



BAGHDAD UNIVERSITY

ALKHAWARIZMY COLLEGE OF ENGINEERING



Biomedical Engineering (BME):

It is the application of engineering principles and techniques to the medical field. It combines the design and problem solving skills of engineering with the medical and biological science to help improve patient health care and the quality of life of healthy individuals. Biomedical Engineering Department was established at (1997) by the College of Engineering at Baghdad University then it joins to Al-Khwarizmi Collage of Engineering at 2003 where it is support the Iraqi health sector with specialist engineers that are needed to improve method of the medical care patients and for the fruitful usage of the Engineering in the field of medicine in Iraq. Until now, there are more than 150 graduated engineers worked in different health sectors in Iraq. The Biomedical Engineering Department is dedicated to preparing our graduating students for the following:

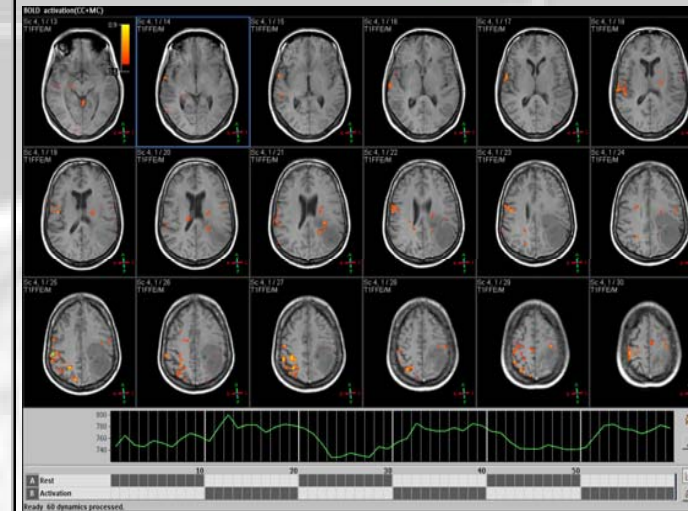
- Professional employment in areas such as the medical device industry, engineering consulting, biomechanics, biomedical imaging, and biotechnology
- Graduate studies in biomedical engineering or related fields

Studding period in this department is five years. In the first two years, students are provided with a strong grounding in the engineering fundamentals, physical and chemical sciences, and mathematics. This background is used to provide a unique physical approach to the study of biological systems.

The last three years of our undergraduate, Biomedical Engineering program provide substantial exposure to modern biology and include courses in engineering that extend the work of the first two years.



The graduated biomedical engineers are equipped to play leading roles in a professional capacity in the hospitals, medical instrumentations companies, and in other related fields.



**BIOMEDICAL ENGINEERING
DEPARTMENT SYLLABUS:-**

1st stage

- Introduction to biomedical.
- Mathematics I.
- Physics of electronics.
- Engineering mechanics.
- Computer science.
- Engineering drawing.
- Electronic circuit.
- English.
- Human rights.

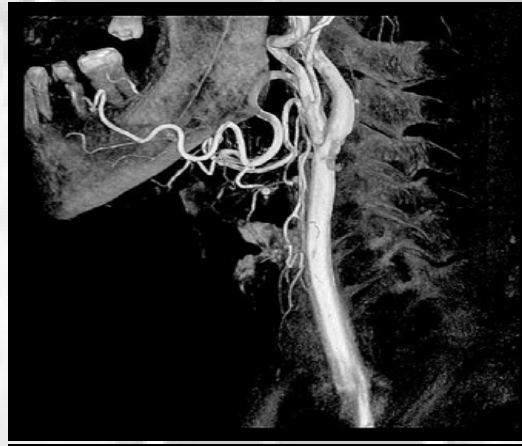
2nd stage

- Anatomy I.
- Biomaterials science.
- Mathematics II.
- Mechanics of material and vibration.
- Digital techniques.
- Network and digital lab.
- Arabic.
- Freedom and democracy.
- Biochemistry.

3rd stage

- Anatomy II.
- CAD.
- Biofluids & Thermodynamics.
- Bio Electromagnetic fields.
- Microelectronics.
- Biology & Bioneurobiology.
- Microwaves, x-ray, Gamma ray.
- Engineering and numerical analysis.

● Electronic circuit lab.

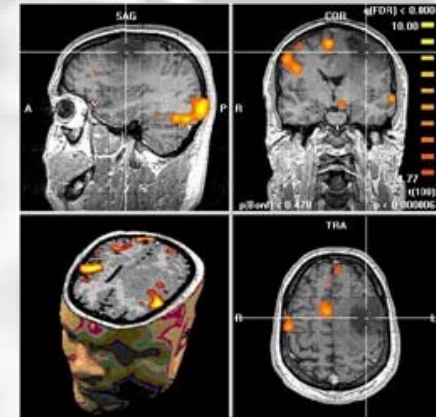


4th stage

- Artificial limb & BioTriptology.
- Machine design.
- Control system design.
- Integrated Laser and optics.
- Medical measurement.
- Microprocessor and microcomputers.
- Signal processing.
- Medical instrumentation and systems I.

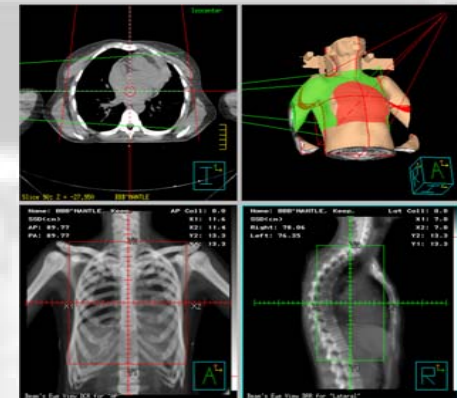
5th stage

- Medical instrumentation and systems II.
- Physiology control and systems.
- Clinical engineering.
- Medical imaging.
- Medical biosensors.
- Engineering project.
- Bio digital signal processing.
- Medical engineering lab.

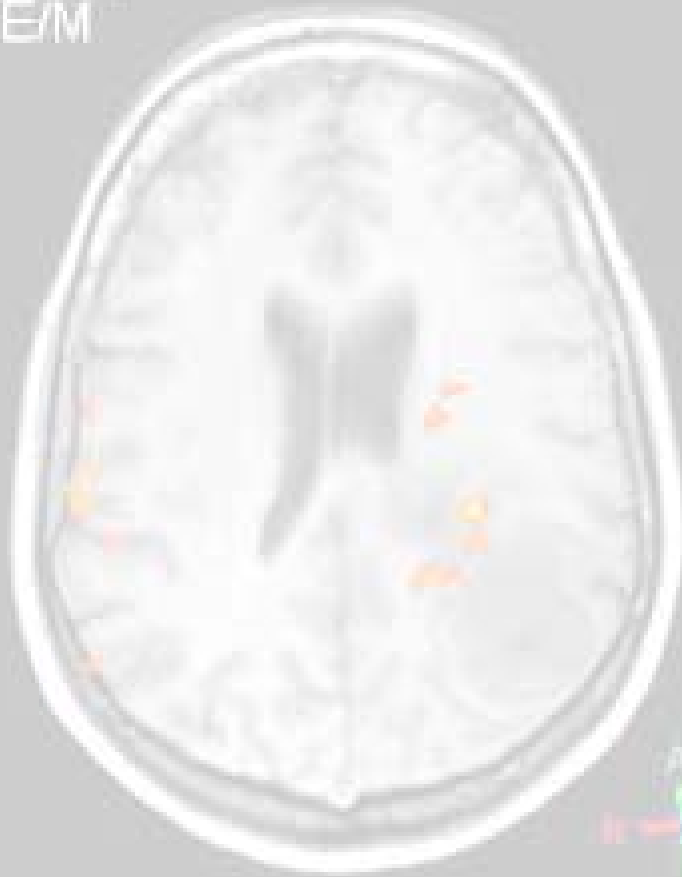


BME LABS:-

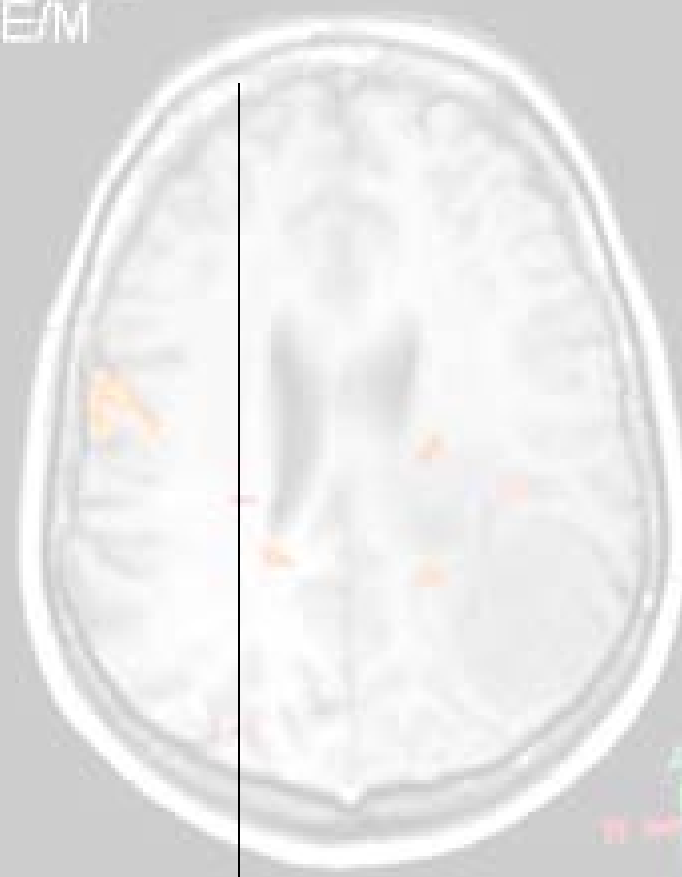
- Medical imaging (image processing).
- Medical instrumentation.
- Medical measurement.
- CAD.
- ANSYS.
- PC.
- Electronic lab.
- Circuit lab.



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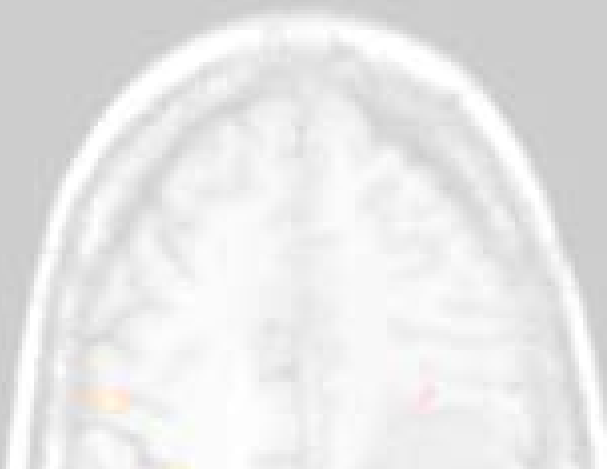


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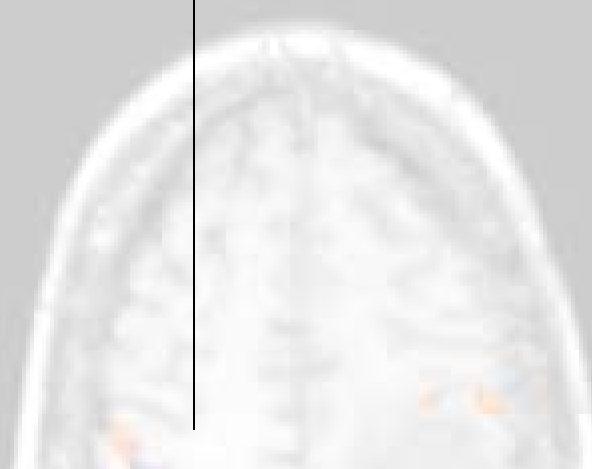


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T1FFE/M



Sc 4, 1 / 28
T1FFE/M



Sc 4, 1 / 29
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