



Association of British Theatre Technicians

Registered Charity No: 282069

55 Farringdon Road London EC1M 3JB

Tel: 020 7242 9200 Fax: 020 7242 9303 Email: training@abtt.org.uk Web: www.abtt.org.uk

Certificated courses designed for theatre technicians



BRONZE AWARD

- ***ABTT Bronze Award Courses for Theatre Stage Technicians***



SILVER AWARDS

- ***ABTT Silver Award Courses for Theatre Stage Technicians***
- ***ABTT Silver Award Courses for Theatre Stage Electricians***
- ***ABTT Silver Award Courses for Theatre Sound Technicians***



GOLD AWARDS

- ***ABTT Gold Award Courses for Theatre Sound Technicians***
- ***ABTT Gold Award Courses for Theatre Stage Electricians***
- ***ABTT Gold Award Courses for Theatre Stage Technicians***

	<p>Bronze Award Theatre Technicians Electrical Fundamentals Knots & Splicing Fundamentals of flying Access equipment and mobile towers Manual Handling and Introduction to Health & Safety</p>	
<p>Silver Award Theatre Stage Technicians In-service Inspection for Lifting Gear 1 In-service Inspection for Lifting Gear 2 Practical Rigging 1 Practical Rigging 2 Work at height with PPE</p>	<p>Silver Award Theatre Electrician Electronics Fundamentals 1 Portable Appliance Testing Electrical Installation Design Electrical Inspecting & Testing Work at height with PPE</p>	<p>Silver Award Theatre Sound Technician Electronics Fundamentals 1 Portable Appliance Testing Sound Essentials Communications Work at height with PPE</p>
<i>Bronze & Silver Awards</i>	<i>accredited by RCS</i>	<i>To level SCQF 7 & 8</i>
<p>Gold Award Theatre Stage Technicians Stage Structures Technical Drawing /AutoCAD Risk Management</p>	<p>Gold Award Theatre Stage Electrician Electronics Fundamentals 2 Electrical Installation & Fault finding Risk Management</p>	<p>Gold Award Theatre Sound Technician Electronics Fundamentals 2 Sound Acoustics & Design Risk Management</p>



Royal Conservatoire
of Scotland

*Courses accredited by
Royal Conservatoire of Scotland*



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BRONZE Certificated Award for Theatre Technicians

Your Passport to Safety

- **Electrical Fundamentals**
The course content includes accompanying documentation to cover Basic Electricity – Atom – electron flow – conductors – insulators – switching – measuring – resistance – power – Electrical supply – generation – AC / DC – frequency – three phase. An introduction to IEE Regulations.

- **Access equipment and mobile towers**
Falls from height are the biggest single cause of fatalities and major injuries at work. This course is designed to enable theatre staff to use the kind of scaffold, towers and ladders used in theatres. It includes safe use, dismantling and inspection of aluminium towers. It reviews current regulations and the importance of record keeping. There is a strong practical bias to this course.

- **Knots & Splicing**
The course covers the handling of different ropes and tying knots proficiently and safely. Teaching by practical demonstration knots that are useful in a theatre situation. Learn to differentiate between the difference natural fibre ropes. Splice rope ends. Tools for splicing, manila, hemp and sisal ropes. Knots including bowline, clove hitch, reef knot, wagon hitch, rolling hitch and sheet bend. Long and short splicing.

- **Fundamentals of Flying**
The course objectives are to teach the safe handling of counterweight sets and hemp and will cover: terminology, parts of a counterweight set, loading and unloading, operating, first line maintenance, single and double purchase systems, putting knots into practice, tying off at a pin rail, spotting and other methods of hanging. This course is still relevant to venue technicians who operate only hemp flying.

- **An Introduction to Health & Safety and Manual Handling**
It has been estimated that more than one-third of all workplace accidents are caused by manual handling activities. The risks of manual handling include musculoskeletal injuries and injuries caused by the handler falling. The Manual Handling Operations Regulations 1992 impose a duty on employers to avoid the risk of injury to employees through instruction and induction. This course directly relate to theatres, stage technicians and workshop staff. The course now discusses the TMA / BECTU Code of Conduct for Fit-ups and Get-Outs. C&G cert.

Followed by Bronze Award multi-choice test

The Bronze Award is run 'on demand' and we welcome enquires from venues interested in hosting this Award.



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SILVER Certificated Awards Courses designed for Theatre Electrician

- **Electronics Fundamentals 1**
The course covers basic electrical/electronic theory and soldering skills, culminating in the analysis and assembly of a battery powered impedance continuity tester. The course covers Voltage, current, power, resistors. OHMS Law, sine wave, square waves, alternating current, direct current, capacitors, inductors, fuses, MCBs, ECB, ELCB, diodes and transistors.

- **Portable Appliance Testing**
The course will set out systems to organise the Portable Appliance Testing of theatre electrical equipment and for theatre electricians to comply with the Electricity at Work Act Regulations for inspecting & testing of Portable Appliances. Course includes visual inspection and Electrical Testing; Testing Periods: Record keeping: managing the system of inspection and testing; selection of suitable testing instruments.

- **Electrical Installation Design Part 1**
This course considers circuit design in relation to theatre and studio. The objectives are to highlight potential problems with cabling installations and how to choose and install the correct cable run. The course content includes cable types, current capacities, voltage drop, length of run, trunking, cable tables, BS 7671 IEE Wiring Regulations 17th Edition and use of drawings in theatre.

- **Electrical Inspection and Testing**
This course teaches how to interpret the legislation and codes of practice when testing electrical installations. The objective is the understanding of the requirements of BS 7671 IEE Wiring Regulations 17th Edition and Electricity at Work Act 1989. Contents include continuity, insulation resistance, polarity, earth fault loop impedance, and residual current device testing. It also covers Inspection and Testing Certification.

- **Work at height with PPE**
This is intended as an introduction to working at height in the entertainment industry. The module includes methods and best practice in using personal protective equipment for working at heights. Its aim is to impart knowledge using PPE when working at height and an understanding of the Work at Height Regulations.

Followed by Silver Award Electrical Test

Silver courses are open to successful Bronze Award candidates and are run each year at the ABTT Summer School held in Warwick Arts Centre, Coventry.



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SILVER Certificated Awards Courses designed for the Theatre Sound Engineer

Electronics Fundamentals 1

The course covers basic electrical/electronic theory and soldering skills, culminating in the analysis and assembly of a battery powered impedance continuity tester. The course covers Voltage, current, power, resistors. OHMS Law, sine wave, square waves, alternating current, direct current, capacitors, inductors, fuses, MCBs, ECB, ELCB, diodes and transistors.

Portable Appliance Testing

The course will set out systems to organise the Portable Appliance Testing of theatre electrical equipment and for theatre electricians to comply with the Electricity at Work Act Regulations for inspecting & testing of Portable Appliances. Course includes visual inspection and Electrical Testing; Testing Periods: Record keeping: managing the system of inspection and testing; selection of suitable testing instruments.

Sound Essentials

The first of a series of courses dealing with sound techniques. Sound Essentials covers the important theoretical knowledge that an otherwise competent sound engineer or venue technician needs to understand. Topics covered include understanding the fundamentals of sound, making the right connections, gain structure, signal to noise ratio, loudspeaker impedance, microphone types, and a brief introduction to digital theory.

Sound Communications

The good sound engineer or theatre technician needs to be proficient in sound communication systems used today. The module looks at the different types of communication systems used in theatre to keep the show running reliably. Wired headsets systems, show relay and paging, cue lights, CCTV, analogue and digital wireless talkback systems, and how to interface several systems together effectively.

Work at height with PPE

This is intended as an introduction to working at height in the entertainment industry. The module includes methods and best practice in using personal protective equipment for working at heights. Its aim is to impart knowledge using PPE when working at height and an understanding of the Work at Height Regulations.

Followed by Silver Award Multi-choice Sound Test

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ABTT Summer School held in Warwick Arts Centre, Coventry.



SILVER Certificated Awards Courses designed for The Stage Technician

□ In-Service Inspections for Lifting Gear & Safe Use of Slings part 1

This is a two-part course. Part 1, which covers theory, The course brings theatre technicians up-to-date with regulations such as Machinery Directive / Supply of Machinery (Safety) Regulations; Lifting Operations & Lifting Equipment Regulations (LOLER) and Provision and Use of Work Equipment Regulations (PUWER) and is designed to equip the theatre technicians with a good understanding of their responsibilities and knowledge about how to perform their tasks efficiently and safely.

□ In-Service Inspections for Lifting Gear & Safe Use of Slings part 2

Part two builds on part one (above) and introduces the practical element of inspecting and use of lifting gear. Candidates must have completed part one.

□ Practical Rigging 1

This module has a strong practical bias and teaches how to rig chain hoists and trusses using man-made and steel wire rope slings. The procedure and safe operation of electric chain hoists are fully explained.

□ Practical Rigging 2

Rigging two is a day of problem solving, reviewing techniques and further training in the use of lifting and rigging equipment. This session seeks to test the understanding and skill of the technician in using a range of rigging equipment to hang hoists efficiently using a safe system of work. Technicians will work in pairs to carry out rigging tasks and will need to bring suitable clothing and footwear.

□ Work at height with PPE

This is intended as an introduction to working at height in the entertainment industry. The module includes methods and best practice in using personal protective equipment for working at heights. Its aim is to impart knowledge using PPE when working at height and an understanding of the Work at Height Regulations.

Followed by Silver Award Stage Test

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An intensive three day Certificated Awards Courses designed for Theatre Electricians

□ Electronic Fundamentals 2

This course builds on the theory of Part one Silver Award and an analysis of integral components of an integrated circuit, voltage divider, operational amplifier, logic gates and output drivers and looks at typical equipment application within a theatre environment. This course will look at theatre application within dimmers, lighting and sound control systems using DMX and Ethernet

□ Electrical Applications & Electrical Installation Design

This unit will investigate principles behind the operation of electrical equipment such as motors, generators and transformers. It will enable you to understand the circuitry that will assist in the correct selection of equipment and for fault diagnosis.

You will be looking at the effects of power factor and the effects of balanced and unbalanced phases.

□ Risk Management 1

Risk management is a tool to allow you to work safely. This course deals with the requirement for risk assessment, how to carry out risk assessments and how to record them. It identifies what actions are required under the regulations in terms of supervision, training, provision of information and ensuring competent risk assessments by managers and supervisors. The module takes place in the workplace situation in such a way as to leave the candidate with a clear grasp of current requirements.

Followed by Gold Award Electrical multi-choice test.

Additional course work is also required to complete this Award.



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Electronic Fundamentals 2

This course builds on the theory of Part one Silver Award and an analysis of integral components of an integrated circuit, voltage divider, operational amplifier, logic gates and output drivers and looks at typical equipment application within a theatre environment. This course will look at theatre application within dimmers, lighting and sound control systems using DX and Ethernet.

Advanced Sound

This course will cover the more advanced theoretical and practical skills that a sound engineer or venue technician may need to know. Advanced Sound follows on well from Sound Essentials included in the Silver Award and it is assumed that delegates will have already taken this course or acquired this level of knowledge through some other means. Topics in Advanced Sound include sound wave theory, digital theory, MIDI, harmonic series, acoustics, reverberation time, Haas effect. Different styles of drawing sound system plans will be examined and there will be a practical exercise using a computerised playback system. The course will also look at the knowledge required to design sound systems for musical theatre. Many aspects will be examined from the different approaches to using microphones and loudspeakers, the use of radio microphones and in-ear monitoring, the effect that the venue acoustics will have on the sound, and finally the part that the audience plays in the process. To allow more detailed investigation of the topics covered, delegates should bring a Windows laptop to use during the course; free software will be provided.

Please note that this course includes an **evening session** and also some project work that will need to be completed after the course and submitted to the course tutor for assessment.

Risk Management 1

Risk management is a tool to allow you to work safely. This course deals with the requirement for risk assessment, how to carry out risk assessments and how to record them. It identifies what actions are required under the regulations in terms of supervision, training, provision of information and ensuring competent risk assessments by managers and supervisors. The module takes place in the theatre workplace situation in such a way as to leave the candidate with a clear grasp of current requirements.

Followed by Gold Award Sound multi-choice test.

Additional course work is also required to complete this Award.



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Technical Drawing for Theatres

Drawings are a vital part of any production planning. This course will discuss what drawings are for, what drawings are required and who has responsibility for creating them. What should drawings look like, what are the standards and what must every drawing contain for clarity? The course will include information on both paper based systems and CAD systems used in a theatrical environment. A look at venue drawings and how reliable they are as well as simple surveying and marking out techniques for the stage.

Stage Structures

An introduction to basic engineering concepts applicable to stages and scenery. The aim is to impart an awareness of mechanical and structural principles; and to give the technician an appreciation of engineering issues relating to stage structures. Topics include: beams, columns & ties; forces and types of loading; modes of failure; joints and supports; mechanical advantage; design standards. With an emphasis on realistic examples and practical experience this subject will be covered through presentation and discussion. It is hoped to include an opportunity to consider participants' own examples within the scope of the course.

Risk Management

Risk management is a tool to allow you to work safely. This course deals with the requirement for risk assessment, how to carry out risk assessments and how to record them. It identifies what actions are required under the regulations in terms of supervision, training, provision of information and ensuring competent risk assessments by managers and supervisors. The module takes place in the theatre workplace situation in such a way as to leave the candidate with a clear grasp of current requirements.

Followed by Gold Award Stage multi-choice test.

Additional course work is also required to complete this Award.