



# Londyn Callahan

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## SUMMARY

Passionate Mechanical Engineering instructor with a master's degree and years of hands-on experience teaching Thermodynamics, Engineering Methods, Robotics, and Manufacturing Processes. Successfully guided students through practical implications of engineering concepts using Solidworks and Matlab. Fostered a collaborative learning environment, encouraging student exploration and innovation within mechanical design disciplines. Known for integrating modern technology into coursework, enhancing learners' engagement and ensuring alignment with industry standards. Demonstrated commitment to continuous improvement and collaboration with peers to develop an enriching curriculum, resulting in improved student outcomes.

## EXPERIENCE

### Mechanical Engineering Instructor

August 2025 - Present

University Project

Remote

Instructed courses on Thermodynamics, Engineering Methods, and Robotics in a remote capacity, advocating interactive learning methods and using technology-driven approaches to enhance understanding. Effectively prepared engaging instructional materials aligned with course objectives, promoting practical skills while reinforcing strong theoretical foundations. Cultivated a responsive classroom atmosphere, allowing for adaptive teaching based on diverse learner needs and fostering peer collaboration among students.

- Developed comprehensive lessons on Thermodynamics and practical applications using Solidworks software.
- Engaged students with hands-on experiences such as CNC machining and laser cutting projects.
- Collaborated with faculty to refine educational materials ensuring relevance to industry practices and standards.
- Utilized innovative strategies to encourage participation and collaboration among students in technical experiments.
- Provided tailored assessments and constructive feedback to improve students' academic performance and skill sets.
- Created inclusive environments accommodating various learning styles, greatly improving student satisfaction.

### Robotics Research Assistant

September 2024 - May 2025

Academic Research

Chicago, IL

Contributed to advanced robotics research focusing on Matlab programming and simulated mechanical design principles. Worked closely with faculty and fellow researchers to investigate advancements within the field of automation, emphasizing collaboration and meaningful contribution to projects. Supported lab management and ensured compliance with safety regulations, providing mentoring support for undergraduate students engaged in research.

- Assisted with design and execution of various robot-related projects, enhancing programming proficiency in Matlab.
- Engaged in team collaborations regarding automation technological advancements, resulting in published findings.
- Maintained laboratory equipment and ensured a safe working space for students participating in experiments.
- Presented project results at university conferences, showcasing team efforts through strong visual and spoken communication.
- Supported training sessions mentoring peers in advanced robotics and research methodologies, enhancing knowledge sharing.
- Contributed effectively to descriptive project documentation, bolstering academic credibility and visibility for joint efforts.

### Engineering Methods Lab Assistant

January 2024 - June 2024

Student Lab

Chicago, IL

Facilitated lab instruction focused on Solidworks design and 3D printing technologies, actively assisting students as they developed essential engineering skills. Actively contributed to creating lab manuals and workshop content aimed at enhancing student comprehension of engineering processes while adhering to established safety protocols.

- Conducted teaching labs for Solidworks design-focused student projects, demonstrating practical tools and techniques.
- Oversaw the application of safety and quality measures for all demonstration activities within lab settings.
- Initialized workshops aimed at presenting new technology and techniques related to 3D printing methodology.
- Collaborated closely with faculty members to align lab experiences with standard engineering curricula and enhance quality.
- Provided targeted evaluations and feedback on student projects to facilitate growth against industry benchmarks.
- Strengthened lab organization leading to improved workflow efficiencies and higher student engagement during sessions.

## LEADERSHIP & AWARDS

- Dean's List, Illinois Institute of Technology - 2024
- Dean's List, Illinois Institute of Technology - 2025

## EDUCATION

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### Master of Science in Mechanical Engineering

2026

Illinois Institute of Technology GPA: 3.9

Chicago, IL

*Coursework: Thermodynamics, Solid Modeling, Robotics, CNC Machining*

## CERTIFICATIONS

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- Certified Solidworks Professional (CSWP) 📅 2025
- Engineering Dynamics Certification 📅 2026

## TECHNICAL SKILLS

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- **Design Software:** Solidworks, AutoCAD, CATIA
- **Simulation Tools:** MATLAB, ANSYS, Simulink
- **Machining Equipment:** CNC Mill, 3D Printers, Laser Cutter
- **Research Methodologies:** Qualitative Analysis, Quantitative, Usability Testing
- **Project Management Tools:** Trello, Asana, Microsoft Project
- **Classroom Technology:** Google Classroom, Zoom, Microsoft Office Suite
- **Web Design Platforms:** Wix, WordPress, Webflow
- **Electrical Systems:** Arduino, Raspberry Pi, PLC Programming
- **Quality Standards:** ISO 9001, Six Sigma, Lean Manufacturing
- **Compliance Regulations:** OSHA Regulations, ASME Standards, Environmental Policy

## SKILLS

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|---------------------------|--------------------------|--------------------------|---------------------------|
| • Solidworks              | • Thermodynamics         | • Laboratory Instruction | • Technical Communication |
| • Matlab                  | • Teaching               | • 3D Printing Techniques | • Computer-Aided Design   |
| • CNC Machining           | • Curriculum Development | • Project Management     | • Problem Solving         |
| • Manufacturing Processes | • Robotics Design        | • Assessment Strategies  | • Peer Mentoring          |

## PROFESSIONAL AFFILIATIONS

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- Member, American Society of Mechanical Engineers (ASME) - 2023 – Present
- Volunteer, Engineering Outreach Program - 2023 – Present

## LANGUAGES

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- English (Native)
- Spanish (Intermediate)

## ADDITIONAL INFORMATION

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**Work Status** : Authorized to work in United States. No sponsorship required.

## REFERENCES

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AVAILABLE ON REQUEST