Module Registrar: Dr P A Strachan

Academic Level: NQF 6    year 4
Credit Weighting: 10 (ECTS 5)
Semester: 2nd

Compulsory/optional/elective class: Suitable for exchange students Yes/No: Yes

Prerequisites: None

Module Format and Delivery (hours):

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Tutorial</th>
<th>Assignments</th>
<th>Laboratories</th>
<th>Private Study</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>12</td>
<td>64</td>
<td></td>
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<td>100</td>
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General Aims

It is recognised that the control of the external and internal acoustic environment is of increasing importance. This class aims to give students a grounding in acoustic analysis and measurement.

Specific Learning Outcomes

The objectives of this module can be summarised as follows:

a) to introduce the students to the physical laws of sound propagation and the characteristics of the hearing mechanism

b) to enable students to understand the decibel notation and the relationship between objective and subjective acoustic measurements

c) to develop an appreciation of the use of weighting networks and frequency analysis as a means of categorising sound signals

d) to familiarise students with the law relating to noise pollution and the conservation of hearing

e) to investigate the relation between sound sources and the resulting acoustic environment in enclosures

f) to introduce students to the basic principles of noise control.

Syllabus

Sound and pressure waves, velocity of sound, wavelength, frequency; magnitude of acoustic signals, sound pressure level, power and intensity. One dimensional plane and spherical waves, near and far field, impedance. Acoustic measurements, weighted levels, frequency analysis. Interference levels, hearing, noise at work regulations, nature of hearing, types of deafness.

Sound transmission, partitions, transmission losses, panels and oblique incidence, diffuse sound. Insulation. Reverberation. Instruments for noise measurement.

Assessment Method(s) Including Percentage Breakdown and Duration of Exams

<table>
<thead>
<tr>
<th>Examination</th>
<th>Duration</th>
<th>3 hr May</th>
<th>Weighting %</th>
<th>100%</th>
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<tbody>
<tr>
<td>Coursework</td>
<td>No. of Assignments</td>
<td>Weighting %</td>
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</table>
Coursework/Submissions Deadlines:

Resit Examination Procedures:
No resit nor resubmission of coursework is normally permitted in 4th and 5th year classes.

Recommended Reading

****Purchase essential; ***Purchase recommended; **Highly recommended reading;
*Simply for reference (do NOT purchase)

None

Date of Last Modifications: 29/11/2009