

# Kristen Collins

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## EDUCATION:

**Pennsylvania State University | The Behrend College**  
Bachelor of Science in Mechanical Engineering  
*Dean's List*

**Graduation May 2021**  
**Cumulative GPA: 3.99**  
**All Semesters**

## ENGINEERING AND RESEARCH EXPERIENCE:

**Quality Engineer | Harmony Castings LLC., Harmony PA** **August 2021-Present**

- Conduct daily quality tests to ensure the materials used in production meet the necessary specifications
- Assist quality team in establishing consistent and effective process instructions for operators on the floor
- Analyze casting defects on parts to determine the root cause and help initiate corrective actions
- Collaborate with the operators daily to implement established procedures, receive their feedback on any potential process concerns, and incorporate their insight into corrective actions.

**Thor's Hammer Project, Engineering Senior Design | Penn State Behrend** **Aug 2020-May 2021**

- Compete in the Cast in Steel competition established by the Steel Founders' Society of America
- Design and manufacture a functional 6 lb steel-cast Thor's Hammer based on an original 60 lb model
- Produce to-scale 3D-printed prototypes of various hammer designs for visual demonstration and analysis
- Design sand mold system with gating, risers, cores, and vents, to produce the hammer upon pouring
- Conduct flow and solidification simulations within the mold designs using SolidCast and Magma
- Complete all machining, finishing, and material testing processes to prepare the hammer for competition

**Undergraduate Researcher for Mechanical Engineering | Penn State Behrend** **May 2019-Dec 2019**

- Partnered with local manufacturing companies to enhance procedures and optimize product quality
- Functioned as a co-leader of a project which proved the benefits of implementing electrically assisted manufacturing to forging applications by reducing force requirements by over 30%
- Developed a unique etching procedure for specialty metals to be utilized for quality management
- Trained in laboratory safety practices relevant to chemical usage, machine operation, and team accountability based on OSHA standards

## OTHER WORK EXPERIENCE:

**Work Study Student | Penn State Behrend Engineering Office** **Jan 2018 - May 2021**

- Interact and effectively communicate with students, faculty, and visitors to provide needed information
- Attend to daily office maintenance activities
- Assist Engineering faculty with production of class requirements as needed

**Sales Associate | Home Depot, Pittsburgh PA** **June 2020-Jan 2021**

- Serve customers directly by offering assistance, relevant product information, and recommendations.
- Maintain appropriate retail environment by organizing merchandise and restocking inventory
- Drive company sales and business success through suggestive selling and management of transactions

## COMMUNITY INVOLVEMENT AND ACHIEVEMENTS:

<i>Member, Materials and Manufacturing Group   Penn State Behrend</i>	<b>Summer 2019-2021</b>
<i>Participant, Behrend Intramural Basketball   Penn State Behrend</i>	<b>Fall 2017-2021</b>
<i>Member, The Pittsburgh Slovakian Cultural Dance Group   Pittsburgh</i>	<b>2003-Present</b>
<i>Recipient, The Chancellor's Scholarship   Penn State Behrend</i>	<b>Fall 2017-Spring 2021</b>
<i>Recipient, The Smith McGowan Scholarship   Penn State Behrend</i>	<b>Fall 2017-Spring 2021</b>
<i>Recipient, Mechanical Engineering Outstanding Student   Penn State Behrend</i>	<b>Spring 2021</b>

## RELEVANT SKILLS AND CERTIFICATION:

- *Technical:* Project Management, Metal Polishing and Etching, Microscope Imaging
- *Software:* Inventor, Mathcad, MATLAB, ANSYS, CES, Microsoft Projects, Cura, EES, SolidCast
- *Health and Safety:* OSHA and EHS laboratory safety, Basic Forklift training, CPR and first aid