

<b>COURSE TITLE</b>	<b>TE142459: Biomedical Measurement and Instrumentation</b> Credits: 2 ELECTIVE COURSE
<b>LEARNING OBJECTIVES</b>	By the end of this course, the student should be understand about the basic principle of biomedical sensor, the development of biomedical instrumentation, transducer and biopotential as inputs in biomedical instrumentation including biomedical instrumentation technique.
<b>COMPETENCY</b>	<ul style="list-style-type: none"> <li>• Students understand the basic principle of bio-potential and the acquisition and processing algorithm.</li> <li>• Students understand the methods of the bio-potential signal measurement and its instrumentation.</li> <li>• Student have ability to simulate, design and realize a biomedical instrumentation.</li> </ul>
<b>SUBJECTS</b>	<ul style="list-style-type: none"> <li>• Basic biomedical instrumentation</li> <li>• Bio-potential</li> <li>• Transducer and electrodes</li> <li>• Bio-potential amplifier and instrumentation for ECG, EEG, EMG</li> <li>• Analog filtering, biomedical instrumentation for non invansive diagnosis, clinical laboratory.</li> </ul>
<b>MAIN REFERENCES</b>	<ul style="list-style-type: none"> <li>• Design and Development of Medical Electronic Instrumentation: <u>A Practical Perspective of the Design</u>, Construction, and Test of Medical Devices, D. PRUTCHI, M. NORRIS (2005)</li> <li>• Sensor in medicine</li> <li>• Medical Instrumentation, Webster</li> </ul>
<b>OPTIONAL REFERENCES</b>	<ul style="list-style-type: none"> <li>• Medical Physics, J.R. Cameron, J.G. Skofronick</li> <li>• Handbook of medical instrumentation</li> </ul>
<b>PREREQUISITE</b>	-