

## COURSE CONTENT

### ACOUSTICS and ANALYSIS OF SOUND

- Nature of sound – formation, transmission, velocity, attenuation, distortion.
- Representation of sound – graphical, frequency, wavelength, amplitude.
- Types of sound – pure, complex, random.
- Basic properties of sound in the environment– reflection, diffraction, refraction, absorption.
- Measure of sound – intensity, power, pressure. spectrum.
- Properties of Materials and effect in sound transmission.
- The dB scale.
- Sound Pressure Level.
- Frequency weighting.
- Octave and Third Octave filtering.
- RMS, Peak.
- $L_{Aeq}$ .

### SOUND MEASUREMENT EQUIPMENT

- Sound level meters – structure, characteristics, calibration.
- Integrating SLM.
- Dosimeters.
- Auxiliary equipment – recorders, analysers.
- Measurement procedures – use of meters, limitations.

### NEED FOR NOISE MANAGEMENT

- Anatomy of the ear.
- Causes of hearing loss.
- TTS and PTS – recuperation periods.
- Effects of high noise exposure – physical and other.
- Implications of hearing damage – work and social.
- Noise and interaction with other factors.

### EVALUATION OF NOISE

- Noise surveys – preliminary and detailed.
- Type of noise - repetitive, impulse, continuous.
- Noise exposure assessment.
- Other Criteria.

### NOISE REDUCTION

To gain an appreciation of the engineering approach to noise reduction

- Reduction of source.
- Transmission path – materials and properties.
- Receiver.
- Vibration and isolation from.
- Work techniques.
- Maintenance.
- Expert assistance.
- Buy quiet policy.

### NOISE MANAGEMENT PROGRAMS

- Organization and Policies.
- Management and Employee education.
- Professional involvement.
- Audiometry.
- Selection and use of personal hearing protection.
- Noise control techniques – general principles, workplace practices.

### MINERALS AND ENERGY

- Legislation requirements & regulations.
- Responsibilities – responsible persons, employees, manufacturers, designers, suppliers.
- Approved procedures.
- Documentation.

### WORKCOVER

- Legislation.
- Noise Assessor's involvement – Booth testing.
- Testing equipment approval.

### WORKSAFE WA

- Legislation and Australian standards.
- Requirements for authorisation to perform measurements.
- Special applications – eg. music industry.

### PRACTICAL NOISE SURVEYS

- Use of Sound Level Meters and Specification application.
- Measurements.
- Evaluations.
- Reports.
- Booth testing for Workcover Approval.
  
- The course is run over a five- day period involving a mix of theory and practical sessions.
- A written exam is set for the last day.
- On the final day of the course, the participants are required to perform a noise survey of a nominated site. A noise report that conforms to the guidelines of DOIR is required to be written using the data collected from these measurements. This has to be submitted within one month of completion of the formal course.
- If the written exam has been passed and the submitted report is acceptable, then a second independently prepared noise report is required. This report is marked as part of the total assessment process.
- On successful completion of these requirements, the participants may apply for registration as a Noise Officer if a position becomes available.

The course manual will be provided prior to the course on receipt of a fully paid application. It is recommended that this be read before attending the formal course.

If you have a Sound Level Meter that you plan to use for future measurements, it is advisable to bring this with you to the course.