

BME315 Rehabilitative and Assistive Engineering

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JAN

Synopsis:

The course aims to provide students with a general understanding of various engineering solutions to address issues in rehabilitation engineering and assistive technology. This includes the evolution, current trends and adaptation standards/frameworks for rehabilitative and assistive technologies. It also teaches students about supplements a person may need so as to restore to his fullest physical, psychological, social, vocational, and educational potential consistent with his physiological or anatomical impairment through the use of rehabilitative or assistive devices and systems. Commonly used assistive technology devices and home modification to promote good elderly care are also included. These fundamentals will equip students to understand how assistive and rehabilitative engineering can complement and supplement health-challenged individuals to improve the quality of life.

Topics:

- Introduction to Assistive and Rehabilitative Engineering
- Assistive and Rehabilitative Engineering to Enhance Mobility for Individuals with Physical Impairment
- Assistive and Rehabilitative Devices to Enhance Speech Communication
- Assistive and Rehabilitative Devices to Enhance Access to Information
- Integrating Assistive & Rehabilitative Devices into Academic Instruction
- Assistive and Rehabilitative Devices to Enhance Independent Living
- Emerging Elderly Care

Textbooks:

Diane P. Bryant, Brian R. Bryant: Assistive Technology for People with Disabilities (Access Code Card) 2nd Pearson
ISBN-13: 9780133467321

Learning Outcome:

- Demonstrate knowledge concerning the current state of rehabilitation engineering and assistive technologies
- Illustrate the principles of augmentative and alternative communication system.
- Examine adaptations to assistive technology to promote access to computer and telecommunication systems
- Design appropriate rehabilitative mobility units and assistive technology devices to enable independent living
- Discuss key components in integrating assistive technologies into academic instructions
- Formulate assessment schemes to provide an effective person-assistive technology match
- Evaluate the roles and needs of assistive technology for elderly

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	QUIZ 1	15
	TUTOR-MARKED ASSIGNMENT 1	15
Overall Examinable Components	Written Exam	70
Total		100