

## Edexcel BTEC Level 4 HNC Diploma in Manufacturing Engineering

The Edexcel BTEC Level 4 HNC Diploma in Manufacturing Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A.

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

<b>Mandatory Units</b>		<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
<b>Specialist units group A – select a minimum of 45 credits</b>		<b>Credits</b>	<b>Level</b>
4	Mechanical Principles	15	L5
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
9	Manufacturing Planning and Scheduling Principles	15	L4
10	Manufacturing Process	15	L4
11	Supply Chain Management	15	L4
12	Material Handling Systems	15	L4
13	Application of Machine Tools	15	L4
14	Computer-Aided Machining	15	L4
15	Design for Manufacture	15	L5
16	Advanced Manufacturing Technologies	15	L5
17	Business Improvement Techniques	15	L5
18	Advanced Machine Tools	15	L5
19	Computer-aided Design and Manufacture	15	L5
20	Quality and Business Improvement	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
21	Materials Engineering	15	L4
22	Programmable Logic Controllers	15	L4
23	Engineering Procurement	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
25	Engine and Vehicle Design and Performance	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5

30	Quality Assurance and Management	15	L5
31	Value Management	15	L5
32	Industrial Robot Technology	15	L5
33	Workplace Study and Ergonomics	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
36	Statistical Process Control	15	L5
37	Management of Projects	15	L5
38	People Management	15	L5
39	Electronic Principles	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Manufacturing Planning	10	L3

## Edexcel BTEC Level 5 HND Diploma in Manufacturing Engineering

The Edexcel BTEC Level 5 HND Diploma in Manufacturing Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

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

<b>Mandatory Units</b>		<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
9	Manufacturing Planning and Scheduling Principles	15	L4
<b>Specialist units group A – select a minimum of 75 credits</b>		<b>Credits</b>	<b>Level</b>
4	Mechanical Principles	15	L5
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
10	Manufacturing Process	15	L4
11	Supply Chain Management	15	L4
12	Material Handling Systems	15	L4
13	Application of Machine Tools	15	L4
14	Computer-Aided Machining	15	L4
15	Design for Manufacture	15	L5
16	Advanced Manufacturing Technologies	15	L5
17	Business Improvement Techniques	15	L5
18	Advanced Machine Tools	15	L5
19	Computer-aided Design and Manufacture	15	L5
20	Quality and Business Improvement	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
21	Materials Engineering	15	L4
22	Programmable Logic Controllers	15	L4
23	Engineering Procurement	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
25	Engine and Vehicle Design and Performance	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5

30	Quality Assurance and Management	15	L5
31	Value Management	15	L5
32	Industrial Robot Technology	15	L5
33	Workplace Study and Ergonomics	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
36	Statistical Process Control	15	L5
37	Management of Projects	15	L5
38	People Management	15	L5
39	Electronic Principles	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Manufacturing Planning	10	L3

## Edexcel BTEC Level 4 HNC Diploma in Operations Engineering

The Edexcel BTEC Level 4 HNC Diploma in Operations Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A.

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

	<b>Mandatory Units</b>	<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
<b>Specialist units group A – select a minimum of 45 credits</b>		<b>Credits</b>	<b>Level</b>
5	Electrical and Electronic Principles	15	L5
4	Mechanical Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
36	Statistical Process Control	15	L5
43	Plant and Process Principles	15	L5
45	Plant Operations and Performance	15	L5
46	Plant Process and Control	15	L5
47	Engineering Plant Technology	15	L5
49	Computer Control of Plant	15	L4
50	Condition Monitoring and Fault Diagnosis	15	L5
51	Emergency Shutdown and Safety Systems	15	L4
55	Instrumentation and Control Principles	15	L4
54	Industrial Plant Services	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
11	Supply Chain Management	15	L4
12	Material Handling Systems	15	L5
17	Business Improvement Techniques	15	L5
20	Quality and Business Improvement	15	L5
21	Materials Engineering	15	L4
22	Programmable Logic Controllers	15	L4
23	Engineering Procurement	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5

29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
32	Industrial Robot Technology	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
38	People Management	15	L5
39	Electronic Principles	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
41	Fluid Mechanics	15	L4
42	Heat Transfer and Combustion	15	L5
48	Analytical Instrumentation	15	L4
52	Energy Management	15	L5
58	Microprocessor Systems	15	L4
57	Mechatronic Systems	15	L4
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Engineering Maintenance Procedures and Techniques	10	L3

## Edexcel BTEC Level 5 HND Diploma in Operations Engineering

The Edexcel Level 5 BTEC Higher National Certificate in Operations Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

The ~~Edexcel BTEC Level 5 HND Higher National Diploma~~ programme must contain a minimum of 125 credits at level 5.

	<b>Mandatory Units</b>	<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
43	Plant and Process Principles	15	L5
<b>Specialist units group A – select a minimum of 75 credits</b>		<b>Credits</b>	<b>Level</b>
5	Electrical and Electronic Principles	15	L5
4	Mechanical Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
36	Statistical Process Control	15	L5
45	Plant Operations and Performance	15	L5
46	Plant Process and Control	15	L5
47	Engineering Plant Technology	15	L5
49	Computer Control of Plant	15	L4
50	Condition Monitoring and Fault Diagnosis	15	L5
51	Emergency Shutdown and Safety Systems	15	L4
55	Instrumentation and Control Principles	15	L4
54	Industrial Plant Services	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
11	Supply Chain Management	15	L4
12	Material Handling Systems	15	L5
17	Business Improvement Techniques	15	L5
20	Quality and Business Improvement	15	L5
21	Materials Engineering	15	L4
22	Programmable Logic Controllers	15	L4
23	Engineering Procurement	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5

29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
32	Industrial Robot Technology	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
38	People Management	15	L5
39	Electronic Principles	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
41	Fluid Mechanics	15	L4
42	Heat Transfer and Combustion	15	L5
48	Analytical Instrumentation	15	L4
52	Energy Management	15	L5
58	Microprocessor Systems	15	L4
57	Mechatronic Systems	15	L4
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Engineering Maintenance Procedures and Techniques	10	L3

## Edexcel BTEC Level 4 HNC Diploma in Mechanical Engineering

The Edexcel BTEC Level 4 HNC Diploma in Mechanical Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A.

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

<b>Mandatory Units</b>		<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
<b>Specialist units group A – select a minimum of 45 credits</b>		<b>Credits</b>	<b>Level</b>
4	Mechanical Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
21	Materials Engineering	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
41	Fluid Mechanics	15	L4
42	Heat Transfer and Combustion	15	L5
60	Dynamics of Machines	15	L4
61	Engineering Thermodynamics	15	L5
62	Strengths of Materials	15	L5
69	Advanced Computer-aided Design	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
10	Manufacturing Process	15	L4
11	Supply Chain Management	15	L4
13	Application of Machine Tools	15	L4
14	Computer-Aided Machining	15	L4
15	Design for Manufacture	15	L5
17	Business Improvement Techniques	15	L5
19	Computer-aided Design and Manufacture	15	L5
20	Quality and Business Improvement	15	L5
22	Programmable Logic Controllers	15	L4
23	Engineering Procurement	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5

30	Quality Assurance and Management	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
52	Energy Management	15	L5
57	Mechatronic Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Further Mechanical Principles and Applications	10	L3

## Edexcel BTEC Level 5 HND Diploma in Mechanical Engineering

The Edexcel BTEC Level 5 HND Diploma in Mechanical Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

The ~~Edexcel BTEC Level 5 HND Higher National Diploma~~ programme must contain a minimum of 125 credits at level 5.

Mandatory Units		Credits	Level
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
4	Mechanical Principles	15	L5
Specialist units group A – select a minimum of 75 credits		Credits	Level
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
21	Materials Engineering	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
41	Fluid Mechanics	15	L4
42	Heat Transfer and Combustion	15	L5
60	Dynamics of Machines	15	L5
61	Engineering Thermodynamics	15	L5
62	Strengths of Materials	15	L5
Specialist units group B		Credits	Level
7	Business Management for Engineers	15	L4
10	Manufacturing Process	15	L4
11	Supply Chain Management	15	L4
13	Application of Machine Tools	15	L4
14	Computer-Aided Machining	15	L4
15	Design for Manufacture	15	L5
17	Business Improvement Techniques	15	L5
19	Computer-aided Design and Manufacture	15	L5
20	Quality and Business Improvement	15	L5
22	Programmable Logic Controllers	15	L4
23	Engineering Procurement	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5

34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
52	Energy Management	15	L5
57	Mechatronic Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Further Mechanical Principles and Applications	10	L3

## Edexcel BTEC Level 4 HNC Diploma in Electrical Engineering

The Edexcel BTEC Level 4 HNC Diploma in Electrical Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A.

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

<b>Mandatory Units</b>		<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
<b>Specialist units group A – select a minimum of 45 credits</b>		<b>Credits</b>	<b>Level</b>
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
39	Electronic Principles	15	L5
57	Mechatronic Systems	15	L4
63	Electrical Power	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
65	Utilisation of Electrical Energy	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
67	Further Electrical Power	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
58	Microprocessor Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
68	Applications of Power Electronics	15	L4
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 5 HND Diploma in Electrical Engineering

The Edexcel BTEC Level 5 HND Diploma in Electrical Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

The ~~Edexcel BTEC Level 5 HND Higher National Diploma~~ programme must contain a minimum of 125 credits at level 5.

Mandatory Units		Credits	Level
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
5	Electrical and Electronic Principles	15	L5
Specialist units group A – select a minimum of 75 credits		Credits	Level
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
39	Electronic Principles	15	L5
57	Mechatronic Systems	15	L4
63	Electrical Power	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
65	Utilisation of Electrical Energy	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
67	Further Electrical Power	15	L5
Specialist units group B		Credits	Level
7	Business Management for Engineers	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
58	Microprocessor Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
68	Applications of Power Electronics	15	L4
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 4 HNC Diploma in Electronic Engineering

The Edexcel BTEC Level 4 HNC Diploma in Electronic Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A.

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

<b>Mandatory Units</b>		<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
<b>Specialist units group A – select a minimum of 45 credits</b>		<b>Credits</b>	<b>Level</b>
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
39	Electronic Principles	15	L5
58	Microprocessor Systems	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
68	Applications of Power Electronics	15	L4
71	Combinational and Sequential Logic	15	L5
73	Manufacturing Electronic Products	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
11	Supply Chain Management	15	L4
17	Business Improvement Techniques	15	L5
20	Quality and Business Improvement	15	L5
23	Engineering Procurement	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
55	Instrumentation and Control Principles	15	L4
57	Mechatronic Systems	15	L4

59	Advanced Mathematics for Engineering	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Electrical Power	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 5 HND Diploma in Electronic Engineering

The Edexcel BTEC Level 5 HND Diploma in Electronic Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

The ~~Edexcel BTEC Level 5 HND Higher National Diploma~~ programme must contain a minimum of 125 credits at level 5.

Mandatory Units		Credits	Level
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
5	Electrical and Electronic Principles	15	L5
Specialist units group A – select a minimum of 75 credits		Credits	Level
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
39	Electronic Principles	15	L5
58	Microprocessor Systems	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
68	Applications of Power Electronics	15	L4
71	Combinational and Sequential Logic	15	L5
73	Manufacturing Electronic Products	15	L5
Specialist units group B		Credits	Level
7	Business Management for Engineers	15	L4
11	Supply Chain Management	15	L4
17	Business Improvement Techniques	15	L5
20	Quality and Business Improvement	15	L5
23	Engineering Procurement	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
55	Instrumentation and Control Principles	15	L4
57	Mechatronic Systems	15	L4

59	Advanced Mathematics for Engineering	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Electrical Power	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 4 HNC Diploma in Electrical and Electronic Engineering

The Edexcel BTEC Level 4 HNC Diploma in Electrical and Electronic Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A. The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

<b>Mandatory Units</b>		<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
<b>Option units – select a minimum of 45 credits</b>		<b>Credits</b>	<b>Level</b>
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
39	Electronic Principles	15	L5
58	Microprocessor Systems	15	L4
63	Electrical Power	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
65	Utilisation of Electrical Energy	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
67	Further Electrical Power	15	L5
68	Applications of Power Electronics	15	L4
71	Combinational and Sequential Logic	15	L5
73	Manufacturing Electronic Products	15	L5
<b>Specialist units group B</b>		<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
11	Supply Chain Management	15	L4
17	Business Improvement Techniques	15	L5
20	Quality and Business Improvement	15	L5
23	Engineering Procurement	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5

40	Knowledge-Based Systems and Techniques	15	L5
55	Instrumentation and Control Principles	15	L4
57	Mechatronic Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
37	Management of Projects	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Electrical Power	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 5 HND Diploma in Electrical and Electronic Engineering

The Edexcel BTEC Level 5 HND Diploma in Electrical and Electronic Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

The [Edexcel BTEC Level 5 HND Higher National Diploma](#) programme must contain a minimum of [125 credits at level 5](#).

Mandatory Units		Credits	Level
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
5	Electrical and Electronic Principles	15	L5
Option units group A – select a minimum of 75 credits		Credits	Level
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
39	Electronic Principles	15	L5
58	Microprocessor Systems	15	L4
63	Electrical Power	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
65	Utilisation of Electrical Energy	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
67	Further Electrical Power	15	L5
68	Applications of Power Electronics	15	L4
71	Combinational and Sequential Logic	15	L5
73	Manufacturing Electronic Products	15	L5
Specialist units group B		Credits	Level
7	Business Management for Engineers	15	L4
11	Supply Chain Management	15	L4
17	Business Improvement Techniques	15	L5
20	Quality and Business Improvement	15	L5
23	Engineering Procurement	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5

40	Knowledge-Based Systems and Techniques	15	L5
55	Instrumentation and Control Principles	15	L4
57	Mechatronic Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
37	Management of Projects	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Electrical Power	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 4 HNC Diploma in Automotive Engineering

The Edexcel BTEC Level 4 HNC Diploma in Automotive Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A.

The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

	<b>Mandatory Units</b>	<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
	<b>Specialist units group A – select a minimum of 45 credits</b>	<b>Credits</b>	<b>Level</b>
4	Mechanical Principles	15	L5
5	Electrical and Electronic Principles	15	L5
8	Engineering Design	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
25	Engine and Vehicle Design and Performance	15	L4
73	Vehicle Fault Diagnosis	15	L4
74	Vehicle Systems and Technology	15	L5
77	Plan and Co-ordinate Vehicle Maintenance	15	L5
78	Automotive Accident Investigation	15	L5
79	Vehicle Electronics	15	L4
	<b>Specialist units group B</b>	<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
13	Application of Machine Tools	15	L4
14	Computer-aided Machining	15	L4
15	Design for Manufacture	15	L5
17	Business Improvement Techniques	15	L5
19	Computer-aided Design and Manufacture	15	L5
20	Quality and Business Improvement	15	L5
23	Engineering Procurement	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
31	Value Management	15	L5
32	Industrial Robot Technology	15	L5

34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Further Mechanical Principles and Applications	10	L3

## Edexcel BTEC Level 5 HND Diploma in Automotive Engineering

The Edexcel BTEC Level 5 HND Diploma in Automotive Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 75 credits must be taken from specialist units group A.

The ~~Edexcel BTEC Level 5 HND Higher National Diploma~~ programme must contain a minimum of 125 credits at level 5.

	<b>Mandatory Units</b>	<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
25	Engine and Vehicle Design and Performance	15	L4
	<b>Specialist units group A – select a minimum of 75 credits</b>	<b>Credits</b>	<b>Level</b>
4	Mechanical Principles	15	L5
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
8	Engineering Design	15	L5
25	Engine and Vehicle Design and Performance	15	L4
73	Vehicle Fault Diagnosis	15	L4
74	Vehicle Systems and Technology	15	L5
77	Plan and Co-ordinate Vehicle Maintenance	15	L5
78	Automotive Accident Investigation	15	L5
79	Vehicle Electronics	15	L4
	<b>Specialist units group B</b>	<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
13	Application of Machine Tools	15	L4
14	Computer-aided Machining	15	L4
15	Design for Manufacture	15	L5
17	Business Improvement Techniques	15	L5
19	Computer-aided Design and Manufacture	15	L5
20	Quality and Business Improvement	15	L5
23	Engineering Procurement	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
31	Value Management	15	L5

32	Industrial Robot Technology	15	L5
34	Integrated Logistical Support Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
37	Management of Projects	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Mechanical Principles	10	L3
	Further Mechanical Principles and Applications	10	L3

## Edexcel BTEC Level 4 HNC Diploma in General Engineering

The Edexcel BTEC Level 4 HNC Diploma in General Engineering consists of three mandatory units plus specialist units that provide for a combined total of 120 credits. A minimum of 45 credits must be taken from specialist units group A. The Edexcel BTEC Level 4 HNC programme must contain a minimum of 90 credits at level 4.

	<b>Mandatory Units</b>	<b>Credits</b>	<b>Level</b>
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
	<b>Specialist units group A – select a minimum of 45 credits</b>	<b>Credits</b>	<b>Level</b>
4	Mechanical Principles	15	L5
5	Electrical and Electronic Principles	15	L5
6	Health, Safety and Risk Assessment in Engineering	15	L4
21	Materials Engineering	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
39	Electronic Principles	15	L5
41	Fluid Mechanics	15	L4
42	Heat Transfer and Combustion	15	L5
57	Mechatronic Systems	15	L4
58	Microprocessor Systems	15	L4
62	Strengths of Materials	15	L5
63	Electrical Power	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
65	Utilisation of Electrical Energy	15	L4
66	Electrical, Electronic and Digital Principles	15	L5
67	Further Electrical Power	15	L5
68	Applications of Power Electronics	15	L4
71	Combinational and Sequential Logic	15	L5
	<b>Specialist units - group B</b>	<b>Credits</b>	<b>Level</b>
7	Business Management for Engineers	15	L4
8	Engineering Design	15	L5
6	Health, Safety and Risk Assessment	15	L4
10	Manufacturing Process	15	L4
11	Supply Chain Management	15	L4
13	Application of Machine Tools	15	L4
14	Computer-aided Machining	15	L4
15	Design for Manufacture	15	L5

17	Business Improvement Techniques	15	L5
19	Computer-aided Design and Manufacture	15	L5
22	Programmable Logic Controllers	15	L4
25	Engine and Vehicle Design and Performance	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
43	Plant and Process Principles	15	L5
47	Engineering Plant Technology	15	L5
52	Energy Management	15	L5
59	Advanced Mathematics for Engineering	15	L5
60	Dynamics of Machines	15	L5
61	Engineering Thermodynamics	15	L5
73	Vehicle Fault Diagnosis	15	L4
74	Vehicle Systems and Technology	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Electrical Power	10	L3
	Further Electrical Principles	10	L3

## Edexcel BTEC Level 5 HND Diploma in General Engineering

The Edexcel BTEC Level 5 HND Diploma in General Engineering consists of four mandatory units plus specialist units that provide for a combined total of 240 credits. A minimum of 60 credits must be taken from specialist units group A.

The ~~Edexcel BTEC Level 5 HND Higher National Diploma~~ programme must contain a minimum of 125 credits at level 5.

Mandatory Units		Credits	Level
1	Analytical Methods for Engineers	15	L4
2	Engineering Science	15	L4
3	Project Design, Implementation and Evaluation	20	L5
4	Mechanical Principles	15	L5
5	Electrical and Electronic Principles	15	L5
Specialist units		Credits	Level
6	Health, Safety and Risk Assessment in Engineering	15	L4
7	Business Management for Engineers	15	L4
8	Engineering Design	15	L5
6	Health, Safety and Risk Assessment	15	L4
9	Manufacturing Planning and Scheduling Principles	15	L4
10	Manufacturing Process	15	L4
11	Supply Chain Management	15	L4
13	Application of Machine Tools	15	L4
14	Computer-aided Machining	15	L4
15	Design for Manufacture	15	L5
17	Business Improvement Techniques	15	L5
19	Computer-aided Design and Manufacture	15	L5
21	Materials Engineering	15	L4
22	Programmable Logic Controllers	15	L4
24	Applications of Pneumatics and Hydraulics	15	L4
25	Engine and Vehicle Design and Performance	15	L4
26	Employability Skills	15	L5
27	Personal and Professional Development	15	L5
28	Research Project	20	L5
29	Work-based Experience	15	L5
30	Quality Assurance and Management	15	L5
35	Further Analytical Methods for Engineers	15	L5
39	Electronic Principles	15	L5
40	Knowledge-Based Systems and Techniques	15	L5
41	Fluid Mechanics	15	L4

42	Heat Transfer and Combustion	15	L5
43	Plant and Process Principles	15	L5
47	Engineering Plant Technology	15	L5
52	Energy Management	15	L5
57	Mechatronic Systems	15	L4
58	Microprocessor Systems	15	L4
59	Advanced Mathematics for Engineering	15	L5
60	Dynamics of Machines	15	L5
61	Engineering Thermodynamics	15	L5
62	Strengths of Materials	15	L5
63	Electrical Power	15	L4
64	Electrical and Electronic Measurement and Testing	15	L4
73	Vehicle Fault Diagnosis	15	L4
74	Vehicle Systems and Technology	15	L5
	Further Mathematics for Technicians	10	L3
	Electrical and Electronic Principles	10	L3
	Electrical Power	10	L3
	Further Electrical Principles	10	L3