

BME205 Fundamentals of Bioengineering

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

This course applies the concepts and methods of physical science and mathematics to solving the problems of the human system functions from an engineering approach. Topics include fluid mechanics, biomass transfer, bioheat transfer and modeling of physiological systems.

Topics:

- Fundamentals of fluid mechanics
- Physiological application of fluid mechanics
- Fundamentals of biomass transfer
- Physiological application of biomass transfer
- Fundamentals of bioheat transfer
- Physiological application of bioheat transfer

Learning Outcome:

- Apply the basic concepts in fluid mechanics, kinematics of fluid mechanics, hydrostatics, conservation relations and viscous and steady flow via analysis and/or description.
- Demonstrate the understanding and physiological application of fluid mechanics
- Explain and show the fundamentals of biomass transfer.
- Discuss the fundamentals of bioheat transfer
- Determine the application of biomass and bioheat transfer to physiological systems.
- Use techniques, skills and modern engineering tools, including computer tools and imaging equipment, to obtain data, analysis of data and provide meaningful findings and conclusions to bioheat transfer

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	CLASS TEST 1	15
	CLASS TEST 2	15
Overall Examinable Components	Written Exam	70
Total		100