



acoustics research labs

# KP Acoustics provide a range of accredited training courses in noise and vibration.

We offer a wide range of accredited, certified, and bespoke courses, designed to meet the diverse needs of our clients. From specialised training to custom-designed courses tailored to your specific requirements, we provide flexible solutions for professional development. Additionally, our e-learning materials can be integrated directly into your Learning Management System, making it easy to deliver training on your own platform.

For the latest dates, availability and pricing, please call KP Acoustics Research Labs on 0238 2544 965 or send an email to <u>education@kpacoustics.com</u>

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# **Bespoke Courses**

At KP Acoustics Research Labs, we specialise in delivering bespoke training courses tailored to meet the diverse needs of our clients. Whether you're part of a sales team selling acoustic products, a technical department, a local authority, or an architectural firm, our expert-led courses are designed to enhance your understanding of acoustics and its practical applications. Our training ensures that sales teams can confidently engage with clients, technical professionals can master the latest industry standards, and architects can seamlessly incorporate acoustic considerations from the very start of their projects.

From foundational knowledge to advanced topics, our courses are customised to suit your industry's specific requirements, ensuring you gain the insights and skills needed to excel in the world of acoustics. Discover the difference our targeted training can make for your team.

# Institute of Acoustics (IOA) Accredited Courses

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# IoA Advanced Certificate in Report Evaluation (ACRE)

#### What is the course?

Report writing is an important aspect of every Organisation. It represents the final product of any project, and a poorly written report can undermine the work that has previously been undertaken. Over and above the preparation of a report, the person responsible for reviewing and authorising a report and the recipient who needs to evaluate the information need an additional skillset to both interpret the information and identify where information may be incorrectly presented, vague or missing, as well as being able to assess the quality of presentation.

This course aims to provide delegates with the skill set required to critique and evaluate acoustic technical reports. A detailed review of the various report structures available will reveal the expected content of each of the relevant sections and the critiquing skills developed on the Course will focus on the aspects of a report that needs to be reviewed during scrutiny.

#### Who is it suitable for?

While the course is appropriate to a wide audience it is aimed primarily at those in senior positions in Acoustics and Engineering Consultancies, Pollution/Environmental Health and Planning and Development offices, who will be required to review and authorise reports written by others.

#### **Course Objectives**

On successful completion of the course a candidate should be able to:

- Evaluate the scope, structure and content of a technical report and judge whether it is appropriate for the intended audience and purpose;
- Evaluate the extent to which relevant materials, including guidance documents and standards, have been correctly utilised in the preparation of the report;
- Evaluate whether data have been presented in the most appropriate format;
- Evaluate whether deviations from prescribed measurement and calculation procedures and their implications have been adequately explained and whether uncertainty has been adequately considered in the report;
- Assess the extent to which the assessment correctly reflects the results;
- Appreciate and discuss the importance of a clearly structured Report.

#### Dates

# IoA Certificate of Competence in Building Acoustics Measurements (CCBAM)

#### What is the course?

This five-day course provides a basic knowledge of the methodology for measuring and reporting sound insulation and aspects of room acoustics, together with relevant provisions of key standards and guidance.

#### **Course objectives**

The main aim of CCBAM is to train delegates to carry out and report upon sound insulation tests on walls and floors, in accordance with relevant standards and regulatory instruments.

On completion of this course, candidates should be able to:

- Explain key concepts in building acoustics and sound insulation, and understand the role of standards, legislation and guidance documents.
- Set up and calibrate sound source and measuring equipment and perform simple routine checks to ensure that the equipment is working properly.
- Undertake appropriate measurements to meet requirements for airborne and impact sound insulation testing.
- Calculate appropriate metrics in accordance with associated standards for sound insulation testing.

#### Who is it suitable for?

This course does not assume prior experience in acoustics. It is suitable for anyone wishing to become a registered tester with a company accredited through a scheme recognised by building control officers. While particularly suitable for early career acoustic consultants it is also appropriate for students, graduates or technicians wishing to gain employment in the acoustics industry, or those within other fields of acoustics wishing to expand their skillset or change specialisms. It is also relevant to people working in associated roles, such as construction management, architecture, building control or planning officers.

#### Delivery

The course is delivered in classroom format due to the practical nature of the course and assessment.

#### Dates

# IoA Certificate of Competence in Environmental Vibration Measurements and Assessments (CCEVMA)

#### What is the course?

This course aims to provide you with an understanding of the effects of environmental vibration from roads, railways and construction sites on people, buildings, and sensitive equipment, as well as knowledge of the how to undertake environmental vibration measurement.

The course covers the core methodologies and standards used including correct selection of vibration transducer and analyser and mounting and positioning of transducers. You will also examine the role of measurement data within the framework of standards and legislation for environmental vibration.

#### **Course objectives**

On successful completion of the course a candidate should be able to:

- Understand basic vibration principles.
- Make reliable vibration measurements according to the requirements of relevant British Standards or guidance.
- Post process vibration measurement results and perform basic calculations on the data.
- Present and interpret vibration measurement data in a form suitable for inclusion in a report and describe the measurement methodologies used.

#### Who is it suitable for?

This course is suitable for anyone who has a need to assess the impact of environmental vibration, and is particularly relevant to acoustic consultants, environmental health officers, environmental consultants, planning and licensing officers.

#### Dates

# IoA Certificate of Competence in Technical Report Writing and Preparation (CCTRWP)

#### What is the course?

Technical reports are an important aspect of every Organisation. A report represents the final product of a project, and a poorly written report can undermine the extensive work that has previously been completed, obscure important findings and potentially alienate stakeholders.

Examples of poor reports include those which are poorly structured, those that contain too much or too little information, those peppered with grammatical errors and inconsistencies, and those that don't clearly highlight the key outcomes.

The aim of this course is to provide guidance on elements of good practice related to acoustic report writing and communication. The Course will review the various Report structures available and provide a detailed overview of what the relevant sections would normally contain. It will also consider the importance of presentation skills.

#### **Course objectives**

On successful completion of the course a candidate should be able to:

- Plan the preparation of a report, including determination of its scope and purpose.
- Structure a report that represents good practice, with a clear and appropriate assessment method, appropriately presented data and which is tailored to the audience.
- Identify and, if necessary, justify any deviations from any recommended measurement, calculation and/or assessment procedures.
- Explain how uncertainty and measurement errors have been considered, and their possible impact on the overall outcome.
- Highlight and present the key outcomes and recommendations arising from the project.

#### Who is it suitable for?

The course is intended to be appropriate to a wide audience, but should be useful particularly for early career employees, in Acoustics or Engineering Consultancies, Pollution/Environmental Health Offices or Planning and Development offices.

#### Dates

# IoA Certificate of Competence in Workplace Noise Risk Assessments (CCWNRA)

#### What is the course?

This course aims to enable you to carry out workplace noise assessments in a competent manner, as required by the Control of Noise at Work Regulations 2005.

Demand for competent noise exposure assessments is increasing and this course is designed to provide the essential acoustics background to understand the measurements and the relevant legislation, combined with `hands on' practical experience of industrial noise measurements and associated assessment of workplace noise exposure.

#### **Course objectives**

On successful completion of the course a candidate should be able to:

- Understand the requirements of the Control of Noise at Work Regulations 2005.
- Understand the essential noise indices specified by the regulations.
- Demonstrate competence in the use of a sound level meter and noise dosimeter to measure occupational noise exposure
- Demonstrate ability to assess overall noise risk from measurements and make recommendations to ensure safety of workers.
- Communicate procedures, results and recommendations clearly in a written report.

#### Who is it suitable for?

This course is particularly suitable for health and safety officers, occupational health specialists, estates managers, construction managers and acoustic consultants.

#### Dates

# IoA Certificate of Competence in Environmental Noise Measurements (CCENM)

#### What is the course?

This five-day course seeks to provide delegates with a basic knowledge of the methodology of environmental noise measurement, including the use and accuracy requirements of sound level meters and analysers and to enable them to be aware of the significance of measurement data against the framework of standards and legislation for environmental noise.

#### **Course objectives**

On completion of this course, delegates should be able to:

- Explain key concepts in environmental noise, and understand the role of standards, legislation and guidance documents.
- Perform basic noise calculations involving noise indices appropriate for environmental noise
- Make reliable measurements of background noise and noise from a variety of sources, according to the requirements of the relevant standards or guidance
- Present and interpret measurement data in a form suitable for inclusion in a report
- Describe measurement methodologies used and the data acquired and appreciate the measurement information required for reports and environmental appraisals.

#### Who is it suitable for?

This course is suitable for anyone who is responsible for undertaking environmental noise measurements or for setting or assessing noise requirements for licensing and planning purposes. This includes acoustic technicians, early career acousticians, environmental consultants, environmental health officers, planning and licensing officers.

#### Delivery

The course is delivered in a classroom format due to the practical nature of the course and assessment.

#### Dates

# IoA Certificate of Competence in Environmental Vibration Measurements and Assessment (CCEVMA)

#### What is the course?

This course aims to provide you with an understanding of the effects of environmental vibration from roads, railways and construction sites on people, buildings, and sensitive equipment, as well as knowledge of the how to undertake environmental vibration measurement.

The course covers the core methodologies and standards used including correct selection of vibration transducer and analyser and mounting and positioning of transducers. You will also examine the role of measurement data within the framework of standards and legislation for environmental vibration.

#### **Course objectives**

On successful completion of the course a candidate should be able to:

- Understand basic vibration principles.
- Make reliable vibration measurements according to the requirements of relevant British Standards or guidance.
- Post process vibration measurement results and perform basic calculations on the data.
- Present and interpret vibration measurement data in a form suitable for inclusion in a report and describe the measurement methodologies used.

#### Who is it suitable for?

This course is suitable for anyone who has a need to assess the impact of environmental vibration, and is particularly relevant to acoustic consultants, environmental health officers, environmental consultants, planning and licensing officers.

#### Dates

## IoA Diploma in Acoustics and Noise Control

#### What is the course?

The Diploma course is a yearlong, part time course which provides high level training in realworld practical acoustics, covering a range of core topics. The Diploma is widely recognised as the leading specialist qualification for the professional practitioner in acoustics.

Satisfactory completion of the Diploma enables candidates to gain Associate membership of the Institute of Acoustics (AMIOA), which can be upgraded to full membership (MIOA) after 3 years in relevant employment.

#### **Course objectives**

On successful completion of the course, the delegate should be able to:

- Describe, quantify, predict, measure and analyse sound and vibration signals in a variety of situations.
- Describe the physiological and subjective responses of humans exposed to noise and vibration, quantify the exposure and assess the response.
- Select and use appropriate legislation, statutory regulations, standards and codes of practice relating to the assessment and control of noise and vibration.
- Understand and demonstrate the correct usage of a range of sound and vibration measuring equipment.
- Undertake independent acoustic investigations, managing time and resources and communicating results effectively using written and oral formats.

#### Who is it suitable for?

The IOA Diploma is designed for anyone who has graduated in a discipline other than acoustics who wish to gain employment as an acoustician, or wants to progress from a acoustic technician level to a consultant/engineer position.

It is also suitable for those who need a high level of understanding of acoustics in their role such as environmental health officers, planning and licensing officers, environmental consultants and theatre consultants.

#### Delivery

The course is delivered in person over 5 x 1-week segments over the academic year. Attendance is required on-site for sessions involving practical's and labs and advised throughout the duration of the course.

#### Dates:

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## **Building Acoustics Modelling and Auralisation**

#### What is the course?

The acoustic performance of buildings is commonly modelled and predicted at the design stage in order ensure that designs are as close to performance targets as possible and that fundamental errors are eliminated. Many modern software packages also allow you to listen to the building acoustic before construction (auralisation). This course introduces the different approaches to modelling the performance of a building and examines the underlying theory, as well as the benefits and possible pitfalls of using modelled data for building acoustics assessment.

#### **Course objectives**

On completion of this course, delegates will be able to:

- Understand the key modelling approaches used for building acoustics (statistical modelling, geometrical acoustic modelling, solving the wave equation and scale modelling).
- Understand core metrics which can be obtained from different modelling types.
- Understand the benefits and limitations of each type of modelling approach.

#### Who is it suitable for?

This is suitable for anyone who may be new to acoustic modelling, and who has a requirement to commission or undertake acoustic modelling for building acoustics. Examples include early career acousticians, acoustic technicians, estates managers, audio engineers, architects, architectural technologists, planning officers and students.

#### Delivery

This half-day course can be delivered on request, and may be delivered online, at our offices or in-person at your premises.

#### Dates:

### **Construction Noise**

#### What is the course?

Construction and demolition projects are required to manage their impact on the environment, including the noise impact which activities may have on the surrounding areas. This 4 to 5-day course gives delegates a comprehensive overview of the causes of noise in construction and demolition, the methods of assessing and predicting impact from these activities as well as mitigating noise impact on the local area. It covers the relevant regulatory instruments, the planning process and the structure of Section 61 applications for works which are likely to have a significant impact on the neighbourhood due to noise and vibration.

The course includes 4 days of tuition with an optional 5th day for assessment, via a case study, simple Section 61 application from the candidate.

#### **Course objectives**

On completion of this course the delegate should be able to:

- Understand the principles of Human response to noise and vibration
- Understand Common construction noise and vibration sources and how these can be predicted, monitored and measured.
- Understand the concept of potential adverse impacts and nuisance and threshold levels for noise and vibration
- Understand core requirements and application of appropriate regulatory instruments such as the Control of Pollution Act, Environmental Protection Act, and role of Section 61 applications,
- Understand Planning conditions, consent and variation notices and Abatement notices

#### Who is it suitable for?

This course is suitable for anyone involved in commissioning, managing or monitoring construction sites, as well as for those involved in the planning and licensing process. This includes junior acoustic Consultants, acoustic technicians, junior environmental noise consultants, construction site environmental coordinators or managers, construction site agents and consent managers.

#### Delivery

This 5-day course may be delivered at our offices or in-person at your premises.

#### Dates:

### **Environmental Vibration Control**

#### What is the course?

This five-day course seeks to inform candidates about the effects of environmental vibration from roads, railways and construction sites on people, buildings, and sensitive equipment. It covers basic knowledge of the methodology of environmental vibration measurement including correct selection of vibration transducer and analyser and mounting and positioning of transducers and the role of measurement data within the framework of standards and legislation for environmental vibration.

#### **Course objectives**

After completing the course delegates should be able to understand basic vibration principles, make reliable vibration measurements according to the requirements of relevant British Standard or guidance, post process vibration measurement results and perform basic calculations on the data and present and interpret vibration measurement data in a form suitable for inclusion in a report and describe the measurement methodologies used.

#### Who is it suitable for?

This course is suitable for anyone who is responsible for undertaking environmental noise measurements or for setting or assessing noise requirements for licensing and planning purposes. This includes acoustic technicians, early career acousticians, environmental consultants, environmental health officers, planning and licensing officers.

#### Delivery

The course can be delivered hybrid over five days, with the possibility of attending online or in person for the first two days and in-person on the last three.

#### Dates:

## **Essentials of Building Acoustics**

#### What is the course?

This course offers anyone working in industries associated with the design and construction of buildings an understanding of the fundamentals of building acoustics. This focuses on the behaviour of sound waves in an enclosed environment – propagation, reflection, absorption and transmission, and how this can be controlled, and introduces key acoustic concepts such as reverberation, sound transmission and speech intelligibility/privacy. It will use a number of case studies to consider the importance of good acoustic design in different building applications such as houses/flats, schools, offices and healthcare environments, as well as looking at some causes of poor acoustic performance.

#### **Course objectives**

On completion of this course, delegates will be able to:

- Understand the basic principles of a sound wave and its propagation in free field and enclosed environments.
- Understand the basic principles of absorption coefficient, sound transmission, reverberation and speech intelligibility.
- Understand how these principles apply in different types of building design.

#### Who is it suitable for?

This course is appropriate for anyone with an interest in building acoustics, particularly architects, architectural technologists, theatre consultants, construction managers, estates managers, technical sales staff, audio-visual technicians.

#### Delivery

This one day course can be delivered on request, and may be delivered online, at our offices or in-person at your premises.

#### Dates:

## **Management of Occupational Noise and Safety**

#### What is the course?

It is a requirement for all employers whose employees may be subject to hazardous levels of noise to provide them with adequate training about the effects of noise and how to mitigate it. This 1-day course is aimed at providing managers and health and safety specialists with a detailed understanding of the impacts of noise exposure and the potential cost to both the business and the individual, as well as how to manage and mitigate the risk for employees.

#### **Course objectives**

At the end of the course, delegates should be able to:

- Understand the risks posed by excessive noise exposure
- Understand the principles of assessment of noise risk for employees in different roles and job types (static workstation, multiple location, offsite)
- Understand key mitigation practices (administrative, engineering, hearing protection approaches)
- Understand the classification and types of hearing protection and real world vs stated performance.
- Understand the employer's requirements with respect to provision of training, monitoring and health screening.

#### Who is it suitable for?

This is suitable for any person working as a manager or health and safety professional in any industry which comes under the Control of Noise at Work Regulations 2005. It is also appropriate for an employer who thinks that their employees may come under the regulations in the future (for example due to installation of new equipment or expansion of business into new areas).

#### Delivery

This 1-day course can be delivered on request, and may be delivered online or in-person at your premises.

#### Dates:

### **School Acoustics Measurement**

#### What is the course?

This course aims to develop the skillset required to undertake pre-completion testing for school builds and renovations.

It covers the core areas required under Building Bulletin 93 and the School Premises Regulations for acoustic performance and measurement, and includes both the underlying theory and practical measurement.

This course focuses on acoustic measurement and requirements for performance and does not cover the design of remedial work for premises which do not meet the regulations.

#### **Course objectives**

On successful completion of the course, candidates should be able to:

- Understand the regulatory framework applicable to acoustic performance in schools
- Understand the acoustic performance requirements and indices for different types of educational spaces, and the relationship between usage and performance specifications.
- Demonstrate competence in the key acoustic measurements used in pre-completion testing for school buildings.
- Clearly communicate the results of acoustic testing for schools in the form of a report.

#### Who is it suitable for?

This course will benefit anyone currently offering acoustic testing services who wishes to expand into school acoustic measurement.

It is particularly relevant for acoustic consultants and acoustic technicians who aim to offer testing services for school developments or refurbishments, and is also of relevance for estates managers in the education sector, architectural technologists, architects and construction managers working on school developments.

#### **Delivery:**

Course delivery will be on-site at the Building Performance Hub in Loudwater, High Wycombe.

#### Dates:

### **Sound Insulation and Vibration Isolation**

#### What is the course?

This course offers anyone working in industries associated with the design and construction of buildings an understanding of the fundamentals of sound insulation and isolation and how this can be measured and controlled. It will use a number of case studies to consider the importance of good sound insulation in different building applications such as houses/flats, schools, offices and healthcare environments. It will also look at sound insulation in different structures (e.g. steel/concrete, wood framed, CLT/Gluelam) as well as looking at some causes of failure of partitions to meet acoustic requirements.

#### **Course objectives**

On completion of this course, delegates will be able to:

- Understand the basic principles of airborne and impact sound transmission and the effect of flanking paths.
- Understand the core principles of how sound transmission properties can be improved.
- Understand how these principles apply in different types of building application and structure.

#### Who is it suitable for?

This course is appropriate for anyone with an interest in sound insulation or who is responsible for commissioning buildings with sound insulation/isolation requirements, particularly architects, architectural technologists, acoustic technicians, construction managers, estates managers, technical sales staff, senior management in schools, hospitals, or healthcare environments.

#### Delivery

This half-day course can be delivered on request, and may be delivered online, at our offices or in-person at your premises.

#### Dates:

# **Sustainability in Acoustic Design**

#### What is the course?

Construction is a major contributor to greenhouse gas emissions through the materials and energy used. It also uses a significant quantity of depletable materials (e.g. mined products, oil etc) and materials which generate pollution (e.g. VOCs)

There is a global need to reduce or eliminate the use of materials and processes which contribute to carbon emissions, and eliminate use of depletable and polluting materials, and this applied to acoustic design as much as to any other sector of the construction industry.

This half-day course examines the principle of sustainability in acoustic design and how acoustic design can contribute to carbon neutrality, including exploring the current materials used in building acoustics and sound insulation and sustainable alternatives.

#### **Course objectives**

On completion of this course the delegate should be able to:

- Understand the principles of sustainable design including embodied carbon, whole life carbon and carbon neutrality
- Understand the sustainability issues with existing acoustic products
- Understand the available alternatives, their relative performance and the benefits and negatives compared to traditional materials.

#### Who is it suitable for?

This course is suitable for anyone who is involved in commissioning, designing or constructing buildings and who needs to understand more about making the acoustic elements of design sustainable. This includes acousticians, architects, architectural technologists, surveyors, estates managers, construction managers, building control officers and sustainability officers.

#### Delivery

This half-day course can be delivered on request, and may be delivered online, at our offices or in-person at your premises.

#### Dates:

### **Outdoor Music and Event Noise Management**

#### What is the course?

Any music festival or event which plans to have an audience of more than 500 people is required to apply for a license from the local licensing authority. A part of this license requires a noise plan, including noise measurement by a competent person and plans for mitigating disturbance. This 2-day course introduces delegates to the licensing requirements and the core measurements, as well as outlining best practice in preparing the noise plan and consideration of possible impacts on nearby premises.

#### **Course objectives**

On completion of this course, delegates will be able to:

- Understand the key elements of licensing requirements, legislation, and standards applicable to noise from outdoor entertainment and music events.
- Understand the role of the noise monitoring organisation.
- Create a noise management plan for a small to medium sized event.
- Appropriately setup, calibrate and use measurement equipment to undertake measurements and reporting at an outdoor music or entertainment event.

#### Who is it suitable for?

This course is suitable for anyone involved in the planning and management of outdoor music or entertainment events, and those who may be involved in noise monitoring for these events under the supervision of a competent assessor.

#### Delivery

This one-day course can be delivered on request, and may be delivered online, at our offices or in-person at your premises.

#### Dates: