**Structure of the Edexcel BTEC Level 4 HNC Diploma in Operations Engineering**

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 65 credits at

level 4.

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| **Unit number** | **Mandatory core units – all three units must be taken** | **Unit level** | **Unit credit** |
| 1 | Analytical Methods for Engineers | 4 | 15 |
| 2 | Engineering Science | 4 | 15 |
| 3 | Project Design, Implementation and Evaluation | 5 | 20 |
|  | **Specialist units group A – choose units with a minimum credit value of 45 credits** |  |  |
| 6 | Health, Safety and Risk Assessment in Engineering | 4 | 15 |
| 7 | Business Management Techniques for Engineers | 4 | 15 |
| 8 | Engineering Design | 5 | 15 |
| 36 | Statistical Process Control | 5 | 15 |
| 43 | Plant and Process Principles | 5 | 15 |
| 44 | Plant Maintenance and Decommissioning | 4 | 15 |
| 45 | Plant Operations and Performance | 5 | 15 |
| 46 | Plant and Process Control | 5 | 15 |
| 47 | Engineering Plant Technology | 5 | 15 |
| 48 | Analytical and Chemical Composition Measurement | 4 | 15 |
| 49 | Computer Control of Plant | 4 | 15 |
| 50 | Condition Monitoring and Fault Diagnosis | 5 | 15 |
| 51 | Emergency Shutdown and Safety Systems | 4 | 15 |
| 52 | Energy Management | 5 | 15 |
| 54 | Industrial Plant Services | 5 | 15 |
| 55 | Instrumentation and Control Principles | 4 | 15 |
|  | **Specialist units group B** |  |  |
| 4 | Mechanical Principles | 5 | 15 |
| 5 | Electrical and Electronic Principles | 5 | 15 |
| 17 | Business Improvement Techniques | 5 | 15 |
| 20 | Quality and Business Improvement | 5 | 15 |
| **Unit number** | **Specialist units group B continued** | **Unit level** | **Unit credit** |
| 21 | Materials Engineering | 4 | 15 |
| 22 | Programmable Logic Controllers | 4 | 15 |
| 23 | Engineering Procurement | 4 | 15 |
| 24 | Applications of Pneumatics and Hydraulics | 4 | 15 |
| 26 | Employability Skills | 5 | 15 |
| 27 | Personal and Professional Development | 5 | 15 |
| 28 | Research Project | 5 | 20 |
| 29 | Work-based Experience | 5 | 15 |
| 32 | Industrial Robot Technology | 5 | 15 |
| 33 | Workplace Study and Ergonomics | 5 | 15 |
| 34 | Integrated Logistical Support Management | 5 | 15 |
| 35 | Further Analytical Methods for Engineers | 5 | 15 |
| 37 | Management of Projects | 4 | 15 |
| 38 | Managing People in Engineering | 5 | 15 |
| 39 | Electronic Principles | 5 | 15 |
| 40 | Knowledge-based Systems and Techniques | 5 | 15 |
| 41 | Fluid Mechanics | 4 | 15 |
| 42 | Heat Transfer and Combustion | 5 | 15 |
| 57 | Mechatronic Systems | 4 | 15 |
| 58 | Microprocessor Systems | 4 | 15 |
| 59 | Advanced Mathematics for Engineering | 5 | 15 |
| 61 | Engineering Thermodynamics | 5 | 15 |
| 69 | Advanced Computer-aided Design Techniques | 4 | 15 |
| 76 | Managing the Work of Individuals and Teams | 5 | 15 |
| 101 | Electrical and Electronic Principles | 3 | 10 |
| 102 | Mechanical Principles and Applications | 3 | 10 |
| 103 | Further Mathematics for Engineering Technicians | 3 | 10 |

**Structure of the Edexcel BTEC Level 5 HND Diploma in Operations Engineering**

The Edexcel BTEC Level 5 HND programme must contain a minimum of 125 credits at

level 5.

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| --- | --- | --- | --- |
| **Unit number** | **Mandatory core units – all four units must be taken** | **Unit level** | **Unit credit** |
| 1 | Analytical Methods for Engineers | 4 | 15 |
| 2 | Engineering Science | 4 | 15 |
| 3 | Project Design, Implementation and Evaluation | 5 | 20 |
| 43 | Plant and Process Principles | 5 | 15 |
|  | **Specialist units group A – choose units with a minimum credit value of 75 credits** |  |  |
| 6 | Health, Safety and Risk Assessment in Engineering | 4 | 15 |
| 7 | Business Management Techniques for Engineers | 4 | 15 |
| 8 | Engineering Design | 5 | 15 |
| 36 | Statistical Process Control | 5 | 15 |
| 44 | Plant Maintenance and Decommissioning | 4 | 15 |
| 45 | Plant Operations and Performance | 5 | 15 |
| 46 | Plant and Process Control | 5 | 15 |
| 47 | Engineering Plant Technology | 5 | 15 |
| 48 | Analytical and Chemical Composition Measurement | 4 | 15 |
| 49 | Computer Control of Plant | 4 | 15 |
| 50 | Condition Monitoring and Fault Diagnosis | 5 | 15 |
| 51 | Emergency Shutdown and Safety Systems | 4 | 15 |
| 52 | Energy Management | 5 | 15 |
| 54 | Industrial Plant Services | 5 | 15 |
| 55 | Instrumentation and Control Principles | 4 | 15 |
|  | **Specialist units group B** |  |  |
| 4 | Mechanical Principles | 5 | 15 |
| 5 | Electrical and Electronic Principles | 5 | 15 |
| 17 | Business Improvement Techniques | 5 | 15 |
| 20 | Quality and Business Improvement | 5 | 15 |
| 21 | Materials Engineering | 4 | 15 |
| **Unit number** | **Specialist units group B continued** | **Unit level** | **Unit credit** |
| 22 | Programmable Logic Controllers | 4 | 15 |
| 23 | Engineering Procurement | 4 | 15 |
| 24 | Applications of Pneumatics and Hydraulics | 4 | 15 |
| 26 | Employability Skills | 5 | 15 |
| 27 | Personal and Professional Development | 5 | 15 |
| 28 | Research Project | 5 | 20 |
| 29 | Work-based Experience | 5 | 15 |
| 32 | Industrial Robot Technology | 5 | 15 |
| 33 | Workplace Study and Ergonomics | 5 | 15 |
| 34 | Integrated Logistical Support Management | 5 | 15 |
| 35 | Further Analytical Methods for Engineers | 5 | 15 |
| 37 | Management of Projects | 4 | 15 |
| 38 | Managing People in Engineering | 5 | 15 |
| 39 | Electronic Principles | 5 | 15 |
| 40 | Knowledge-based Systems and Techniques | 5 | 15 |
| 41 | Fluid Mechanics | 4 | 15 |
| 42 | Heat Transfer and Combustion | 5 | 15 |
| 57 | Mechatronic Systems | 4 | 15 |
| 58 | Microprocessor Systems | 4 | 15 |
| 59 | Advanced Mathematics for Engineering | 5 | 15 |
| 61 | Engineering Thermodynamics | 5 | 15 |
| 69 | Advanced Computer-aided Design Techniques | 4 | 15 |
| 76 | Managing the Work of Individuals and Teams | 5 | 15 |
| 101 | Electrical and Electronic Principles | 3 | 10 |
| 102 | Mechanical Principles and Applications | 3 | 10 |
| 103 | Further Mathematics for Engineering Technicians | 3 | 10 |
| 106 | Engineering Maintenance Procedures and Techniques | 3 | 10 |