

Pathway Rotational Program

Body of Knowledge: Engineering

Engineering fundamentals

Application of engineering education to solve real world problems as related to the oil and gas industry.

Engineering disciplines

Basic understanding of hydraulic, electrical, structural, mechanical or software components and functions.

Design

Understand the design lifecycle and how each step builds on the previous step to ensure the design output meets form, fit and function requirements, always keeping in mind manufacturability and costing.

Project Management

Understand NOV's organizational structure and what engineering's role is to support the business. Learn the fundamentals of how to manage workload/projects, and how to communicate status to the organization.

Design Engineer

3D modeling

Learn how to create parts and assemblies in a 3D environment in adherence to NOV standards.

Tolerancing standards

Gain a basic understanding of tolerancing and fits to ensure components can be manufactured. Learn the fundamentals of Geometric, Dimensioning and Tolerancing (GD&T) per the required standards, i.e. ASME, ISO.

Drafting standards

Understand the industry and NOV standards as they pertain to drawing creation.

Material standards

Develop a basic understanding of materials and material standards used in the oil and gas industry.

Development and testing

Learn about methods of testing for products/components/materials under high pressure, extreme conditions, and considered critical path for proper design verification before delivery to customer.

Stress Analysis

Use computer modeling and hand calculations to determine the suitability of a design to meet its intended requirements.

Software Engineer

Software Development

Strong analytical skills with a good understanding of command line and software such as C++, HTML5, CSS3, Java Script and Linux environments. The ability to interpret and implement technical specs and other technical design documents.

Collaboration

Strategize with cross-functional teams to interpret core concepts and turn into a usable solution for NOV control systems.

Development and testing

Learn about methods of testing for products in simulated environments and considered critical path for proper design verification before delivery to customer.

Electrical Design Engineer**Drafting standards**

Understand the electrical industry and NOV standards as they pertain to drawing creation. Use CAD software to communicate an electrical circuit to others in the form of a schematic or wiring diagrams. Can produce documents, drawings/schematics, procedures, and able to write routine reports and correspondence.

Development and testing

Learn about methods of designing electrical systems for products/components under extreme conditions and considered critical path for proper design verification before delivery to customer. Verify designs with detailed testing to ensure products withstand the harass environments and extreme working conditions in remote locations.

Collaboration

Strategize with cross-functional teams to interpret core concepts and turn into a usable solution for NOV control systems.

Analysis

Use computer modeling and hand calculations to determine the suitability of an electrical design to meet its intended requirements. Have the fundamental skill of circuit analysis review schematics for improvements or errors before physically produced.

