**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  |