

Careers Through Maths: Oil Rig Technician



Oil Rig Technicians use mathematics to solve complex problems and drive innovation. (Image Source: Unsplash)

Job Overview

As an Oil Rig Technician—often referred to as a Production Technician or Multi-Skilled Technician in the North Sea sector—you are the backbone of offshore operations, ensuring that complex extraction machinery runs safely and efficiently. Your day typically begins with a 5:30 AM handover meeting where you review the previous 12 hours of production data and plan maintenance schedules. Working on platforms such as those operated by BP, Shell, or TAQA in the UK Continental Shelf (UKCS), you are responsible for the installation, inspection, troubleshooting, and repair of mechanical, electrical, and instrument systems. This is not a desk job; you are on your feet for 12-hour shifts, often in harsh weather conditions, wearing full personal protective equipment (PPE) while working at heights or in confined spaces.

Key Maths Applications

Primary Areas:

- Fluid Mechanics and Hydraulics:** This is the core maths of the oil industry. You use Bernoulli's equation to calculate the pressure drop across a section of pipe or a control valve.
- Algebra and Formula Manipulation:** Technicians frequently rearrange complex formulas to find unknown variables. For instance, using the Gas Law ($PV = nRT$) to calculate the volume of gas released...
- Trigonometry and Geometry:** When lifting heavy loads with a crane, you use trigonometry to calculate the sling angle and the resulting tension in each leg of the sling.

Essential Skills & Tools

Skill	Application
CMMS Software (SAP PM / Maximo)	This is the central hub for all maintenance data.
Data Historian (OSIsoft PI)	This software collects real-time data from the plant.
Laser Alignment Tools	Shaft alignment is critical for pump longevity.
SAP Safety & Risk Modules	You use these for Permit to Work (PTW) systems.

Typical Pathway

The most common UK route begins with achieving strong GCSEs (grades 9-4) in Mathematics, English, and the Sciences. Following this, you would typically pursue an Advanced Apprenticeship in Engineering (Level 3) with a company like Petrofac, or attend a Further Education college...

Industry Demand

The UK oil and gas sector, heavily concentrated in Aberdeen ('Europe's Oil Capital') and the wider North East of Scotland, continues to require a steady stream of technicians to replace an ageing workforce and support the energy transition.

Real-World Impact

Oil and gas technicians are critical to maintaining the UK's energy security. By ensuring the safe and efficient operation of platforms like the Forties Pipeline System or the Shetland Gas Plant, they help power millions of UK homes and...

Quick Facts

- Salary:** £40,000,
- Education:** GCSEs (grades 9-4) in Mathematics, English, and the Sciences
- Growth:** The UK oil and gas sector, heavily concentrated in Aberdeen ('Europe's Oil Capital') and the wider North East of Scotland, continues to require a steady stream of technicians to...