PHSI 191 BIOLOGICAL PHYSICS (2019)

Course Structure

The course covers the foundations of physics for the health sciences, including maths for physics, mechanics, properties of fluids and solids, thermodynamics, optics, electrostatics, and radiation and health.

PHSI191 is a text-book-based course, and the lectures and assignments are closely integrated with the text *Introduction to Biological Physics for the Health and Life Sciences, Franklin et al (Wiley, 2010).* Self-directed learning is an important aspect of this course, and students are expected to prepare for lectures by reading specified sections from the text.

Teaching Hours: There are a total of 51 hours of formal teaching split between lectures (36 hours) and laboratories (15 hours).

Lectures: There are three 1-hour lectures each week, and the course runs for the entire semester. Each module consists of four to six lectures. Some weeks include an "Integrated Context Lecture" delivered by a staff from numerous departments with an interest in the health sciences.

Laboratories: Approximately one 3-hour laboratory session each fortnight, the last hour of which is a dedicated problem-solving tutorial session (total of five laboratories). Five online quizzes are associated with the laboratory material.

Assessment:

Lab Assessment Tests	10%
Laboratory	Terms requirement
Mid-semester exam	20%
Final exam	70%

The final exam is a three-hour, 55-question, multi-choice exam. The mid-semester exam is an optional one-hour, 20-question multi-choice exam. Plussage applies to the mid-semester exam mark.

Curriculum

Maths for Physics - 4 Lectures

Mechanics of Movement - 6 Lectures + 2 Laboratories

Solids and Fluids - 6 Lectures + 1 Laboratory

Electricity - 5 Lectures + ½Laboratory (shared with Thermodynamics)

Thermodynamics - 5 Lectures + ½ Laboratory (shared with Electricity)

Optics - 5 Lectures + ½ Laboratory (shared with Radiation)

Radiation - 5 Lectures + ½ Laboratory (shared with Optics)