

Career Area:

Engineering

Job Description:**Your Work Shapes the World at Caterpillar Inc.**

When you join Caterpillar, you're joining a global team who cares not just about the work we do – but also about each other. We are the makers, problem solvers, and future world builders who are creating stronger, more sustainable communities. We don't just talk about progress and innovation here – we make it happen, with our customers, where we work and live. Together, we are building a better world, so we can all enjoy living in it.

How Your Work Shapes the World

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About the Role

The Engineering Rotational Development Program (ERDP) is all about developing the next generation of industry leaders and technical experts. The purpose of Caterpillar's Engineering Rotational Development Program is to harness your ability and further develop you through rotational assignments and learning opportunities so that you may not only fulfill your career goals but provide excellent service to Caterpillar and its customers. Our Engineering Rotational Development Program enhances the experience of engineering graduates transitioning from student to full-time engineer.

What You Will Do

You'll join a team with diverse project responsibilities and have valuable networking opportunities with all levels of Caterpillar employees. This is an entry level engineering position that begins with a 12-18-month long development rotational

program focused on building technical abilities in roles including (but not limited to):

- **Product Design** : Engineer components & systems for Caterpillar products to meet our customers' needs. Deliver solutions by leading collaboration with cross functional teams throughout our value chain starting from initial concept through to production.
- **Simulation/Performance Analysis** : Utilize CFD - Computational Fluid Dynamics (ANSYS), FEA - Finite Element Analysis, 3D modelling, root cause investigation; perform system/subsystem/component design optimization, structural dynamics, development and optimization of Engine, Aftertreatment, Battery, Fuel Cell, Powertrain, and/or Machine System performance.
- **Test/Validation** : Apply strong mechanical engineering understanding in a test/validation (hands-on) environment, troubleshooting issues, and collaborating with others for optimal results.
- **Controls Development** : Develop/implement control system algorithms using Matlab/Simulink for various control systems including but not limited to engine controllers, machine implement controllers as well as powertrain controllers. Will be responsible for understanding the feature requirement, implementing it as well as testing it prior to a production roll out.
- **Electronic Components** : Design and test electronic control modules and electronic components working with internal Caterpillar clients to understand controller/component requirements; help design Printed Circuit Board layouts and perform digital/analog/power circuit analysis and testing. Other duties may include working with suppliers, testing the controllers/components in various environments, ensuring that FMEAs [Failure Mode and Effects Analysis] are conducted and documented to meet stringent Caterpillar quality requirements.
- **Embedded Software Development** : Develop embedded software in C, C# and/or C++ for electronic control modules. Some examples of embedded software development applications include Datalink communications, Inputs and Outputs [Sensors and actuators], speed calculation, injection/spark timing, memory management, CPU optimization, multi-core design and implementation. In addition, some areas of work include developing scripts in Python/Visual Basic for automation.
- **Software Validation/Verification for Electronic Systems** : Verify functionality of a feature or control system algorithm on a HIL [Hardware in the Loop] simulator bench or a SIL [Software in the loop] system. Understand

requirements of the feature and/or the schematics of the controller/control system, verify functionality and debug/report anomalies to the development team and help validate fixes.

- **Engineering Data Analytics** : Apply abilities to write and understand computer code, use Python, perform analytics in real world applications.

What You Have – Skills and Experiences

In this role, you will have the opportunity to contribute your unique skills and experiences. Below are some of the most critical skills.

- Analytical skills, initiating ideas, troubleshooting, root cause analysis, problem-solving, and critical thinking capabilities
- Knowledge of engineering principles, theory, and engineering experience gained through projects, internships, and/or relevant work experiences
- Fundamental understanding of engineering for a manufacturing environment, ability to design and implement materials, structures, machines, devices, systems and processes that safely realize a desired objective or invention
- Organize and manage multiple projects simultaneously, ability to quickly gain, and effectively apply new skills & knowledge
- Success in collaborating with others of diverse cultures, interpersonal styles, and abilities
- Strong written, and verbal communication skills
- Participate in, and build on our inclusive, constructive, and productive work environment
- Ensure all team member's contributions are recognized and values

Degree Requirements:

- Bachelor's degree in Aerospace/Aeronautical, Agricultural, Electrical, Computer, or Mechanical Engineering from an ABET-accredited institution.

Other Requirements:

- Minimum cumulative Grade Point Average of 3.0/4.0 (no rounding) at current institution
- Expected graduation date December 2022 - August 2024
- Must be willing to travel and relocate domestically

Top candidates will also have:

- Involvement with a campus design/competition teams or related experience
- Project or Team Leadership experience
- Previous technical internship/co-op or relevant experience
- Excellent interpersonal and communication skills

Additional Information:

- Please attach your resume and an unofficial copy of your transcript to your application.
- Applicants will be considered for positions throughout the United States.
- Relocation is available.
- Sponsorship is NOT available for this position.
- These positions will be in the **Peoria, Illinois, area** , with a small number of positions in other locations

Employee benefit details:

- Annual incentive bonus plan *
- Medical, dental, and vision coverage
- Paid time off plan (Vacation, Holiday, Volunteer, Etc.)
- 401k savings plan
- Health savings account (HSA)
- Flexible spending accounts (FSAs)
- Short and long-term disability coverage,
- Life Insurance
- Paid parental leave
- Healthy Lifestyle Programs
- Employee Assistance Programs
- Voluntary Benefits (Ex. Accident, Identity Theft Protection)

**Subject to annual eligibility and incentive plan guidelines .*

Final details:

Please frequently check the email associated with your application, including the junk/spam folder, as this is the primary correspondence method. If you wish to know the status of your application – please use the candidate log-in on our career website as it will reflect any updates to your status.

For more information, visit caterpillar.com. To connect with us on social media, visit caterpillar.com/social-media.

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Relocation is available for this position. Visa Sponsorship is not available for this position. This employer is not currently hiring foreign national applicants that require or will require sponsorship tied to a specific employer, such as, H, L, TN, F, J, E, O. As a global company, Caterpillar offers many job opportunities outside of the U.S which can be found through our employment website at www.caterpillar.com/careers.

Posting Dates:

March 18, 2024 - March 31, 2024

Any offer of employment is conditioned upon the successful completion of a drug screen.

EEO/AA Employer. All qualified individuals - Including minorities, females, veterans and individuals with disabilities - are encouraged to apply.

Not ready to apply? Join our [Talent Community](#)