diffraction

ACTIVITIES

Materials Advantage – Competition Chair
ASM International
Materials Research Society
K-12 STEM Outreach Volunteer
Skiing and Mountain Biking

Include name and page number for 2- to 3-page résumés.