

Gordon Hatcher

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Education

University of Massachusetts Amherst

Bachelor of Science, Mechanical Engineering

Spring 2024

Relevant Coursework: Computational Approach to Engineering Problems, Manufacturing Processes, Technical Writing, Design of Mechanical Components, Fundamentals of ECE, Engineering Lab 2

Master of Science, Mechanical Engineering | Certificate of Engineering Management

Spring 2025

Relevant Coursework: Advanced Thermodynamics, Solar Energy Collection, Power Systems Design, Practical Medical Device Design, Nonlinear Dynamics, Robotics Programming, Technical Project Management

Engineering Experience

Process Engineering Intern | *Innova Plastics Engineering, Shirley, MA*

Summer 2024

Medical Manufacturing Compliance Transition:

- Developed QMS procedures for transition to ISO 13485 compliance and performed installation qualification on shop machinery

Lean Process Improvement:

- Identified paint consumption issue and collaborated with shop employees to develop and deploy consumption measurement procedure.
- Coded interface to record metrics and produce consumption statistics using Visual Basic

Engineering Design Intern | *Cofab Design, Holyoke, MA*

Summer 2023

Implant Tool Test Fixture:

- Designed and built a test rig to replicate a human nerve to test the effectiveness of a nervous implanting tool.
- Utilized FDM and SLA printing to fabricate parts for test rig, then tested customer product.

Medical Bag Testing and Standards Review:

- Drafted testing procedure for pressure testing medical bags in accordance with ISO 61010 Section 11
- Conducted testing in accordance with procedure to determine effectiveness of bag enclosure.

Design Contractor | *Remote*

Fall 2023

- Migrated customer design from SolidWorks to OnShape while retaining accuracy for DHF.
- Cooperated with client to develop design for next generation product.

Design Lead | *Capstone Senior Design Project*

Fall 2023

- Created proof of concept multi-step manufacturing device through sponsor design specification and input.
- Designed mechanical, pneumatic, and electrical control systems.
- Fabricated, tested and refined manufacturing device for delivery to sponsor, achieving 1st Place in design contest.

Catheter Design Project | *Practical Med Device Design*

- Designed and prototyped catheter hub with hemostatic lock, capable of injecting contrast. Developed and tested in accordance with ISO 594 following FDA 820.30 design control practices.

Additional Experience

Graduate Teachers Assistant | *Industrial Automation & Senior Design Capstone*

Fall 2024 – Spring 2025

- Reviewed and graded assignments covering Process Plans, Flow Maps, P&ID, and Ladder Diagram PLC coding.
- Lead weekly progress update meetings with student teams, mentoring and providing constructive feedback.

Graduate Student Advisor | *UMASS College of Engineering*

Fall 2024 – Spring 2025

- Managed class enrollment of 80 students during registration periods. Tailored schedule for each student.

MATLAB Tutor | *UMASS College of Engineering*

Spring 2022 – Spring 2024

- Helped students dissect and troubleshoot complex problems within MATLAB.
- Fostered the learning of MATLAB concepts through custom exercises and pseudocode explanations.

Skills and Interests

Technical Skills: MATLAB, SolidWorks (CSWP Certified), OnShape, ANSYS, COMSOL, Arduino IDE, Microsoft Office Suite & Projects, Google Suite, Shop Machinery and Hand Tools, Basic Soldering and Welding

Interests: Bouldering, Backcountry Skiing, DIY Automotive Mechanics, Carpentry, Metal Working