# BME 538 Medical Instrumentation: Application and Design

<table>
<thead>
<tr>
<th>Catalog Data</th>
<th>Basic concept of Medical instrumentation, basic sensors and principles, amplifiers, biopotential electrodes, blood pressure and sound, measurement of respiratory system, chemical biosensors, Cellular measurements, Nervous system measurements, magnetic resonance imaging.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Total Credit Hours:</td>
<td>3 Lecture: 3 Laboratory: - Project -</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>PHSL 410A or CHEM444, or consent of instructor</td>
</tr>
<tr>
<td>Course Coordinator:</td>
<td>Biomedical Engineering Faculty</td>
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</tbody>
</table>

### Textbooks


### References

1. “Medical instrumentation: application and design” / John G. Webster, editor; contributing authors, John W. Clark, Wiley publisher August 1997.


### Goals

1. To design basic medical instrumentation
2. Function and operation of complex medical instrumentation

### Projects

Design of a moderately-complex medical instrumentation such as measurement and analysis of brain waves

### Major CAD Packages

- [ ]

### Last Review: Spring Semester 2008  Signature: [ ]