City & Guilds

# ENGINEERING

START

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# WHY CHOOSE CITY & GUILDS FOR ENGINEERING?

Our courses focus on the practical skills needed for a range of different careers in the engineering sector, and can be used as part of the contribution towards professional registration. That's because our vocational courses are created in collaboration with industry leaders and employers, which means you can feel assured that we'll help provide your learners with the right skills to succeed.





**FAQ's**

BACK TO OVERVIEW

# WHY CHOOSE CITY & GUILDS FOR ENGINEERING?

City & Guilds is a global leader in skills education and helps millions of learners every year find a job, and continue their studies or professional development. Our engineering courses are no different.

## WORLD RENOWNED COURSES

We have been designing qualifications for almost 150 years are proud that employers around the world see our offer as the benchmark for workplace excellence.

## DEVELOPED WITH THE INDUSTRY

We work in collaboration with industry experts to make sure our graduates have the skills that employers are looking for. A popular feature of our qualifications is that they combine practical skills with relevant underpinning knowledge, making our candidates ready for employment.

## PROGRESSION

City & Guilds qualifications are a suitable choice for engineers at different stages of their career. Not only do they help graduates progress directly into employment, but they also allow progression into higher level studies or professional registration.

## PROFESSIONAL REGISTRATION

We have worked with the Institution of Engineering and Technology (IET), the Institution of Mechanical Engineers (IMechE) and the Institution of Civil Engineers (ICE) to align our higher level qualifications with the registration requirements for Incorporated Engineer (Level 6 Graduate Diplomas) and Chartered Engineer (Level 7 Postgraduate Diplomas) status. Find out more.

## HIGHER EDUCATION PROGRESSION

We have also worked with a number of UK universities to enable progression into undergraduate engineering programmes with our qualifications. Graduates holding the level 4 Diplomas can progress into the second year of select three-year degree courses, while the level 5 graduates are able to go directly into the final (third) year.

## EUROPASS

All of our engineering qualifications are supported by a Europass Certificate Supplement which provides an overview of the skills City & Guilds learners have achieved while completing the qualifications. They are particularly useful when preparing for job interviews or for those who would like to get a quick snapshot of the qualification.

Please visit our website for an up-to-date list of our employer and university recognitions and framework accreditations.

FAQ's

BACK TO OVERVIEW

# WHAT COURSES DO WE OFFER?

We offer a broad range of courses across the entire engineering industry, from entry-level skills awards to post graduate courses. They include mechanical, electrical, electronic, civil and telecommunications. As such, you're able to offer learners the right course for their needs, ensuring they'll have everything they require to succeed in their job.



- **See our full list of courses**
- **FAQ's**

BACK TO OVERVIEW

# ABOUT OUR ASSESSMENTS

We work with employers, tutors and learners to make sure the assessment criteria for our courses meets everyone's needs. We do this by ensuring that each assessment is relevant, engaging, coherent and fair.

## RELEVANT

By consulting industry professionals, we build our assessments to ensure they test the critical skills and knowledge that today's employers are seeking.

## COHERENT

We do everything we can to ensure learners fully understand our assessments. By using straightforward language we can remove ambiguity to deliver the clearest possible instructions.

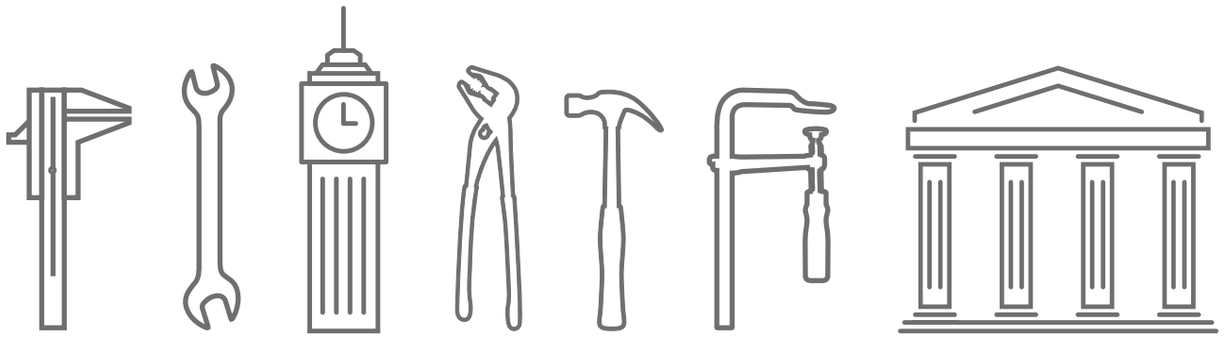
## ENGAGING

We aim to capture the attention of learners from start to finish. With interesting course material we can motivate them to succeed.

## FAIR

We avoid unfair discrimination by focussing solely on the relevant skills and knowledge needed to pass a particular course, considering only the necessary assessment criteria for that qualification.

**FAQ's**



BACK TO OVERVIEW

# ABOUT OUR ASSESSMENTS

## METHODS OF ASSESSMENT

Not all courses are the same and not all learners are the same. That's why we use different types of assessment to suit different needs; giving you and your learners the best chance of success.

There are four main types of assessment used to test the hands-on skills that learners need in the workplace, as well as the theory needed to apply these skills in practice.

**FAQ's**

## CITY & GUILDS SET QUESTION PAPERS

City & Guilds' question papers are set twice a year at fixed times. These multiple choice and short answer papers provide the rigour and externality required for assessing the course theory.

## PRACTICAL ASSIGNMENTS

These City & Guilds set assignments provide structure and flexibility to practical assessment and can be co-ordinated around the learner's readiness and availability. Learners' work can also be sampled by City & Guilds to help you to deliver the assessments at the required standard.

## CENTRE-SET ASSIGNMENTS

These tests are coordinated and assessed entirely by the centre. They offer a great deal of flexibility for customers and can be adapted to fit local needs, infrastructure and learners' readiness to be tested. Centre-set assignments can also be sampled by City & Guilds to help you devise the right assessments and deliver to the required standard.

## E-VOLVE ONLINE TESTS

These are highly accessible multiple choice online exams that are perfect for assessing a learner's knowledge anywhere, anytime, and for reducing the amount of administration required. They offer instant feedback, immediate results and are externally marked.

E-volve tests can be taken on-demand for even greater flexibility for you and your learners. Put simply, you can set exams whenever it is most convenient for you.



Visit our website for:
**e-volve familiarisation material**

BACK TO OVERVIEW

# HOW DO WE SUPPORT TEACHING AND LEARNING?

We'll give you everything you need to deliver our courses and it's all covered in the price so there are no nasty hidden charges.

If you would like a bit more help in boosting your success rates, we have some great online resources to choose from. These will help you save time and money, as well as assist in the delivery of learning materials — so learners have the best possible experience.

Below is a list of the types of resources that you'll receive free of charge with our courses:

– Qualification handbooks
– Assessment packs
– Assessment support
– Exemplar assignments
– Practice question papers
– Sample schemes of work
– Further reading/links
– Equipment lists
– Recognitions lists

Our Level 1 to 3 courses also come with the following SmartScreen materials:

– Sample session plans
– Individual learning plans
– Handouts
– Worksheets
– Activities
– Glossary
– Career sheets
– PowerPoint presentations

**SMARTSCREEN**

**EVENTS**

**FAQ's**

BACK TO OVERVIEW

# HOW DO WE SUPPORT TEACHING AND LEARNING?

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**FAQ's**

## YOUR ONLINE TEACHING AND LEARNING RESOURCE PORTAL

SmartScreen is a one-stop-online-shop with unlimited access to everything you and your learners need for a positive learning experience.

It ensures that our courses are even easier for you to deliver, saving you time on planning teaching activities, and supporting learner understanding.

It contains all the necessary teaching and learning support material, which includes tutor forums, lesson plans, presentations, handouts, worksheets, and equipment lists.

Practice question papers are also available through SmartScreen to help learners prepare for assessment.

Login details are available on request via Walled Garden.

**View our SmartScreen site**
City & Guilds SmartScreen

**SMARTSCREEN**

**EVENTS**

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# HOW DO WE SUPPORT TEACHING AND LEARNING?

We'll give you everything you need to deliver our courses and it's all covered in the price so there are no nasty hidden charges.

If you would like a bit more help in boosting your success rates, we have some great online resources to choose from. These will help you save time and money, as well as assist in the delivery of learning materials — so learners have the best possible experience.

**FAQ's**

## WHERE LIKE-MINDED PEOPLE MEET

We host a variety of events to help support you and your teams, from networking with other providers, to product knowledge training and consultation with our Quality Assurance experts. Simply contact your local office for event information in your area.

**SMARTSCREEN**

**EVENTS**

# OUR QUALITY ASSURANCE

## QUALITY ASSURANCE YOU CAN TRUST

Our approach to quality assurance is designed to support your centre in upholding our rigorous quality standards by assigning a subject matter expert called an ‘External Verifier’ or ‘EV’.

Our EVs are trained to offer advice and guidance around the delivery of courses. As well as being our guardian for quality, EVs also act as mentors and provide recommendations on how your centre can continue to meet our quality requirements. With a City & Guilds EV you should feel like you have a trusted expert consultant that you can rely on.

## YOUR GUIDE TO DELIVERING OUR COURSES

When becoming an approved City & Guilds centre, you’ll receive your International Centre Guide. It’s included in the approval fee and is your step-by-step guide to ensuring that you’re delivering our courses to the City & Guilds standard. There are four key areas that it covers:

- Management and administrative systems
- Physical and staff resources
- Assessment
- Quality assurance

## GETTING APPROVED

We set our standards high and that’s why our brand and our qualified learners are renowned the world over. It’s also why any centre wishing to offer City & Guilds courses must be officially approved by us. Our local customer service team and expert consultants are there to help you get up and running as quickly as possible.

**FAQ’s**

BACK TO OVERVIEW

# WHAT SHOULD YOU DO NEXT?

If you want to gain approval to start running City & Guilds courses, simply follow the link below:

- **Our course approval process**

For anything else, just contact your local office and they'll be happy to help. Find your local office:

- **Europe**
- **Africa**
- **Asia Pacific**
- **Middle East**
- **South Asia**
- **India**
- **Jamaica, Trinidad and Tobago**

.....

- **FAQ's**

# WHAT SHOULD YOU DO NEXT?

It's quick and easy to gain approval, just follow these steps:

## STEP 1
### LEARNER NUMBERS

There is a minimum number of learners per course, per year that we can accept, so please check the number of learners you expect to enrol and get in touch with your local office. They will be happy to discuss your delivery plans and might even be able to assist with your marketing efforts.

## STEP 2
### APPROVAL PREPARATION

To make sure you're ready, use the information in the Qualification Handbook and International Centre Guide to check you have the following:

- Fully qualified training and assessment staff
- Appropriate facilities and equipment for teaching, learning and assessment
- Robust management and quality assurance systems

## STEP 3
### APPROVAL APPLICATION

Complete the Centre Approval form, send it to your local office and we'll help you get up and running as quickly as possible.

Those that want to add new courses to their existing City & Guilds portfolio only need to apply for that qualification. In some cases, where customers already offer similar courses, we may be able to fast-track their approval application.

**If you have anything else you wish to ask us about your centre's eligibility, we're here to help. Just contact your local office.**

- **Find your local office**
- **Download an application form**
- **FAQ's**

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# APPENDIX

# CITY & GUILDS COURSES

| | MECHANICAL ENGINEERING | ELECTRICAL AND ELECTRONIC ENGINEERING | CIVIL ENGINEERING | TELECOMMUNICATION ENGINEERING |
|---|---|---|---|---|
| LEVEL 2 | **2850-51/81** Diploma / Certificate in Manufacturing Technology | **2850-54/84** Diploma / Certificate in Electrical and Electronics Technology | | **2730-12** Certificate in Telecommunication Systems |
| | **2850-52/82** Diploma / Certificate in Maintenance Technology | | | |
| | **2850-53/83** Diploma / Certificate in Fabrication and Welding Technology | | | |
| LEVEL 1 | **2850-80** Certificate in Engineering | | | |
| ENTRY LEVEL | **3529-09** Skills Proficiency Certificate in Metal Machining | **3529-12** Skills Proficiency Certificate in Electronic Engineering | | |
| | **3529-10** Skills Proficiency Certificate in Plant Maintenance | **3529-08** Skills Proficiency Certificate in Basic Engineering | | |
| | **3529-11** Skills Proficiency Certificate in Fabrication, Welding and Pipework | | | |
| | **3528-08** Foundation Certificate in Basic Engineering Skills | | | |
| | **3528-12** Foundation Certificate in Basic Electronic Engineering | | | |

BACK TO OVERVIEW

View Levels 3-7

# CITY & GUILDS COURSES

| | MECHANICAL ENGINEERING | ELECTRICAL AND ELECTRONIC ENGINEERING | CIVIL ENGINEERING | TELECOMMUNICATION ENGINEERING |
|---|---|---|---|---|
| LEVEL 7 | **9210-02** Post Graduate Diploma in Mechanical Engineering | **9210-02** Post Graduate Diploma in Electrical Engineering | **9210-02** Post Graduate Diploma in Civil Engineering | **9210-02** Post Graduate Diploma in Electronic and Telecommunication Engineering |
| LEVEL 6 | **9210-01** Graduate Diploma in Mechanical Engineering | **9210-01** Graduate Diploma in Electrical Engineering | **9210-01** Graduate Diploma in Civil Engineering | **9210-01** Graduate Diploma in Electronic and Telecommunication Engineering |
| LEVEL 5 | **9209-11** Advanced Technician Diploma in Mechanical Engineering | **9209-12** Advanced Technician Diploma Electrical and Electronic Engineering | **9209-13** Advanced Technician Diploma in Civil Engineering | **2730-03** Advanced Technician Diploma in Telecommunication Systems |
| LEVEL 4 | **9209-01** Diploma in Mechanical Engineering | **9209-02** Diploma in Electrical and Electronic Engineering | **9209-03** Diploma in Civil Engineering | |
| LEVEL 3 | **2850-85** Diploma in Welding | **2850-90** Diploma in Electrical and Electronic Engineering | | **2730-13** Diploma in Telecommunication Systems |
| | **2850-86** Diploma in Fabrication | | | |
| | **2850-87** Diploma in Fabrication and Welding | | | |
| | **2850-88** Diploma in Maintenance, Installation and Commissioning | | | |
| | **2850-89** Diploma in Mechanical Manufacturing Engineering | | | |

BACK TO OVERVIEW

View Levels Entry-2

# ENTRY LEVEL: SKILLS FOUNDATION CERTIFICATE (BASIC ENGINEERING 3528-08 AND 3528-12)

## UNITS

- Basic engineering skills
- Basic electronic engineering

## ASSESSMENTS

Learners are required to successfully complete practical assignments and oral questions.

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or the following City & Guilds Level 1 qualification. If the centre feels the learner is ready, they may even be able to progress straight to Level 2:

- Level 1 Certificate in Engineering (2850-80)
- Level 2 Certificate/Diploma in Engineering - Manufacturing Technology (2850-81/51)
- Level 2 Certificate/Diploma in Engineering - Maintenance Technology (2850-82/52)
- Level 2 Certificate/Diploma in Engineering - Fabrication and Welding Technology (2850-83/53)
- Level 2 Certificate/Diploma in Engineering - Electrical and Electronics Technology (2850-84/54)

## PROGRESS TO A JOB

Entry level jobs

Who is this course for?

# ENTRY LEVEL: SKILLS FOUNDATION CERTIFICATE (BASIC ENGINEERING 3528-08 AND 3528-12)

## WHO IS THIS COURSE FOR?

The Skills Foundation Awards are perfect for learners interested in engineering and looking for courses that focus on basic engineering practical skills.

For those with existing experience of basic engineering skills, these awards will provide formal recognition of practical skills gained in the workplace.

Back to unit overview

# ENTRY LEVEL: SKILLS PROFICIENCY CERTIFICATE (BASIC ENGINEERING 3529-08 TO 3529-12)

## UNITS

- Basic electrical engineering
- Basic metal machining
- Basic plant maintenance
- Basic fabrication, welding and pipework
- Electronic engineering

## ASSESSMENTS

Learners are required to successfully complete practical assignments and oral questions.

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or the following City & Guilds Level 1 qualification. If the centre feels the learner is ready, they may even be able to progress straight to Level 2:

- Level 1 Certificate in Engineering (2850-80)
- Level 2 Certificate/Diploma in Engineering - Manufacturing Technology (2850-81/51)
- Level 2 Certificate/Diploma in Engineering - Maintenance Technology (2850-82/52)
- Level 2 Certificate/Diploma in Engineering - Fabrication and Welding Technology (2850-83/53)
- Level 2 Certificate/Diploma in Engineering - Electrical and Electronics Technology (2850-84/54)

## PROGRESS TO A JOB

Entry level jobs

Who is this course for?

# ENTRY LEVEL: SKILLS PROFICIENCY CERTIFICATE (BASIC ENGINEERING 3529-08 TO 3529-12)

## WHO IS THIS COURSE FOR?

The Skills Proficiency Awards build upon the Foundation Awards, for learners interested in engineering and looking for courses that focus on basic engineering practical skills.

For those with existing experience of basic engineering skills, these awards will provide formal recognition of practical skills gained in the workplace.

Back to unit overview

# LEVEL 1: CERTIFICATE IN ENGINEERING (2850-80)

## UNITS

Learners must take two optional units.

**Mandatory Units**

**101** Working in engineering

**Optional Units**

**102** Carrying out basic fitting techniques

**103** Carrying out basic milling techniques

**104** Carrying out basic turning techniques

**105** Carrying out mechanical assembly

**106** Carrying out electronics assembly

**107** Carrying out electrical assembly

**108** Working with sheet metals

**109** Carrying out manual arc welding techniques

**110** Carrying out MIG welding processes

**111** Carrying out TIG welding processes

## UNITS (CONT'D)

**112** Carrying out OXY-Acetylene welding processes

**113** Carrying out surface finishing techniques

**114** Carrying out mechanical maintenance

**115** Communicating using Computer Aided Design (CAD) systems

**116** Producing engineering drawings

## ASSESSMENTS

Learners are required to successfully complete the following:

- One online multiple-choice assessment for the mandatory unit
- One assignment for each chosen optional unit which contains practical and knowledge tasks

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds courses:

- Level 2 Certificate/Diploma in Engineering - Manufacturing Technology (2850-81/51)
- Level 2 Certificate/Diploma in Engineering - Maintenance Technology (2850-82/52)
- Level 2 Certificate/Diploma in Engineering - Fabrication and Welding Technology (2850-83/53)
- Level 2 Certificate/Diploma in Engineering - Electrical and Electronics Technology (2850-84/54)

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Entry Level
- Trainee Technician

## UNIT ROUTES 2850-93

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 1: CERTIFICATE IN ENGINEERING (2850-80)

## WHO IS THIS COURSE FOR?

This level is ideal for those looking for a basic understanding of the skills and engineering principles needed to enter the engineering sector or school leavers considering a career in engineering.

This course will introduce learners to safe working practices and the basic materials, hand tools, and machinery that engineers use in their everyday work. Learners are also able to choose units from different engineering areas to suit different career paths.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 2850: LEVEL 1 CERTIFICATE IN ENGINEERING | SMARTSCREEN | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Recommended resources/ Reading list | Glossary of terms |
| **MANDATORY UNITS** | | | | | | | | | |
| **Unit 101:** Working in engineering | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **OPTIONAL UNITS** | | | | | | | | | |
| **Unit 102:** Carrying out basic fitting techniques | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 103:** Carrying out basic milling techniques | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 104:** Carrying out basic turning techniques | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 105:** Carrying out mechanical assembly | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 106:** Carrying out electronics assembly | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 107:** Carrying out electrical assembly | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 108:** Working with sheet metals | ● | ● | ● | ● | ● | ● | | ● | ● |
| **Unit 109:** Carrying out manual arc welding techniques | ● | ● | ● | ● | ● | ● | | ● | ● |
| **Unit 110:** Carrying out MIG welding processes | ● | ● | ● | ● | ● | ● | | ● | ● |
| **Unit 111:** Carrying out TIG welding processes | | | | | | | | ● | ● |
| **Unit 112:** Carrying out OXY-Acetylene welding processes | ● | ● | ● | ● | ● | | ● | ● | ● |
| **Unit 113:** Carrying out surface finishing techniques | | | | | | | | ● | ● |
| **Unit 114:** Carrying out mechanical maintenance | | | ● | | | | ● | ● | ● |
| **Unit 115:** Communicating using CAD systems | | | | | | | | ● | ● |
| **Unit 116:** Producing engineering drawings | | | ● | | | | ● | ● | ● |

# LEVEL 2: CERTIFICATE / DIPLOMA IN MANUFACTURING TECHNOLOGY (2850-51/81)

## UNITS

Learners must take two (for the Certificate) or three (for the Diploma) optional units.

**Mandatory Units**

**201** Working in engineering

**202** Principles of engineering technology

**Pathway Mandatory Unit**

**253** Principles of manufacturing technology

**Optional Units**

**204** Machine components using milling techniques

**205** Machine components using turning techniques

**206** Using bench fitting techniques

**207** Using computer aided manufacturing processes

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 3 Diploma in Welding (2850-85)
- Level 3 Diploma in Fabrication (2850-86)
- Level 3 Diploma in Engineering - Fabrication and Welding (2850-87)

## PROGRESS IN LEARNING

- Level 3 Diploma in Engineering - Maintenance, Installation and Commissioning (2850-88)
- Level 3 Diploma in Mechanical Manufacturing Engineering (2850-89)
- Level 3 Diploma in Engineering - Electrical and Electronic Engineering (2850-90)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Electrician
- Welder / Fabricator
- Machine Operative
- Maintenance Technician

## UNIT ROUTES 2850-94

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 2: CERTIFICATE / DIPLOMA IN MANUFACTURING TECHNOLOGY (2850-51/81)

## WHO IS THIS COURSE FOR?

This level is ideal for anyone looking to begin their career in engineering, to develop their understanding of engineering skills and principles, or for school leavers with some knowledge or experience in engineering.

This course focuses on the practical skills and underpinning knowledge required to work in manufacturing technology, and introduces learners to the basic principles of mathematics, science and technologies that underpin engineering.

Support materials

Back to unit overview

# LEVEL 2: CERTIFICATE / DIPLOMA IN MAINTENANCE TECHNOLOGY (2850-52/82)

## UNITS

Learners must take two (for the Certificate) or three (for the Diploma) optional units.

**Mandatory Units**

**201** Working in engineering

**202** Principles of engineering technology

**Pathway Mandatory Unit**

**254** Principles of maintenance technology

**Optional Units**

**209** Assembling and maintaining fluid power systems

**210** Maintenance of mechanical devices and equipment

**211** Maintaining electrical wiring support systems

**222** Maintaining electrical equipment and systems

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen optional unit

## PROGRESS IN LEARNING

- Level 3 Diploma in Engineering - Fabrication and Welding (2850-87)
- Level 3 Diploma in Engineering - Maintenance, Installation and Commissioning (2850-88)
- Level 3 Diploma in Mechanical Manufacturing Engineering (2850-89)
- Level 3 Diploma in Engineering - Electrical and Electronic Engineering (2850-90)
- ILM, the Institute of Leadership and Management

## UNIT ROUTES 2850-94

Learners are able to claim unit certification should they wish to take units as individual courses.

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 3 Diploma in Welding (2850-85)
- Level 3 Diploma in Fabrication (2850-86)

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Electrician
- Welder / Fabricator
- Machine Operative
- Maintenance Technician

Who is this course for?

Support materials

# LEVEL 2: CERTIFICATE / DIPLOMA IN MAINTENANCE TECHNOLOGY (2850-52/82)

## WHO IS THIS COURSE FOR?

This level is ideal for anyone looking to begin their career in engineering, to develop their understanding of engineering skills and principles, or for school leavers with some knowledge or experience in engineering.

This course focuses on the practical skills and underpinning knowledge required to work in maintenance technology, and introduces learners to the basic principles of mathematics, science and technologies that underpin engineering.

Support materials

Back to unit overview

# LEVEL 2: CERTIFICATE / DIPLOMA IN FABRICATION AND WELDING TECHNOLOGY (2850-53/83)

## UNITS

Learners must take two (for the Certificate) or three (for the Diploma) optional units.

**Mandatory Units**

**201** Working in engineering

**202** Principles of engineering technology

**Pathway Mandatory Unit**

**255** Principles of fabrication and welding technology

**Optional Units**

**213** Welding by manual metal arc process

**214** Welding by MIG process

**215** Welding by TIG process

**216** Welding by oxy-acetylene process

**217** Fabricating sheet metalwork

## UNITS (CONT'D)

**218** Fabricating thick plate, bar and sections

**219** Fabricating pipework assemblies

**220** Fabricating steelwork assemblies

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 3 Diploma in Welding (2850-85)
- Level 3 Diploma in Fabrication (2850-86)
- Level 3 Diploma in Engineering - Fabrication and Welding (2850-87)
- Level 3 Diploma in Engineering - Maintenance, Installation and Commissioning (2850-88)
- Level 3 Diploma in Mechanical Manufacturing Engineering (2850-89)
- Level 3 Diploma in Engineering - Electrical and Electronic Engineering (2850-90)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Electrician
- Welder / Fabricator
- Machine Operative
- Maintenance Technician

## UNIT ROUTES 2850-94

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 2: CERTIFICATE / DIPLOMA IN FABRICATION AND WELDING TECHNOLOGY (2850-53/83)

## WHO IS THIS COURSE FOR?

This level is ideal for anyone looking to begin their career in engineering, to develop their understanding of engineering skills and principles, or for school leavers with some knowledge or experience in engineering.

This course focuses on the practical skills and underpinning knowledge required to work in fabrication and welding technology, and introduces learners to the basic principles of mathematics, science and technologies that underpin engineering.

Support materials

Back to unit overview

# LEVEL 2: CERTIFICATE / DIPLOMA IN ELECTRICAL AND ELECTRONICS TECHNOLOGY (2850-54/84)

## UNITS

Learners must take two (for the Certificate) or three (for the Diploma) optional units.

**Mandatory Units**

**201** Working in engineering

**202** Principles of engineering technology

**Pathway Mandatory Unit**

**256** Principles of electrical and electronics technology

**Optional Units**

**211** Maintaining electrical wiring support systems

**222** Maintaining electrical equipment and systems

**223** Wiring and testing electrical circuits

**224** Constructing, testing and fault finding electronic circuits

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 3 Diploma in Welding (2850-85)
- Level 3 Diploma in Fabrication (2850-86)

## PROGRESS IN LEARNING

- Level 3 Diploma in Engineering - Fabrication and Welding (2850-87)
- Level 3 Diploma in Engineering - Maintenance, Installation and Commissioning (2850-88)
- Level 3 Diploma in Engineering - Mechanical Manufacturing Engineering (2850-89)
- Level 3 Diploma in Engineering - Electrical and Electronic Engineering (2850-90)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Electrician
- Welder / Fabricator

## PROGRESS TO A JOB

- Machine Operative
- Maintenance Technician

## UNIT ROUTES 2850-94

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 2: CERTIFICATE / DIPLOMA IN ELECTRICAL AND ELECTRONICS TECHNOLOGY (2850-54/84)

## WHO IS THIS COURSE FOR?

This level is ideal for anyone looking to begin their career in engineering, to develop their understanding of engineering skills and principles, or for school leavers with some knowledge or experience in engineering.

This course focuses on the practical skills and underpinning knowledge required to work in electrical and electronics technology, and introduces learners to the basic principles of mathematics, science and technologies that underpin engineering.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 2850: LEVEL 2 CERTIFICATE/DIPLOMA IN ENGINEERING | SMARTSCREEN | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Recommended resources/ Reading list | Glossary of terms |
| **MANDATORY UNITS** | | | | | | | | | |
| **Unit 201:** Working in engineering | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 202:** Principles of engineering technology | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **PATHWAY MANDATORY UNITS** | | | | | | | | | |
| **Unit 253:** Principles of manufacturing technology | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 254:** Principles of maintenance technology | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 255:** Principles of fabrication and welding technology | ● | ● | ● | | ● | ● | | ● | ● |
| **Unit 256:** Principles of electrical and electronics technology | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **OPTIONAL UNITS** | | | | | | | | | |
| **Unit 204:** Machine components using milling techniques | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 205:** Machine components using turning techniques | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 206:** Using bench fitting techniques | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 207:** Using Computer Aided Manufacturing processes | | | | | | | | ● | ● |
| **Unit 209:** Assembling and maintaining fluid power systems | | | | | | | ● | ● | ● |
| **Unit 210:** Maintenance of mechanical devices and equipment | | | ● | | | | | ● | ● |
| **Unit 211:** Maintaining electrical wiring support systems | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 213:** Welding by Manual Metal Arc process | ● | ● | ● | ● | ● | ● | | ● | ● |
| **Unit 214:** Welding by MIG process | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 215:** Welding by TIG process | ● | ● | ● | | ● | ● | ● | ● | ● |
| **Unit 216:** Welding by Oxy-Acetylene process | | | | | | | | ● | ● |

# SUPPORT MATERIALS

| 2850: LEVEL 2 CERTIFICATE/DIPLOMA IN ENGINEERING | SMARTSCREEN | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Recommended resources/ Reading list | Glossary of terms |
| **OPTIONAL UNITS CONT'D** | | | | | | | | | |
| **Unit 217:** Fabricating sheet metalwork | | | | | | | | ● | ● |
| **Unit 218:** Fabricating thick plate, bar and sections | | | | | | | | ● | ● |
| **Unit 219:** Fabricating pipework assemblies | | | | | | | | ● | ● |
| **Unit 220:** Fabricating steel work assemblies | | | | | | | | ● | ● |
| **Unit 222:** Maintaining electrical equipment and systems | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 223:** Wiring and testing electrical circuits | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 224:** Constructing, testing and fault finding electronic circuits | ● | ● | ● | ● | ● | ● | | ● | ● |

# LEVEL 2: CERTIFICATE IN TELECOMMUNICATION SYSTEMS (2730-12)

## UNITS

### Mandatory Units

**205** Mathematics

**206** Fundamentals of electronic communication 1 (practical)

**207** Communication systems and digital networks 1 (practical)

**208** Constructing, testing and fault finding electronic circuits

### Optional Units

**203** Fundamentals of electronic communication 1 (paper-based exam)

**204** Communication systems and digital networks 1 (paper-based exam)

**253** Fundamentals of electronic communication 1 (online exam)

**254** Communication systems and digital networks 1 (online exam)

## UNITS (CONT'D)

### Additional Optional Unit

**208** Constructing, testing and fault finding electronic circuits

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two multiple-choice assessments (choice of online or paper-based)
- One short-answer question paper
- Two practical assignments
- One additional practical assignment if choosing additional optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 3 Diploma in Telecommunication Systems (2730-13)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Electrician
- Maintenance Technician
- Technician

## UNIT ROUTES 2730-92

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support Materials

# LEVEL 2: CERTIFICATE IN TELECOMMUNICATION SYSTEMS (2730-12)

## WHO IS THIS COURSE FOR?

This level is ideal for anyone looking to begin their career in telecommunications, to develop their understanding of the skills and principles required for telecommunication engineering, or for school leavers with some existing knowledge or experience.

This course focuses on electronic communication, communication systems and digital networks, introducing learners to the basic principles of mathematics, science and technologies that underpin telecommunication engineering.

Support Materials

Back to unit overview

# SUPPORT MATERIALS

| 2730: LEVEL 2 CERTIFICATE IN TELECOMMUNICATION SYSTEMS | SMARTSCREEN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Individual learning plans | Recommended resources / reading list | Glossary of terms |
| **Unit 203/206/253:** Fundamentals of electronic communication 1 | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 204/207/254:** Communication Systems and Digital Networks 1 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 205:** Mathematics | ● | ● | ● | ● | ● | ● | ● | | ● | ● |

# LEVEL 3: DIPLOMA IN WELDING (2850-85)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**301** Engineering health and safety

**302** Engineering principles

**Pathway Mandatory Unit**

**353** Principles of welding

**Optional Units**

**310** Manual metal arc welding of materials

**311** MIG welding of materials

**312** TIG welding of materials

**330** Organising and managing engineering operations

**336** MIG welding of aluminium

**337** TIG welding of aluminium

**338** Flux-cored arc welding materials

**351** Advanced mathematics and science

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen
- One short-answer question paper if choosing the 'Advanced mathematics and science' unit
- optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)
- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Foreman
- Engineer Technician
- Operational Executive

## UNIT ROUTES 2850-95

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 3: DIPLOMA IN WELDING (2850-85)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of engineering technologies and principles, who require formal recognition of their existing abilities or who wish to specialise within a specific engineering sector.

This course focuses on the practical skills and underpinning knowledge required to work in welding at an advanced level, including specific welding procedures and the use of basic calculations and engineering science.

City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Engineer Technician registration.

Support materials

Back to unit overview

# LEVEL 3: DIPLOMA IN FABRICATION (2850-86)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**301** Engineering health and safety

**302** Engineering principles

**Pathway Mandatory Unit**

**354** Principles of fabrication

**Optional Units**

**313** Platework fabrication of materials

**314** Sheet metalwork fabrication of materials

**315** Fabrication and erection of structural steelwork

**316** Pattern development for fabrication

**330** Organising and managing engineering operations

**351** Advanced mathematics and science

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen
- One short-answer question paper if choosing the 'Advanced mathematics and science' unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)

## PROGRESS IN LEARNING

- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Foreman
- Engineer Technician
- Operational Executive

## UNIT ROUTES 2850-95

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 3: DIPLOMA IN FABRICATION (2850-86)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of engineering technologies and principles, who require formal recognition of their existing abilities or who wish to specialise within a specific engineering sector.

This course focuses on the practical skills and underpinning knowledge required to work in fabrication at an advanced level, including specific fabrication procedures and the use of basic calculations and engineering science.

City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Engineer Technician registration.

Support materials

Back to unit overview

# LEVEL 3: DIPLOMA IN FABRICATION AND WELDING (2850-87)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**301** Engineering health and safety

**302** Engineering principles

**Pathway Mandatory Unit**

**355** Principles of fabrication and welding

**Optional Units**

**310** Manual metal arc welding of materials

**311** MIG welding of materials

**312** TIG welding of materials

**313** Platework fabrication of materials

**314** Sheet metalwork fabrication of materials

**315** Fabrication and erection of structural steelwork

**316** Pattern development for fabrication

**330** Organising and managing engineering operations

## UNITS (CONT'D)

**336** MIG welding of aluminium

**337** TIG welding of aluminium

**338** Flux-cored arc welding materials

**351** Advanced mathematics and science

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathwaymandatory unit
- One assignment for each chosen
- One short-answer question paper if choosing the 'Advanced mathematics and science' unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)
- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Foreman

## PROGRESS TO A JOB

- Engineer Technician
- Operational Executive

## UNIT ROUTES 2850-95

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 3: DIPLOMA IN FABRICATION AND WELDING (2850-87)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of engineering technologies and principles, who require formal recognition of their existing abilities or who wish to specialise within a specific engineering sector.

This course focuses on the practical skills and underpinning knowledge required to work in fabrication and welding at an advanced level, including specific fabrication and welding procedures and the use of basic calculations and engineering science.

City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Engineer Technician registration.

Support materials

Back to unit overview

# LEVEL 3: DIPLOMA IN MAINTENANCE, INSTALLATION AND COMMISSIONING (2850-88)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**301** Engineering health and safety

**302** Engineering principles

**Pathway Mandatory Unit**

**356** Principles of engineering maintenance, installation and commissioning

**Optional Units**

**317** Maintenance of machine systems

**318** Maintenance of utility systems

**319** Maintenance of plant services

**320** Maintenance of hydraulic systems

**321** Maintenance of pneumatic systems

**322** Power generation systems and ancillary equipment

**330** Organising and managing engineering operations

## UNITS (CONT'D)

**332** Mechatronics systems principles and fault finding

**351** Advanced mathematics and science

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen
- One short-answer question paper if choosing the 'Advanced mathematics and science' unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)
- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Foreman

## PROGRESS TO A JOB

- Engineer Technician
- Operational Executive

## UNIT ROUTES 2850-95

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 3: DIPLOMA IN MAINTENANCE, INSTALLATION AND COMMISSIONING (2850-88)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of engineering technologies and principles, who require formal recognition of their existing abilities or who wish to specialise within a specific engineering sector.

This course focuses on the practical skills and underpinning knowledge required to work in maintenance, installation and commissioning at an advanced level, including specific maintenance procedures and the use of basic calculations and engineering science.

City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Engineer Technician registration.

Support materials

Back to unit overview

# LEVEL 3: DIPLOMA IN MECHANICAL MANUFACTURING ENGINEERING (2850-89)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**301** Engineering health and safety

**302** Engineering principles

**Pathway Mandatory Unit**

**357** Principles of mechanical manufacturing engineering

**Optional Units**

**323** Machining materials by turning

**324** Machining materials by milling

**325** Machining materials by grinding

**326** CNC machining of materials

**327** Detailed fitting of materials

**328** Maintenance of electrical equipment and systems

**329** Produce drawings using CAD

**330** Organising and managing engineering operations

**351** Advanced mathematics and science

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen
- One short-answer question paper if choosing the 'Advanced mathematics and science' unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)

## PROGRESS IN LEARNING

- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Foreman
- Engineer Technician
- Operational Executive

## UNIT ROUTES 2850-95

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 3: DIPLOMA IN MECHANICAL MANUFACTURING ENGINEERING (2850-89)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of engineering technologies and principles, who require formal recognition of their existing abilities or who wish to specialise within a specific engineering sector.

This course focuses on the practical skills and underpinning knowledge required to work in mechanical manufacturing and engineering at an advanced level, including specific manufacturing procedures and the use of basic calculations and engineering science.

City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Engineer Technician registration.

Support materials

Back to unit overview

# LEVEL 3: DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (2850-90)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**301** Engineering health and safety

**302** Engineering principles

**Pathway Mandatory Unit**

**358** Principles of electrical and electronic engineering

**Optional Units**

**328** Maintenance of electrical equipment and systems

**330** Organising and managing engineering operations

**332** Mechatronics systems principles and fault finding

**333** Computer automated and robotic systems principles and control

**334** Power supply, and analogue and digital circuit principles and fault

**335** Electronic power control principles and practice

**351** Advanced mathematics and science

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two online multiple-choice assessments covering the mandatory units
- One short-answer question paper for each pathway mandatory unit
- One assignment for each chosen
- One short-answer question paper if choosing the 'Advanced mathematics and science' unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)

## PROGRESS IN LEARNING

- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Foreman
- Engineer Technician
- Operational Executive

## UNIT ROUTES 2850-95

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 3: DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (2850-90)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of engineering technologies and principles, who require formal recognition of their existing abilities or who wish to specialise within a specific engineering sector.

This course focuses on the practical skills and underpinning knowledge required to work in electrical and electronic engineering at an advanced level, including electrical and electronic procedures and the use of basic calculations and engineering science.

City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Engineer Technician registration.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 2850: LEVEL 3 DIPLOMA IN ENGINEERING | SMARTSCREEN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Individual learning plans | Recommended resources / reading list | Glossary of terms |
| **MANDATORY UNITS** | | | | | | | | | | |
| **Unit 301:** Engineering health and safety | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 302:** Engineering principles | ● | ● | ● | ● | ● | ● | | ● | | ● |
| **PATHWAY MANDATORY UNITS** | | | | | | | | | | |
| **Unit 353:** Principles of welding | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 354:** Principles of fabrication | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 355:** Principles of fabrication and welding | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 356:** Principles of engineering maintenance, installation and commissioning | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 357:** Principles of mechanical manufacturing engineering | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 358:** Principles of electrical and electronic engineering | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **OPTIONAL UNITS** | | | | | | | | | | |
| **Unit 310:** Manual metal arc welding of materials | | | | | | | | | ● | ● |
| **Unit 311:** MIG welding of materials | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 312:** TIG welding of materials | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 313:** Platework fabrication of materials | | | | | | | | | ● | ● |
| **Unit 314:** Sheet metalwork fabrication of materials | | | | | | | | | ● | ● |
| **Unit 315:** Fabrication and erection of structural steelwork | | | | | | | | | ● | ● |
| **Unit 316:** Pattern development for fabrication | | | | | | | | | ● | ● |
| **Unit 317:** Maintenance of machine systems | | | | | | | | | ● | ● |

# SUPPORT MATERIALS

| 2850: LEVEL 3 DIPLOMA IN ENGINEERING | SMARTSCREEN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Individual learning plans | Recommended resources / reading list | Glossary of terms |
| **OPTIONAL UNITS CONT'D** | | | | | | | | | | |
| **Unit 318:** Maintenance of utility systems | | | | | | | | | ● | ● |
| **Unit 319:** Maintenance of plant services | | | | | | | | | ● | ● |
| **Unit 320:** Maintenance of hydraulic systems | | | ● | | | | | | ● | ● |
| **Unit 321:** Maintenance of pneumatic systems | | | ● | | | | | | ● | ● |
| **Unit 322:** Power generation systems and ancillary equipment | | | | | | | | | ● | ● |
| **Unit 323:** Machining materials by turning | | | | | | | | | ● | ● |
| **Unit 324:** Machining materials by milling | ● | | ● | | ● | | ● | ● | ● | ● |
| **Unit 325:** Machining materials by grinding | ● | | ● | | ● | | ● | | ● | |
| **Unit 326:** CNC machining of materials | ● | | ● | | ● | | ● | ● | ● | ● |
| **Unit 327:** Detailed fitting of materials | ● | | ● | | ● | | ● | ● | ● | ● |
| **Unit 328:** Maintenance of electrical equipment and systems | | | ● | | | | | | ● | ● |
| **Unit 329:** Produce drawings using CAD | | | ● | | | | | | ● | ● |
| **Unit 330:** Organising and managing engineering operations | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 332:** Mechatronics systems principles and fault finding | | | | | | | | | ● | ● |
| **Unit 333:** Computer automated and robotic systems principles and control | | | | | | | | | ● | ● |
| **Unit 334:** Power supply, and analogue and digital circuit principles and fault finding | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Unit 335:** Electronic power control principles and practice | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

# SUPPORT MATERIALS

| 2850: LEVEL 3 DIPLOMA IN ENGINEERING | SMARTSCREEN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Individual learning plans | Recommended resources / reading list | Glossary of terms |
| **OPTIONAL UNITS CONT'D** | | | | | | | | | | |
| **Unit 336:** MIG welding of aluminium | | | | | | | | | ● | ● |
| **Unit 337:** TIG welding of aluminium | | | | | | | | | ● | ● |
| **Unit 338:** Flux-cored arc welding of materials | | | | | | | | | ● | ● |
| **Unit 351:** Advanced mathematics and science | ● | ● | ● | | ● | ● | ● | ● | ● | ● |

# LEVEL 3: DIPLOMA IN TELECOMMUNICATION SYSTEMS (2730-13)

## UNITS

Learners must either choose radio systems or both programming principles units.

### Mandatory Units

**301** Fundamentals of electronic communication 2

**302** Communication systems and digital networks 2

**303** Fundamentals of electronic communication 3

**304** Communication systems and digital networks 3

**307** Advanced mathematics

**352** Communication systems and digital networks 2 - practical

**354** Communication systems and digital networks 3 - practical

### Optional Units

**305** Radio systems

**306** Programming principles

## UNITS (CONT'D)

**356** Programming principles (practical)

### Additional Optional Unit

**308** Maintenance of electrical equipment and systems

## ASSESSMENTS

Learners are required to successfully complete the following:

- Six short-answer question papers.
- Two or three practical assignments
- One additional practical assignment if choosing additional optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 4 Diploma in Mechanical Engineering (9209-01)
- Level 4 Diploma in Electrical and Electronic Engineering (9209-02)
- Level 4 Diploma in Civil Engineering (9209-03)
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Electrician
- Maintenance Technician
- Technician
- Systems Executive

## UNIT ROUTES 2730-93

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 3: DIPLOMA IN TELECOMMUNICATION SYSTEMS (2730-13)

## WHO IS THIS COURSE FOR?

This level is ideal for learners with a firm understanding and practical experience of telecommunication systems and principles, who require formal recognition of their existing abilities or who wish to advance their skills and knowledge in telecommunication engineering.

This course focuses on the practical skills and underpinning knowledge required to work in telecommunications at an advanced level, including communication systems and digital networks, radio systems and programming, and the use of basic calculations and telecommunication science.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| | SMARTSCREEN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **2730: LEVEL 3 DIPLOMA IN TELECOMMUNICATION** | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice Questions | Individual learning plans | Recommended resources / reading list | Glossary of terms |
| **Unit 301:** Fundamentals of electronic communication 2 | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 302/352:** Communication systems and digital networks 2 | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 303/354:** Fundamentals of electronic communication 3 | ● | ● | ● | | ● | | ● | ● | ● | ● |
| **Unit 304:** Communication systems and digital networks 3 | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| **Unit 305:** Radio Systems | ● | ● | ● | | ● | | ● | ● | ● | ● |
| **Unit 306:** Programming principles | ● | ● | ● | ● | ● | | ● | ● | ● | ● |
| **Unit 307:** Advanced mathematics | | | | | | | | | ● | ● |
| **Unit 356:** Programming principles – Practical | ● | ● | ● | | ● | ● | ● | ● | ● | ● |

# LEVEL 4: DIPLOMA IN MECHANICAL ENGINEERING (9209-01)

## UNITS

Learners must take seven optional units.

### Mandatory Units

**401** Engineering mathematics

**428** Electrical principles for mechanical engineering

**429** Principles of mechanical engineering

**430** Engineering fluid mechanics and thermodynamics

### Optional Units

**403** Quality assurance and control

**404** Human factors in the workplace

**405** Engineering planning and scheduling

**406** Statistical analysis for engineers

**407** Computer Aided Design for Manufacture

## UNITS CONT'D

**418** Maintenance of engineering systems and equipment

**419** Engineering design

**421** Planning and implementing change within businesses

**422** Personal and professional development

**423** Managing information and knowledge

**424** Engineering procurement

**425** Principles of composite materials

**426** Principles of composites manufacture

**427** Developing business improvement plans

**431** Principles of mechanical component manufacture

**432** Materials engineering

## UNITS CONT'D

**433** Automated machining of materials

**434** Industrial robotics

**435** Statistical process control

**436** Metal fabrication technology

**437** Welding technology and practice

**438** Quality assurance and testing of welded joints

MORE INFORMATION

Who is this course for?

Support materials

# LEVEL 4: DIPLOMA IN MECHANICAL ENGINEERING (9209-01)

## ASSESSMENTS

Each unit will be individually assessed by one of the following assessment methods:

- Dated entry written exams
- Practical assignments

The full list of unit assessments can be found in the Qualification Handbook.

## PROGRESS IN LEARNING

On completion of these courses learners may progress to the following City & Guilds and ILM courses:

- Level 5 Advanced Technician Diploma in Mechanical Engineering (9209-11)
- ILM, the Institute of Leadership and Management

Please refer to the website for information on progression into university.

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Technician
- Management

## UNIT ROUTES 9209-91

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 4: DIPLOMA IN MECHANICAL ENGINEERING (9209-01)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for first-level management, with a sound knowledge of technical principles in one or more specialised branches of mechanical engineering. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced mechanical engineering, with a wide choice of units to provide a flexible route to career success as a professional engineer. The Level 4 Diplomas in Engineering are set at, and are an alternative to, the standard of the first year of a British BEng degree course, giving learners the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 9209: LEVEL 4 IN MECHANICAL ENGINEERING | WEBSITE | | SMARTSCREEN | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice questions | Individual learning plans |
| **MANDATORY UNITS** | | | | | | | | | | |
| **Unit 401:** Engineering mathematics | ● | ● | ● | ● | ● | | ● | | | ● |
| **Unit 428:** Electrical principles for mechanical engineering | ● | ● | ● | | | | | | | |
| **Unit 429:** Principles of mechanical engineering | ● | ● | ● | | | | | | | |
| **Unit 430:** Engineering fluid mechanics and thermodynamics | ● | ● | ● | | | | | | | |
| **OPTIONAL UNITS** | | | | | | | | | | |
| **Unit 403:** Quality assurance and control | | | ● | ● | ● | ● | ● | ● | | ● |
| **Unit 404:** Human factors in the workplace | | | ● | ● | | ● | ● | ● | | ● |
| **Unit 405:** Engineering planning and scheduling | | | ● | | ● | | ● | ● | | ● |
| **Unit 406:** Statistical analysis for engineers | | | ● | ● | ● | | ● | | | ● |
| **Unit 407:** Computer Aided Design for Manufacture | | | | | | | | | | |
| **Unit 418:** Maintenance of engineering systems and equipment | | | | | | | | | | |
| **Unit 419:** Engineering design | | | | | | | | | | |
| **Unit 421:** Planning and implementing change within businesses | | | | | | | | | | |
| **Unit 422:** Personal and professional development | | | | | | | | | | |
| **Unit 423:** Managing information and knowledge | | | | | | | | | | |
| **Unit 424:** Engineering procurement | | | | | | | | | | |
| **Unit 425:** Principles of composite materials | | | | | | | | | | |

# SUPPORT MATERIALS

| | WEBSITE | | SMARTSCREEN | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **9209: LEVEL 4 IN MECHANICAL ENGINEERING** | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice questions | Individual learning plans |
| **OPTIONAL UNITS CONT'D** | | | | | | | | | | |
| **Unit 426:** Principles of composites manufacture | | | | | | | | | | |
| **Unit 427:** Developing business improvement plans | | | | | | | | | | |
| **Unit 431:** Principles of mechanical component manufacture | | | ● | ● | | | ● | ● | | ● |
| **Unit 432:** Materials engineering | | | | | | | | | | |
| **Unit 433:** Automated machining of materials | | | | | | | | | | |
| **Unit 434:** Industrial robotics | | | | | | | | | | |
| **Unit 435:** Statistical process control | | | | | | | | | | |
| **Unit 436:** Metal fabrication technology | | | ● | ● | ● | | ● | ● | | ● |
| **Unit 437:** Welding technology and practice | | | ● | ● | ● | | ● | ● | | ● |
| **Unit 438:** Quality assurance and testing of welded joints | | | ● | ● | ● | | ● | ● | | ● |

# LEVEL 4: DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (9209-02)

## UNITS

Learners must take nine optional units.

### Mandatory Units

**401** Engineering mathematics

**402** Principles of electrical/ electronic engineering

### Optional Units

**403** Quality assurance and control

**404** Human factors in the workplace

**405** Engineering planning and scheduling

**406** Statistical analysis for engineers

**407** Computer Aided Design for Manufacture

**408** Data communication and networks

**409** Principles and operation of electrical machines

## UNITS CONT'D

**410** Using electrical protection techniques for engineering operations

**411** Electrical services and installation

**412** Electrical supply and distribution

**413** Testing and measurement of electronic and electrical systems

**414** Programmable logic controllers

**415** Principles of analogue circuits

**416** Sequential and combinational logic circuits

**417** Microprocessor based systems

**418** Maintenance of engineering systems and equipment

**419** Engineering design

**420** Programming using C

## UNITS CONT'D

**421** Planning and implementing change within businesses

**422** Personal and professional development

**423** Managing information and knowledge

**424** Engineering procurement

**425** Principles of composite materials

**426** Principles of composites manufacture

**427** Developing business improvement plans

**MORE INFORMATION**

› Who is this course for?

› Support materials

# LEVEL 4: DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (9209-02)

## ASSESSMENTS

Each unit will be individually assessed by one of the following assessment methods:

- Dated entry written exams
- Practical assignments

The full list of unit assessments can be found in the Qualification Handbook.

## PROGRESS IN LEARNING

On completion of these courses learners may progress to the following City & Guilds and ILM courses:

- Level 5 Advanced Technician Diploma in Mechanical Engineering (9209-12)
- ILM, the Institute of Leadership and Management

Please refer to the website for information on progression into university.

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Technician
- Management

## UNIT ROUTES 9209-92

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 4: DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (9209-02)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for first-level management, with a sound knowledge of technical principles in one or more specialised branches of electrical or electronic engineering. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced electrical and electronic engineering, with a wide choice of units to provide a flexible route to career success as a professional engineer. The Level 4 Diplomas in Engineering are set at, and are an alternative to, the standard of the first year of a British BEng degree course, giving learners the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 9209: LEVEL 4 IN ELECTRICAL AND ELECTRONIC ENGINEERING | WEBSITE | | SMARTSCREEN | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice questions | Individual learning plans |
| **MANDATORY UNITS** | | | | | | | | | | |
| **Unit 401:** Engineering mathematics | ● | ● | ● | ● | ● | | ● | | | ● |
| **Unit 402:** Principles of electrical/electronic engineering | ● | ● | ● | | | | | | | |
| **OPTIONAL UNITS** | | | | | | | | | | |
| **Unit 403:** Quality assurance and control | | | ● | ● | ● | ● | ● | ● | | ● |
| **Unit 404:** Human factors in the workplace | | | ● | ● | | ● | ● | ● | | ● |
| **Unit 405:** Engineering planning and scheduling | | | ● | | ● | | ● | ● | | ● |
| **Unit 406:** Statistical analysis for engineers | | | ● | ● | ● | | ● | | | ● |
| **Unit 407:** Computer Aided Design for Manufacture | | | | | | | | | | |
| **Unit 408:** Data communication and networks | | | | | | | | | | |
| **Unit 409:** Principles and operation of electrical machines | | | | | | | | | | |
| **Unit 410:** Using electrical protection techniques for engineering operations | | | | | | | | | | |
| **Unit 411:** Electrical services and installation | | | | | | | | | | |
| **Unit 412:** Electrical supply and distribution | | | | | | | | | | |
| **Unit 413:** Testing and measurement of electronic and electrical systems | | | | | | | | | | |
| **Unit 414:** Programmable logic controllers | | | | | | | | | | |
| **Unit 415:** Principles of analogue circuits | | | | | | | | | | |
| **Unit 416:** Sequential and combinational logic circuits | | | | | | | | | | |
| **Unit 417:** Microprocessor based systems | | | | | | | | | | |

# SUPPORT MATERIALS

| | WEBSITE | | SMARTSCREEN | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **9209: LEVEL 4 IN ELECTRICAL AND ELECTRONIC ENGINEERING** | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations | Practice questions | Individual learning plans |
| **OPTIONAL UNITS CONT'D** | | | | | | | | | | |
| **Unit 418:** Maintenance of engineering systems and equipment | | | | | | | | | | |
| **Unit 419:** Engineering design | | | | | | | | | | |
| **Unit 420:** Programming using C | | | | | | | | | | |
| **Unit 421:** Planning and implementing change within businesses | | | | | | | | | | |
| **Unit 422:** Personal and professional development | | | | | | | | | | |
| **Unit 423:** Managing information and knowledge | | | | | | | | | | |
| **Unit 424:** Engineering procurement | | | | | | | | | | |
| **Unit 425:** Principles of composite materials | | | | | | | | | | |
| **Unit 426:** Principles of composites manufacture | | | | | | | | | | |
| **Unit 427:** Developing business improvement plans | | | | | | | | | | |

# LEVEL 4: DIPLOMA IN CIVIL ENGINEERING (9209-03)

## UNITS

Learners must take three optional units.

### Mandatory Units

**439** Applied mathematics for civil engineering

**440** Site surveying

**441** Structural mechanics

**442** Geotechnics and soil mechanics

**443** Materials for civil engineering

### Optional Units

**403** Hydraulics for civil engineering

**445** Highway engineering

**446** Communication, manual drafting and CAD for engineers

**447** Civil engineering construction techniques

## ASSESSMENTS

Each unit will be individually assessed by one of the following assessment methods:

- Dated entry written exams
- Practical assignments

The full list of unit assessments can be found in the Qualification Handbook.

## PROGRESS IN LEARNING

On completion of these courses learners may progress to the following City & Guilds and ILM courses:

- Level 5 Advanced Technician Diploma in Civil Engineering (9209-13)
- ILM, the Institute of Leadership and Management

Please refer to the website for information on progression into university.

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Technician
- Management

## UNIT ROUTES 9209-93

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 4: DIPLOMA IN CIVIL ENGINEERING (9209-03)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for first-level management, with a sound knowledge of technical principles in one or more specialised branches of civil engineering. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced civil engineering, providing a flexible route to career success as a professional engineer. The Level 4 Diplomas in Engineering are set at, and are an alternative to, the standard of the first year of a British BEng degree course, giving learners the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 9209: LEVEL 4 IN CIVIL ENGINEERING | WEBSITE | |
|---|---|---|
| | Sample scheme of work | Recommended resources / reading list |
| **MANDATORY UNIT** | | |
| **Unit 439:** Applied mathematics for civil engineering | ● | ● |
| **Unit 440:** Site surveying | ● | ● |
| **Unit 441:** Structural mechanics | ● | ● |
| **Unit 442:** Geotechnics and soil mechanics | ● | ● |
| **Unit 443:** Materials for civil engineering | ● | ● |
| **OPTIONAL UNIT** | | |
| **Unit 403:** Hydraulics for civil engineering | | |
| **Unit 445:** Highway engineering | | |
| **Unit 446:** Communication, manual drafting and CAD for engineers | | |
| **Unit 447:** Civil engineering construction techniques | | |

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN MECHANICAL ENGINEERING (9209-11)

## UNITS

Learners must take two optional units.

### Mandatory Units

**513** Advanced engineering mathematics

**514** Analysis of the mechanics of fluids

**515** Applied thermodynamics

**516** Mechanics of solids

**517** Properties of materials for engineering applications

**518** Dynamics of machine systems

### Optional Units

**503** Work-based project

**504** Project management

**505** Instrumentation and control principles

**519** Modelling engineering designs

## ASSESSMENTS

Each unit will be individually assessed by one of the following assessment methods:

- Dated entry written exams
- Practical assignments

The full list of unit assessments can be found in the Qualification Handbook.

## PROGRESS IN LEARNING

On completion of these courses learners may progress to the following City & Guilds and ILM courses:

- Level 6 Diploma in Mechanical Engineering (9210-01)
- ILM, the Institute of Leadership and Management

Please refer to the website for information on progression into university.

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Technician
- Management

## UNIT ROUTES 9209-94

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN MECHANICAL ENGINEERING (9209-11)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of mechanical engineering. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced mechanical engineering, providing a flexible route to career success as a professional engineer. The Level 5 Diplomas in Engineering are set at, and are an alternative to, the standard of the second year of a British BEng degree course, giving learners the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| | WEBSITE | | SMARTSCREEN | | | | | |
|---|---|---|---|---|---|---|---|---|
| **9209: LEVEL 5 MECHANICAL ENGINEERING** | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations |
| **MANDATORY UNITS** | | | | | | | | |
| **Unit 513:** Advanced engineering mathematics | ● | ● | | | | | | |
| **Unit 514:** Analysis of the mechanics of fluids | ● | ● | | | | | | |
| **Unit 515:** Applied thermodynamics | ● | ● | | | | | | |
| **Unit 516:** Mechanics of solids | ● | ● | | | | | | |
| **Unit 517:** Properties of materials for engineering applications | ● | ● | | | | | | |
| **Unit 518:** Dynamics of machine systems | ● | ● | | | | | | |
| **OPTIONAL UNITS** | | | | | | | | |
| **Unit 503:** Work-based project | | | | | | | | |
| **Unit 504:** Project management | | | ● | ● | ● | ● | ● | ● |
| **Unit 505:** Instrumentation and control principles | | | | | | | | |
| **Unit 519:** Modelling engineering designs | | | | | | | | |

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (9209-12)

## UNITS

Learners must take six optional units.

### Mandatory Units

**501** Advanced mathematics for electrical and electronic engineering

**502** Electrical and electronic engineering principles

### Optional Units

**503** Work-based project

**504** Project management

**505** Instrumentation and control principles

**506** Electronic communication systems

**507** Digital design

## UNITS CONT'D

**508** Principles of signal processing

**509** Principles and operation of electrical machines

**510** Analogue design

**511** Electronic materials science

**512** Business management

## ASSESSMENTS

Each unit will be individually assessed by one of the following assessment methods:

- Dated entry written exams
- Practical assignments

The full list of unit assessments can be found in the Course Handbook.

## PROGRESS IN LEARNING

On completion of these courses learners may progress to the following City & Guilds and ILM courses:

- Level 6 Graduate Diploma in Electrical Engineering (9210-01)
- Level 6 Graduate Diploma in Electronic and Telecommunication Engineering (9210-01)
- ILM, the Institute of Leadership and Management

Please refer to the website for information on progression into university.

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Technician
- Management

## UNIT ROUTES 9209-95

Learners are able to claim unit certification should they wish to take units as individual courses.

› Who is this course for?

› Support materials

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING (9209-12)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of electrical or electronic engineering. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced electrical and electronic engineering, providing a flexible route to career success as a professional engineer. The Level 5 Diplomas in Engineering are set at, and are an alternative to, the standard of the second year of a British BEng degree course, giving learners the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| | WEBSITE | | SMARTSCREEN | | | | | |
|---|---|---|---|---|---|---|---|---|
| **9209: LEVEL 5 IN ELECTRICAL AND ELECTRONIC ENGINEERING** | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations |
| **MANDATORY UNITS** | | | | | | | | |
| **Unit 501:** Advanced mathematics for electrical and electronic engineering | ● | ● | | | | | | |
| **Unit 502:** Principles of Electrical and electronic engineering | ● | ● | | | | | | |
| **OPTIONAL UNITS** | | | | | | | | |
| **Unit 503:** Work-based project | | | | | | | | |
| **Unit 504:** Project management | | | ● | ● | ● | ● | ● | ● |
| **Unit 505:** Instrumentation and control principles | | | | | | | | |
| **Unit 506:** Electronic communication systems | | | | | | | | |
| **Unit 507:** Digital design | | | | | | | | |
| **Unit 508:** Principles of signal processing | | | | | | | | |
| **Unit 509:** Principles and operation of electrical machines | | | | | | | | |
| **Unit 510:** Analogue design | | | | | | | | |
| **Unit 511:** Electronic materials science | | | | | | | | |
| **Unit 512:** Business management | | | | | | | | |

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN CIVIL ENGINEERING (9209-13)

## UNITS

Learners must take four optional units.

### Mandatory Units

**520** Advanced mathematics for civil engineering

**521** Design of structural elements

**522** Integrated civil engineering design project

### Optional Units

**422** Personal and professional development

**504** Project management

**523** Advanced surveying technology

**524** Environmental water engineering

**525** Transport engineering

## UNITS (CONT'D)

**526** Measurement, costing and contracts for civil engineers

**527** Pavement design

**528** Concrete design

**529** Sustainable development

## ASSESSMENTS

Each unit will be individually assessed by one of the following assessment methods:

- Dated entry written exams
- Practical assignments

The full list of unit assessments can be found in the Qualification Handbook.

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 6 Graduate Diploma in Civil Engineering (9210-01)
- ILM, the Institute of Leadership and Management

Please refer to the website for information on progression into university.

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Technician
- Management

## UNIT ROUTES 9209-96

Learners are able to claim unit certification should they wish to take units as individual courses.

Who is this course for?

Support materials

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN CIVIL ENGINEERING (9209-13)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of civil engineering. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced civil engineering, providing a flexible route to career success as a professional engineer. The Level 5 Diplomas in Engineering are set at, and are an alternative to, the standard of the second year of a British BEng degree course, giving learners the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Support materials

Back to unit overview

# SUPPORT MATERIALS

| 9209: LEVEL 5 IN CIVIL ENGINEERING | WEBSITE | | SMARTSCREEN | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Sample scheme of work | Recommended resources / reading list | Sample scheme of work | Sample lesson plan | Worksheets | Activities | Handouts | Powerpoint presentations |
| **MANDATORY UNITS** | | | | | | | | |
| **Unit 520:** Advanced mathematics for civil engineering | ● | ● | | | | | | |
| **Unit 521:** Design of structural elements | ● | ● | | | | | | |
| **Unit 522:** Integrated civil engineering design project | ● | ● | | | | | | |
| **OPTIONAL UNITS** | | | | | | | | |
| **Unit 422:** Personal and professional development | | | | | | | | |
| **Unit 504:** Project management | | | ● | ● | ● | ● | ● | ● |
| **Unit 523:** Advanced surveying technology | | | | | | | | |
| **Unit 524:** Environmental water engineering | | | | | | | | |
| **Unit 525:** Transport engineering | | | | | | | | |
| **Unit 526:** Measurement, costing and contracts for civil engineers | | | | | | | | |
| **Unit 527:** Pavement design | | | | | | | | |
| **Unit 528:** Concrete design | | | | | | | | |
| **Unit 529:** Sustainable development | | | | | | | | |

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN TELECOMMUNICATION SYSTEMS (2730-03)

## UNITS

Learners must either choose both radio systems units or both software engineering units.

### Mandatory Units

**021** Telecommunications project

**022** Advanced telecommunication systems

### Optional Units

**023** Advanced radio systems

**024** Advanced radio systems (practical)

**025** Software engineering

**026** Software engineering (practical)

### Additional Optional Unit

**027** Advanced mathematics 2

## ASSESSMENTS

Learners are required to successfully complete the following:

- Two short answer question papers
- One additional short answer question paper if choosing additional optional unit

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 6 Graduate Diploma in Electronic and Telecommunication Engineering (9210-01)
- Relevant higher level courses
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Electrician
- Senior Systems Executive
- Telecommunications Network Manager
- Network Planner
- Radio Systems Design Engineer
- Satellite Communications Engineer

**Who is this course for?**

# LEVEL 5: ADVANCED TECHNICIAN DIPLOMA IN TELECOMMUNICATION SYSTEMS (2730-03)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, first-level management, with a sound knowledge of technical principles in one or more specialised branches of telecommunications. It is also appropriate for someone who wishes to receive specialised training at a high level.

This course focuses on advanced telecommunication systems, specialising in either advanced radio systems or software engineering. Learners will have the potential to fulfil the role of senior technician with a high level of responsibility requiring the use of personal initiative and critical judgement.

Back to unit overview

# LEVEL 6: GRADUATE DIPLOMA IN CIVIL ENGINEERING (9210-01)

## UNITS

Learners must take four optional units.

### Mandatory Units

**100** Engineering mathematics
**101** Management for engineers
**139** Project 1

### Pathway Mandatory Units

**102** Mechanics of solids and basic structural analysis
**103** Hydraulics and hydrology
**104** Engineering surveying
**105** Soil mechanics and engineering geology

### Optional Units

**106** Building engineering
**107** Quantity surveying
**108** Highway engineering
**109** Irrigation engineering

## UNITS (CONT'D)

**110** Water and waste engineering
**111** Structural analysis

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 7 Post Graduate Diploma in Engineering (9210-02)
- Relevant higher level courses
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an incorporated engineer

Who is this course for?

# LEVEL 6: GRADUATE DIPLOMA IN CIVIL ENGINEERING (9210-01)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 6 Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (third) year of a British BEng (Honours) degree course.

The City & Guilds Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Incorporated Engineer registration.

Back to unit overview

# LEVEL 6: GRADUATE DIPLOMA IN MECHANICAL ENGINEERING (9210-01)

## UNITS

Learners must take four optional units.

### MandatOry Units

**100** Engineering mathematics
**101** Management for engineers
**139** Project 1

### Pathway Mandatory Units

**128** Applied thermodynamics
**129** Fluid mechanics
**130** Mechanics of machines and strength of materials
**131** Materials

### Optional Units

**132** Manufacturing technology
**133** Analysis and design of manufacturing technology
**134** Hydraulics and hydraulic machines

## UNITS (CONT'D)

**135** Mechanics of solids
**136** Control systems
**137** Electro techniques
**138** Quality and reliability engineering

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 7 Post Graduate Diploma in Engineering (9210-02)
- Relevant higher level courses
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an incorporated engineer

Who is this course for?

# LEVEL 6: GRADUATE DIPLOMA IN MECHANICAL ENGINEERING (9210-01)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 6 Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (third) year of a British BEng (Honours) degree course.

The City & Guilds Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Incorporated Engineer registration.

Back to unit overview

# LEVEL 6: GRADUATE DIPLOMA IN ELECTRICAL ENGINEERING (9210-01)

## UNITS

Learners must take four optional units.

### Mandatory Units

**100** Engineering mathematics
**101** Management for engineers
**139** Project 1

### Pathway Mandatory Units

**112** Circuits and waves
**114** Electrical energy system
**115** Electrical machines and drives
**116** Electronics and telecommunications

### Optional Units

**118** Communication systems
**121** Computer networks
**123** Computer architecture and operating systems

## UNITS (CONT'D)

**124** Database management
**127** Software engineering
**136** Control systems

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 7 Post Graduate Diploma in Engineering (9210-02)
- Relevant higher level courses
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an incorporated engineer

Who is this course for?

# LEVEL 6: GRADUATE DIPLOMA IN ELECTRICAL ENGINEERING (9210-01)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 6 Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (third) year of a British BEng (Honours) degree course.

The City & Guilds Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Incorporated Engineer registration.

Back to unit overview

# LEVEL 6: GRADUATE DIPLOMA IN ELECTRONIC AND TELECOMMUNICATION ENGINEERING (9210-01)

## UNITS

Learners must take four optional units.

### Mandatory Units

**100** Engineering mathematics
**101** Management for engineers
**139** Project 1

### Pathway Mandatory Units

**112** Circuits and waves
**113** Electrical machines and electrical energy system fundamentals
**117** Electronic systems
**118** Communication systems

### Optional Units

**119** Wireless and mobile communication
**121** Computer networks
**123** Computer architecture and operating systems

## UNITS (CONT'D)

**125** Signals and systems
**127** Software engineering
**136** Control systems

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds and ILM courses:

- Level 7 Post Graduate Diploma in Engineering (9210-02)
- Relevant higher level courses
- ILM, the Institute of Leadership and Management

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an incorporated engineer

Who is this course for?

# LEVEL 6: GRADUATE DIPLOMA IN ELECTRONIC AND TELECOMMUNICATION ENGINEERING (9210-01)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 6 Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (third) year of a British BEng (Honours) degree course.

The City & Guilds Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Incorporated Engineer registration.

Back to unit overview

# LEVEL 7: POST GRADUATE DIPLOMA IN CIVIL ENGINEERING (9210-02)

## UNITS

Learners must take three optional units.

### Mandatory Units

**200** Engineering analysis

**229** Project 2

### Pathway Mandatory Units

**201** Construction engineering and management

**202** Environmental engineering

**203** Computational mechanics using finite element method

### Optional Units

**204** Geotechnical engineering

**205** Built environment 1

**206** Structural design

**207** Fluid mechanics and coastal engineering

## UNITS (CONT'D)

**208** Built environment 2

**111** Structural analysis

**138** Quality and reliability engineering

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds courses:

- Relevant higher level courses

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an chartered engineer

› Who is this course for?

# LEVEL 7: POST GRADUATE DIPLOMA IN CIVIL ENGINEERING (9210-02)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 7 Post Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (fourth) year of a British BEng degree course.

The City & Guilds Post Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Chartered Engineer registration.

Back to unit overview

# LEVEL 7: POST GRADUATE DIPLOMA IN ELECTRICAL ENGINEERING (9210-02)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**200** Engineering analysis
**229** Project 2

**Pathway Mandatory Units**

**209** Power system economics and planning
**210** High voltage engineering
**211** Fields and network theory

**Optional Units**

**213** Digital system design
**215** Modern control systems
**217** Power electronics
**218** Internet technologies
**219** Computer system engineering

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds courses:

- Relevant higher level courses

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an chartered engineer

Who is this course for?

# LEVEL 7: POST GRADUATE DIPLOMA IN ELECTRICAL ENGINEERING (9210-02)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 7 Post Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (fourth) year of a British BEng degree course.

The City & Guilds Post Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Chartered Engineer registration.

Back to unit overview

# LEVEL 7: POST GRADUATE DIPLOMA IN ELECTRONIC AND TELECOMMUNICATION ENGINEERING (9210-02)

## UNITS

Learners must take three optional units.

**Mandatory Units**

**200** Engineering analysis

**229** Project 2

**Pathway Mandatory Units**

**212** Data communication

**213** Digital system design

**214** Telecommunication systems engineering

**Optional Units**

**215** Modern control systems

**216** RF and microwave engineering

**217** Power electronics

**218** Internet technologies

**219** Computer system engineering

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds courses:

- Relevant higher level courses

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an chartered engineer

› Who is this course for?

# LEVEL 7: POST GRADUATE DIPLOMA IN ELECTRONIC AND TELECOMMUNICATION ENGINEERING (9210-02)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 7 Post Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (fourth) year of a British BEng degree course.

The City & Guilds Post Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Chartered Engineer registration.

Back to unit overview

# LEVEL 7: POST GRADUATE DIPLOMA IN MECHANICAL ENGINEERING (9210-02)

## UNITS

Learners must take three optional units.

### Mandatory Units

**200** Engineering analysis
**229** Project 2

### Pathway Mandatory Units

**220** Computational mechanics using FEM
**221** Heat and mass transfer
**222** Mechanical engineering design

### Optional Units

**223** Mechatronics
**224** Dynamics of mechanical systems
**225** Advanced manufacturing technology
**226** Design and operation of marine vehicles

## UNITS (CONT'D)

**227** Automobile engineering
**228** Aerospace engineering

## ASSESSMENTS

Learners are required to successfully complete the following:

- One short-answer question paper for each unit
- A practical assessment for required units (for more information please refer to the handbook)

## PROGRESS IN LEARNING

On completion of these courses learners may progress into employment or to the following City & Guilds courses:

- Relevant higher level courses

## PROGRESS TO A JOB

These courses can help learners to progress in a wide range of roles including:

- Senior Engineer
- Senior Management

These courses may also help learners to progress towards:

- Becoming an chartered engineer

› Who is this course for?

# LEVEL 7: POST GRADUATE DIPLOMA IN MECHANICAL ENGINEERING (9210-02)

## WHO IS THIS COURSE FOR?

This level is ideal for learners preparing for, or working in, management, with a sound knowledge of technical principles in one or more specialised branches of engineering. The Level 7 Post Graduate Diplomas in Engineering are set at, and an alternative to, the standard of the final (fourth) year of a British BEng degree course.

The City & Guilds Post Graduate Diplomas in Engineering have been developed to provide a flexible route to career success as a professional engineer. City & Guilds is working with the UK's leading professional institutions to ensure that these courses are aligned with the requirements for Chartered Engineer registration.

Back to unit overview

# FREQUENTLY ASKED QUESTIONS

## COMPARISON AGAINST EXISTING QUALIFICATIONS

| | |
|---|---|
| What is the difference between the existing and the new engineering qualifications? | The existing qualifications just introduces learners to a broad overview of engineering, whereas the new engineering qualifications focus on job-specific skills and allow for clear progression, giving learners a greater chance to succeed in a career within engineering.<br><br>The new qualifications also provide a lot more support and guidance around the practical assessments, replacing the existing "checklist" methodology with structured assignments, recording and marking forms, and City & Guilds set exams.<br><br>Please refer to the Qualification Handbooks for further details of course structures.<br><br>Further information can also be found on Sales Caddy, including:<br><br>■ January 2014 webinar - **2850** (.ppt)<br>■ Engineering replacement qualifications (.xls)<br>■ 2850 Mapping document July 2013 (.xls) |
| Can learners progress from **Level 3** to **5** as before? | It is a requirement for learners to take the new **Level 4** qualifications if they are to progress to **Level 5.**<br><br>City & Guilds has developed the new suite of **Level 4** qualifications in engineering to address the gap in the existing provision. As the **Level 4** and **5** qualifications have been designed together, it would be a disadvantage to the learner if they were to take the **Level 5** without first having taken then **Level 4**. |
| Why are there no theory-only qualifications in the new offer? | The new City & Guilds qualifications focus on the practical skills needed to work within the engineering sector. To achieve the full certificate, learners will therefore be assessed on both knowledge and practical skills.<br><br>For those only requiring recognition of theory, then City & Guilds recommend the unit routes available for all qualifications at **Level 1** to **5**. This route allows learners to take individual units and receive certification for each unit achieved.<br><br>A list of the theory-only units is available on Sales Caddy. |

BACK TO OVERVIEW

# FREQUENTLY ASKED QUESTIONS

## COMPARISON AGAINST EXISTING QUALIFICATIONS

| | |
|---|---|
| Will poor internet connectivity prevent us from using **Evolve**? | Evolve tests can be conducted off-line. Centres will need to Advance Download the tests prior to the assessment, and then upload them again once the tests have been completed.<br><br>Centres should refer to the technical requirements and familiarisation materials available on the City & Guilds website. |
| There are missing elements in the new qualification, eg more maths could be added | City & Guilds qualifications are developed in consultation with industry experts and employers. Each qualification has therefore been designed to reflect the skills and knowledge required for specific job roles at different levels.<br><br>Additional content, for example additional maths, can be delivered by centres as part of their training course if required. |
| The new qualifications appear more expensive than the old qualifications? | The new engineering qualifications are up-to-date, more relevant to employers, and come with support materials for no extra charge. The price has therefore been set to reflect the improved offer available to centres. |
| Competitor qualifications have no exams, and are therefore easier to pass | City & Guilds qualifications are developed in consultation with industry experts and employers. Each qualification has therefore been designed to reflect the skills and knowledge required for specific job roles at different levels.<br><br>The assessment methodology is also selected according to the skills and knowledge required to be assessed for each unit, with City & Guilds set exams providing the necessary environment and rigour to test the learners understanding and knowledge of underpinning theory.<br><br>City & Guilds believes that this approach to assessment will make learners better prepared for working within the Engineering industry. |

BACK TO OVERVIEW

# FREQUENTLY ASKED QUESTIONS

## EXITING THE OLD QUALIFICATION

| | |
|---|---|
| Our centre is already set up to deliver the old qualifications, why can't we continue to run them? | The existing qualifications have been out in the market for a long time. It is therefore necessary for City & Guilds to replace them with up-to-date qualifications, which focus on job-specific engineering skills and clear progression opportunities.<br><br>If centres are concerned in making the switch over to the new qualifications, then City & Guilds will be able to provide support. |
| I won't be able to get all of my learners through by the last exam | It is the centres responsibility to manage their learners according to the last exam date.<br><br>Centres should be looking at delivering the new engineering qualifications as soon as possible.<br><br>If learners are unlikely to be ready for the last exam date, and are unable to take the new qualifications, then they must inform their local representative/EV immediately with the number of learners that this is expected to impact. |
| Why do I need approval when I already deliver City & Guilds Engineering **IVQs**? | There are some differences between the new and the existing qualifications, for example, the new qualifications focus more on jon-specific skills. There is also a mandatory unit that requires the use of **Evolve**, our computer-based e-assessment platform.<br><br>City & Guilds would therefore like to ensure that centres are set up, and supported, to deliver the new qualifications. |
| Will I need to pay for the new qualification approval? | This depends on the policy set by the regional office. In most cases centres will be paying for qualification approval.<br><br>Centres should be made aware of the benefit of having an **EV's** support and guidance in setting up the new qualifications, and the improved offer to learners that the new qualifications will bring. |

BACK TO OVERVIEW

# FREQUENTLY ASKED QUESTIONS

## COURSE PREPARATION / SUPPORT MATERIALS

| | |
|---|---|
| Our courses are need to be longer than the recommended qualification length | Additional content can be delivered by centres as part of their training course if required. Centres may want to look at delivering additional units and/or additional qualifications to match the required length.<br><br>Centres should contact the local City & Guilds representative or **EV** to help plan their training course. |
| Other qualifications have textbooks, why doesn't Engineering? | Due to the availability of other engineering textbooks in the market, City & Guilds do not yet see a need to produce one themselves. However, the new Engineering Portfolio is still well supported with SmartScreen materials, including a recommended reading list. |
| Why can't City & Guilds release past papers? | Particularly for skills based qualifications, there is often a limited number of questions that can be asked on a particular topic. Offering past papers may therefore make the exams predictable and of less value.<br><br>Instead City & Guilds offer sample questions and sample question papers so that learners can test their knowledge as well as familiarise themselves with the structure of the exam. |
| Why does **Level 4** and **5** have a different qualification number to **level 1** to **3**? | Qualification numbers are grouped into suites to reflect similar qualification structures, purpose and assessment methodology. This helps to provide clarity and distinction between the different qualifications.<br><br>The **2850** qualifications are aimed at introducing learners to the engineering sector, supporting them to progress to becoming engineering technicians. All qualifications have a similar structure and assessment methodology.<br><br>The **9209** qualifications are aimed at the next stage of a learners career; management and higher level progression. The content and assessments of these qualifications are therefore different to that of **2850**.<br><br>The **9210** is a natural progression from **9209**, supporting learners to progress their career further towards professional status and becoming a senior engineer. Due to the advanced nature of these qualifications, each unit is assessed for both practical and theory. |

BACK TO OVERVIEW

# FREQUENTLY ASKED QUESTIONS

## COURSE PREPARATION / SUPPORT MATERIALS

| | |
|---|---|
| Are free SmartScreen materials available? | SmartScreen materials, including Schemes of Work, Lesson plans, Activities, Handouts and Worksheets are available for **2850** and **2730** for no extra cost. |
| Are all units covered by support materials / SmartScreen? | No. City & Guilds provide support materials for all mandatory units, and selected optional units. City & Guilds provide support materials to help centres set up to deliver new qualifications. However, centres are ultimately responsible for designing and delivering their own training courses based on the City & Guilds qualification handbook. |
| Does **Level 4** and **5** have SmartScreen? | There are support materials available for the **Level 4** and **5** qualifications, but they are found on the website, not the SmartScreen platform. Please look at the **9209** website for Schemes of Work (with recommended reading and resources included), equipment lists, and sample papers.<br><br>City & Guilds do not offer activities, handouts or worksheets s at **Level 4** and **5**, as there is an expectation that learners should be able to self-study at this level. |

## UK ACCREDITATION

| | |
|---|---|
| Why does **Level 4** and **5** not have country of origin accreditation? | OFQUAL, the UK regulator, has strict requirements on qualifications delivered outside the UK.<br><br>City & Guilds are currently working with a number of UK centres and employers in order to gain the necessary support for inclusion of our **Level 4** and **5** qualifications on the National Qualification Framework |
| Why are we looking to put **Level 4** and **5** on the **NQF**, whereas **2850** is on the **QCF**? | The UK currently have two regulatory frameworks, for reasons specific to the UK. The different frameworks were therefore selected as a requirement to get OFQUAL accreditation.<br><br>For International, there is no difference between the frameworks, as qualifications on either framework can be classified as having country of origin accreditation. |

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# FREQUENTLY ASKED QUESTIONS

## MISC

| | |
|---|---|
| Why are there other **2850** pathways showing on Walled Garden / website? | International customers should refer to pathways **2850-80** to **-90** and **-51** to **-52**.<br><br>The following pathways were designed for the UK and may not be appropriate for International markets:<br>**2850-10 / 2850-20 / 2850-26 / 2850-30 / 2850-32 / 2850-33 / 2850-35 / 2850-36 / 2850-38** |
| What is the difference between the UK pathways and International pathways? | The only major difference between the UK and International pathways, is that International have introduced City & Guilds set exams and assignments, whereas the UK pathways require centres to conduct their own assessments. |

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# CUSTOMER SUPPORT

## CUSTOMER SERVICE

At City & Guilds, we take care to ensure that all enquiries and complaints are handled promptly and courteously. Our Customer Relations team is on hand from Monday to Friday between 8am and 6pm GMT, and they'll always seek to resolve any issue immediately.

If that isn't possible, you'll be given a Service Request ID and can expect a resolution within five working days.

We'll always respond to emails, letters and faxes within three working days of receipt, unless you have a complaint, in which case we'll contact you within two working days.

What's more, if we're unable to resolve your complaint within eight days, you'll be given an action plan to monitor progress and keep you informed.

We'll also ask for feedback on how your complaint was handled – just to make sure you're completely satisfied.

**Get in touch**

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# CUSTOMER SUPPORT

## CONTACT LIST

- Europe
- Africa
- Asia Pacific
- Middle East
- South Asia
- India
- Jamaica, Trinidad and Tobago



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# CUSTOMER SUPPORT

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# CUSTOMER SUPPORT

## AFRICA

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