# **Automotive Engineering**

Workbased Award	SVQ 5 Directing Automative Maintenance	SVQ 4 Co-ordinating Automative Maintainance	SVQ 3 Vehicle Mechanical and Electronic Systems: Maintenance and Repairs	SVQ 2 Vehicle Maintenance:	Service Kepiacement SVQ 1	Vehicle Maintenance: Service Replacement	
Type of job	Design Engineer	Service Manager	Vehicle Technician Auto Mechanic Auto Electrician	Vehicle Body Repair/ Painting Craftsperson	Warehouse Person Parts Fitter		a the following needs Dee
School, Further and Higher Education Qualification awards		HND Automotive Engineering and Management	HNC Automotive Engineering	SGA at Higher Level Engineering: Automotive	SGA at Int 2 Level Engineering		Envisoration and A full list of all SOA amplifications is on the following many Dands and many usudianlist
School, Further and Higher		Degree BEng Automotive Engineering			School and College Programmes of National Units		Automotive Engineering office
ns and jobs			Courses and SGAs at Advanced Higher Level	Courses at Higher Level	Courses at Int 2 Level Courses at Int 1 Level	Clusters at Acc 3 Clusters at Acc 2	This discussion attlians the monitorities discussion that Automotive
3: qualifications and jobs			Course: Advance		Standard Grades Credit	General Foundation	This discussion

This diagram outlines the main qualifications in the Automotive Engineering area. A full list of all SQA qualifications is on the following pages. People can progress vertically from one qualification to another, eg from a Course at Int 1 to a Course at Int 2. In addition people can progress diagonally from one level of Standard Grade to a higher level of Course or SCOtish Group Award (SGA), eg from Standard Grade at General level to Courses or SGAs at Int 2 level.

In this diagram, SVQs and PDAs in the Vocational sector are placed according to current practice and usage in illustrating the relationships and pathways between qualifications, jobs and careers.

# **Automotive Engineering**

# 4. qualifications

# **HND**

Automotive Engineering and Management

# **HNC**

Automotive Engineering Automotive Management

# **PDA**

# Certificate

Motor Vehicle Systems
Motor Vehicle Systems Diagnostics
Motor Vehicle Repair and Body Refinishing

# **SGA**

# Higher

Engineering: Automotive Engineering Int 2

Engineering

# **National Course**

# **Higher**

Automotive Diagnostics

# **Intermediate 2**

Automotive Engineering

# **NC Group Award**

Motor Vehicle Repair and Body Re-finishing Motor Vehicle Systems

# SVQ 5

**Directing Automotive Maintenance** 

# SVO 4

Co-ordinating Automotive Maintenance

# SVQ 3

Maintaining Automotive Vehicles: Electrical/Electronic

Maintaining Automotive Vehicles: Mechanical

Motorcycle Mechanical and Electronic Systems: Maintenance and Repair

Vehicle Body Re-finishing Vehicle Body Repair

Vehicle Mechanical and Electronic Systems: Maintenance and Repair: Heavy Vehicle Vehicle Mechanical and Electronic Systems: Maintenance and Repair: Light Vehicle

# SVQ 2

Maintaining Automotive Vehicles

Maintaining Automotive Vehicles: Body Structures and Cladding

Vehicle Body Fitting

Vehicle Maintenance: Service Replacement

Vehicle Mechanical and Electronic System Unit Replacement: Light Vehicle

# SVQ 1

Maintaining Automotive Vehicles

Vehicle Maintenance: Service Replacement

# **Automotive Engineering**

# 5. notes on entry to jobs and careers

# **Entry routes**

- School leavers could enter FE courses at National Certificate or Higher National Certificate depending on school qualifications.
- **Direct entry into employment** it is possible to obtain employment before or after FE courses.
- Adult entry mature entrants would normally enter a National Certificate programme; a bridging course may be necessary depending on qualifications and experience.

# SVQ access

SVQs are normally workbased and obtained after or during FE courses.

# **Entry requirements**

- For some jobs listed no formal qualifications will be required.
- Entry to an SGA ranges from no formal qualifications to two Standard Grades. Science and Technology subjects are important.
- HNCs/HNDs will normally require an appropriate SGA or one or two Highers, plus 3 to four Standard Grades, including English and Maths.
- Degree courses will usually require three or four Highers including Maths and Physics or Technological Studies plus appropriate Standard Grades; or appropriate HNC/HND.

**Note** — entry requirements vary between institutions. Check prospectuses before applying.

# 2. jobs and careers

# **Chartered Engineer**

Is someone who carries out the design, development and manufacture of electronic equipment and systems for many applications, eg computers, communication.

# **Incorporated Engineer**

Is someone who plans and controls large electronic control equipment and systems, supervises craft and technician staff.

# Electronic Engineering

# **Electronic Technician**

Is someone who installs electronic equipment and systems, carries out fault diagnosis and repairs and tests and reports on system condition.

# **Electronic Assembly Worker/Setter**

Is someone who mounts components on printed circuit boards, carries out routine maintenance and checks and changes systems.

# **Machine Operator**

Is someone who loads and operates machines for automatic assembly

	3: qualifications and jobs	and jobs	School, Further and Higher	School, Further and Higher Education Qualification awards	Type of job	Workbased Award
			Degree BEng/BSc		Chartered Engineer	
			Electronic Engineering B Eng Electronic	HND Electronic and Electrical Engineering	Incorporated Engineer	
10 I			Engineering with Management	HNC	Electronic Technician	SVQ 3 Servicing Electronic
ENGINE	Courses and SGAs at Advanced Higher Level	l SGAs at gher Level		Electrical Engineering Electronic and Electrical Engineering		Systems
ER						
ING	Courses at Higher Level	igher Level		SGAs at Higher Level Engineering: Electronics	Electronic Assembly	SVQ 2
	Standard	Courses at Int 2 Level		SGA at Int 2 Level	Worker/Setter Machine Operator	Servicing Electronic Systems
	Grades	Courses	School and College Programmes	giirigaing	macinic Operator	
	Credit	at Int 1 Level	of National Units	SGAs at Int 1 Level		SVQ 1
	General	Clusters at Acc 3				Electronic Product Assembly
	Foundation	Clusters at Acc 2		Skillstart and SGAs at Acc 2 & Acc 3		
	This diagram outlines the from one qualification to	L e main qualifications in the another, eg from a Cour.	he Electronic Engineering area. A se at Int 1 to a Course at Int 2. In	This diagram outlines the main qualifications in the Electronic Engineering area. A full list of all SQA qualifications is on the following pages. People can progress vertically from one qualification to another, eg from a Course at Int 1 to a Course at Int 2. In addition people can progress diagonally from one level of Standard Grade to a higher	i the following pages. Peopl / from one level of Standa	i le can progress vertically rd Grade to a higher

lly level of Course or Scottish Group Award (SGA), eg from Standard Grade at General level to Courses or SGAs at Int 2 level.

In this diagram, SVQs and PDAs in the Vocational sector are placed according to current practice and usage in illustrating the relationships and pathways between qualifications, jobs and careers.

# 4. qualifications

# **HND**

Audio Engineering

Electronic and Electrical Engineering Electronic and Electrical Systems

Electronic Engineering Electronic Systems

Electronics with Music Technology Engineering: Computer Technology

Engineering: Electronics

Engineering: Electronic Manufacture Engineering: Telecommunications

# **HNC**

Audio Engineering

Electronic and Electrical Engineering

Electronics

Engineering: Electronics

Engineering: Electronic Manufacture

Engineering: Practice

Engineering: Telecommunications

Television and Audio Visual Media Engineering

# **PDA**

# **Adv Certificate**

Engineering Practice: Electromechanical

# **SGA**

# Higher

Engineering: Electronics

Int 2

Engineering

# **GSVQ III**

Engineering: Electronic and Electrical

Engineering: Practice

Technology

# **GSVQ II**

Engineering Technology

# **National Course**

# **Adv Higher**

Electronics

# **Higher**

Electronics

Process Control

Process Measurement

Telecommunications

# Int 2

Electronic and Electrical Fundamentals

# Int 1

Applied Practical Electronics

# **NC Group Award**

Electronic Engineering

Electronic Engineering Practice

# SVQ 3

Operating and Maintaining the Performance of Telecommunications Equipment Repair Cellular Terminal Equipment Servicing Electronic Systems (Field) Servicing Electronic Systems (Workshop) Servicing Software (Support Centre) or (Field)

# SVQ 2

Electronic Product Assembly and Rectification
Installing and Maintaining Aerial Equipment and Associated Feeders
Performing Engineering Operations
Printed Circuit Board Assembly and Repair
Servicing Electronic Systems (Field)
Servicing Electronic Systems (Workshop)
Servicing Software (Support Centre)

# SVQ 1

Electronic Product Assembly
Installing Fibre Optic Communications Links
Printed Circuit Board Assembly
Surface Mount Technology and Automatic Assembly and Repair

# 5. notes on entry to jobs and careers

# **Entry routes**

- ◆ **School leavers** could enter FE courses at NC, HNC, HND level or HE courses at degree level depending on school qualifications.
- ◆ **Direct entry into employment** is possible before or after FE or HE courses.
- Adult entry mature entrants would normally enter a National Certificate programme; a bridging course may be necessary depending on qualifications and experience.

# SVQ access

SVQs are normally workbased and obtained after or during FE or HE courses.

The Professional Qualifications of Technician, Incorporated Engineer and Chartered Engineer are awarded by the Engineering Council. In addition to appropriate academic qualifications candidates must have work experience and undertake further work-based training and awards. They must also hold an appropriate post of responsibility.

# **Entry requirements**

- Some jobs require no formal qualifications
- Entry to an SGA ranges from no formal qualifications to three or four Standard Grades. Useful subjects include English, Maths, Physics, Technological Studies, Craft and Design, Computing
- HNCs/HNDs require an appropriate SGA or two Highers and three Standard Grades including Maths, Physics or Technological Studies
- Degree courses will usually require three or four Highers including Maths and Physics or Technological Studies and Standard Grades; or appropriate HNC/HND.

**Note** — entry requirements vary between institutions. Check prospectuses before applying.

# 2. jobs and careers

