

# Distance Learning Program for Professional Education in Acoustics

**Background** This professional education program is aimed at providing appropriate short courses to meet the needs of those embarking on a career in Acoustics. It is primarily aimed at those entering or who have recently entered the acoustical consulting field. It will also be of value for those working in government agencies and allied organisations needing a fundamental understanding of acoustics. The program is based on a similar program that has been offered via Universities and the UK Institute of Acoustics (IOA). The program has the support of the Australian Acoustical Society (AAS) and the Australian Association of Acoustical Consultants (AAAC).

Each module of the program will be offered as a Short Course in distance learning mode so that it can be undertaken throughout Australia. Each module comprises course notes, tutorials, experiment and a test. Students will work through this material at their own pace. For each module there will be the requirement to attend a 1 day measurement session and a 3 hour test at a location in each capital city. Alternate arrangements will be provided, on request, for students in remote areas who are unable to get to the capital city.

The program will comprise notes based on the structure developed for the IOA program and updated as necessary for relevance in Australia. A certificate will be provided on successful completion of each module. Once the full program has been implemented, accreditation will be sought from appropriate organisations for those who have successfully completed the program and may wish to pursue further studies in acoustics.

Normally the first module, General Principles of Acoustics, must be successfully completed before any other module is attempted. Exemption from this requirement for prior studies in acoustics will be considered on application. Modules will become available for topics including Measurement Techniques, Architectural and Building Acoustics, Environmental Noise, Occupational Noise, Industrial Noise and Vibration Control.

**Prerequisites** There are no specific prerequisites for this program. It is assumed that the applicant will have completed the equivalent of an undergraduate degree in Engineering, Science or Architecture. If not, they may need to seek additional assistance with some mathematics and physics.

**Module Content** Each module of the program will consist of

- course notes to be sent to the students electronically,
- tutorials to be completed and returned to UNSW@ADFA for marking
- practical exercises to be undertaken with the supervision of a nominated Member of the Australian Acoustical Society in each major centre, reports to be returned to UNSW@ADFA for marking
- test to be undertaken with the supervision of a nominated Member of the Australian Acoustical Society in each major centre and to be returned to UNSW@ADFA for marking
- Certificate to be provided on successful completion



# Distance Learning Program for Professional Education in Acoustics

## Module 1 General Principles of Acoustics

**This module is currently available for commencement**

**Content of Module 1, General Principles of Acoustics**, This module provides an introduction and overview of the following topics – many of which will then be developed in subsequent modules.

Chapter 1 Basic concepts – oscillatory system, basics of wave systems, decibel scale, frequency analysis, hearing.

Chapter 2 Descriptors for time varying noise levels,  $L_{eq}$ ,  $L_{DN}$ ,  $L_{10}$  etc.

Chapter 3 Sound and hearing, noise criteria and noise rating, types of hearing loss.

Chapter 4 Behaviour of waves, source mechanisms (monopole, dipole etc), outdoor propagation, principles of barriers.

Chapter 5 Sound in spaces (small and large), reflection, absorption, reverberation time.

Chapter 6 Airborne sound insulation, standardised and weighted level differences, structure borne sound, impact sound.

Chapter 7 Vibration, undamped free oscillations, damped driven oscillations, displacement, velocity, acceleration, vibration control, damage to buildings, sensitive equipment, human vibration.

Chapter 8 Measurement microphones, analysis equipment, dosimeter, intensity probe, accelerometers, general measuring procedures.

Chapter 9 General noise control strategies, mechanical ventilation noise, hearing conservation obligations.

### Timing

Module 1, General Principles of Acoustics, can be commenced at any time. The test will be available on 3 or 4 times throughout the year. Students can choose to attempt the test at their preferred date.

### Registration

Registration includes notes provided electronically, supervision of experimental sessions, assistance with tutorial work, provision of test and certificate for successful completion.



# Registration for Module 1 2007/08 General Principles of Acoustics

**THIS FORM BECOMES A TAX INVOICE ON PAYMENT.**

**ABN 57 195 873 179**

A separate form to be completed for each registrant

Title:..... Date: .....

Family name: .....

Given Name: .....

Organisation .....

Postal Address:.....

Suburb:....., State: ....., Postcode: .....

Country: .....

Telephone: (W) ....., Mob .....

Fax: ..... Email: .....

**Registration Fee: please tick box**

Full registration fee	\$900 + \$90 GST	= \$990	
AAS or AAAC members or Defence personnel	\$800 + \$80 GST	= \$880	<input type="checkbox"/>
3 or more from one organization in one booking	\$720 + \$72 GST	= \$792	<input type="checkbox"/>

**PAYMENT METHOD: please tick box**

**Cheque enclosed (payable to UNSW)**

**Please forward an invoice for payment**

**Charge to Bankcard/Visa/Mastercard Card Number**

\_\_\_\_ / \_\_\_\_ / \_\_\_\_ Expiry \_\_\_\_ / \_\_\_\_

**Cardholder's Name** \_\_\_\_\_

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Payment Contact (if different from registrant's details above):**

Name \_\_\_\_\_

Position \_\_\_\_\_

Address \_\_\_\_\_

Email \_\_\_\_\_ Phone (W) \_\_\_\_\_

**Cancellation Policy:** *If a registrant cancels within 5 working days of receipt of this invoice a refund of the registration fee less \$50.00 administration fee will apply.*

*University College is a registered ACT provider under ESOS Act 2000-CRICOS provider Code 00100G.*

**ENQUIRIES, REGISTRATIONS and PAYMENTS**

**Tel:** 02 6268 8241 or 0402 240009

**Fax:** 02 6268 8276

**Email:** avunit@adfa.edu.au

**Post:** Acoustics and Vibration Unit, UNSW@ADFA, Canberra ACT 2600