Module Descriptor

Medical Instrumentation and Imaging

Module Code: MHT6001-A
Academic Year: 2018-19
Credit Rating: 10
School: Department of Biomedical and Electronics Engineering
Subject Area: Medical and Healthcare Technology
FHEQ Level: FHEQ Level 6
Module Leader: Dr Peter Olley

Additional Tutors:

Pre-requisites:
Co-requisites:

Contact Hours

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>18</td>
</tr>
<tr>
<td>Tutorials</td>
<td>6</td>
</tr>
<tr>
<td>Directed Study</td>
<td>74</td>
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<tr>
<td>Examinations DO NOT USE</td>
<td>2</td>
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Availability Periods

<table>
<thead>
<tr>
<th>Occurrence</th>
<th>Location/Period</th>
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<tr>
<td>BDA</td>
<td>University of Bradford / Semester 2 (Feb - May)</td>
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Module Aims
To acquire a systematic and advanced knowledge of the methods of modern medical instrumentation, including image processing techniques.

Outline Syllabus
* Medical Instrumentation: Sensors for biological signals, generic and specialised sensors, digital displays and computer based patient monitors. Noise reduction by hardware and introduction to signal processing. Biopotentials, ECG and EEG. Radioactive hazards and


**Module Learning Outcomes**

*On successful completion of this module, students will be able to...*

1. critically evaluate instrumentation in medical engineering, and how this is used to generate and process images;

2. have skills in the use of hardware and software to generate and process images, problem-solving, real-time interfacing;

3. have widely applicable skills in data presentation and interpretation, scientific method, and systematic problem solving.

**Learning, Teaching and Assessment Strategy**

The scientific basis of the subject is established by lectures, supported by direct reading for specific areas. Demonstration of techniques of Fourier analysis and image processing using course-specific software takes place during tutorial sessions.

**Mode of Assessment**

<table>
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<th>Type</th>
<th>Method</th>
<th>Description</th>
<th>Length</th>
<th>Weighting</th>
<th>Final Assess'</th>
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<td>Summative</td>
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<td>Examination - closed book</td>
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**Legacy Code (if applicable)**

ENG3020M

**Reading List**

To view Reading List, please go to [rebus:list](#).