FOS-MedicalPhysics Bachelors | version: PPR 2021

Learning Outcomes

LO	Description
LO1a	Solve problems through the application of fundamental concepts and theories in core areas of Physics, including: Mechanics
LO1b	Solve problems through the application of fundamental concepts and theories in core areas of Physics, including: Optics
LO1c	Solve problems through the application of fundamental concepts and theories in core areas of Physics, including: Thermodynamics and Statistical Mechanics
LO1d	Solve problems through the application of fundamental concepts and theories in core areas of Physics, including: Classical Electricity and Magnetism
LO1e	Solve problems through the application of fundamental concepts and theories in core areas of Physics, including: Modern/Quantum Physics
LO1f	Solve problems through the application of fundamental concepts and theories in core areas of Physics, including: Nuclear Physics
LO2a	Solve problems through the application of fundamental concepts and theories in core areas of medical Physics including: Radiation Therapy
LO2b	Solve problems through the application of fundamental concepts and theories in core areas of medical Physics including: Medical Imaging
LO2c	Solve problems through the application of fundamental concepts and theories in core areas of medical Physics including: Nuclear Medicine Physics
LO2d	Solve problems through the application of fundamental concepts and theories in core areas of medical Physics including: Health Physics
LO3a	Describe, discuss and apply foundational concepts in Biology and Chemistry as supporting disciplines of Medical Physics; particularly in Biology: Cell structure and function, metabolism, anatomy and physiology, ecology, genetics, immunology and in Chemistry: Chemical equilibrium, thermochemistry, structure of inorganic and organic materials, chemical reactions.
LO3b	Solve problems using a range of mathematical skills, including Calculus, Vector Calculus, Differential Calculus, Statistics to Medical Physics questions.

LO3c	Apply computing and programming principles and skills in order to develop models and to solve Physics and Medical Physics problems.
LO4	Apply the methodology of scientific inquiry in the areas of problem-solving, analytical and critical thinking, logical reasoning and experimental techniques related to Medical Physics.
LO5a	Communicate scientific arguments and analyses clearly and concisely, to the general public, to government and within the scientific community itself orally
LO5b	Communicate scientific arguments and analyses clearly and concisely, to the general public, to government and within the scientific community itself in written form
LO6	Apply critical thinking and analytical skills to interpret and synthesize knowledge from areas including Physics, Mathematics, Biology and Computer Science.
LO7	Discuss and communicate the implications of Medical Physics in society in order to make sound judgments on issues in health care where Medical Physics plays a role.
LO8	Work with autonomy, confidence and perseverance; demonstrate accountability, ethical and professional integrity, time management.