



Engineering + Technology Career Pathway

Within the Engineering and Technology Career Pathway, Scholars learn the technical and transferable skills necessary for success within the engineering and technology industries. Highlights of the pathway include individualized coaching, connection to industry professionals, and industry-specific interview support. Upon completion of the pathway Scholars will be prepared to launch and sustain a career in engineering and/or technical fields.

Thrive Scholars Engineering + Technology Pathway Alumni Spotlight



NATHAN BINYAM

Duke, Class of 2023

Computer Science Major
Technology Leadership Program (TLP)
Engineer, Target

Engineering Majors Options

- Aerospace Engineering
- Biological Engineering
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Environmental Engineering
- Industrial Engineering
- Interdisciplinary Engineer
- Material Science Engineering
- Mechanical Engineering
- Multidisciplinary Engineer
- Nuclear Engineering
- Textile Engineering

Starting Salary Range

- \$50,000-\$110,000

Understanding YOUR WHY helps to determine the How, What & Where

Grand Challenges

WHY

- Advance Personalized Learning
- Make Solar Energy Economical
- Enhance Virtual Reality
- Reverse-Engineer the Brain
- Engineer Better Medicines
- Advance Health Informatics
- Restore and Improve Urban Infrastructure
- Secure Cyberspace
- Provide Access to Clean Water
- Provide Energy from Fusion
- Prevent Nuclear Terror
- Manage the Nitrogen Cycle
- Develop Carbon Sequestration Methods
- Engineer the Tools of Scientific Discovery

Skills

HOW

- Computer-Aided Design (CAD)
- Mathematical Modeling
- Programming Languages (e.g., Python, C++, MATLAB)
- Additive Manufacturing (3D Printing)
- Circuit Design
- Process Optimization
- Technical Documentation
- Structural Analysis
- Lean Manufacturing
- Six Sigma (including DMAIC methodology)
- Root Cause Analysis

Job Functions/Roles

WHAT

- Controls Engineer
- Design Engineer
- Facilities Engineer
- Field Service Engineer
- Hydraulic Engineer
- Manufacturing Engineer
- Mechatronics Engineer
- Network Engineer
- New Product Engineer
- Packaging Engineer
- Process Engineer
- Process Improvement Engineer
- Project Engineer
- Renewable Energy Engineer
- Sales Engineer
- Software Engineer
- Structural Engineer

Industry

WHERE

- Food Manufacturing
- Motor Vehicle Parts Manufacturing
- Big Technology
- Electrical Equipment, Appliance, and Component Manufacturing
- Computer Systems Design and Related Services
- Telecommunications
- Pharmaceutical and Medicine Manufacturing
- Computer Systems Design and Related Services

Note: These are just a few examples of Engineering + Technology career trajectories. There are numerous variations and applications of engineering + technology knowledge and skills across multiple industries. Additionally, career paths are often non-linear and can vary widely.