COURSE DETAIL

PRINCIPLES OF CELL SIGNALLING

Country
United Kingdom - England

Host Institution
University of Cambridge, Pembroke College

Program(s)
Summer in Cambridge

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Biological Sciences

UCEAP Course Number
115

UCEAP Course Suffix
S

UCEAP Official Title
PRINCIPLES OF CELL SIGNALLING

UCEAP Transcript Title
CELL SIGNALLING

UCEAP Quarter Units
5.00

UCEAP Semester Units

3.30

Course Description
Every cell, be it part of a simple or complex organism, is essentially a watery bag of electrolytes encapsulated by an oily membrane which insulates it from its immediate external environment. The latter, however, varies constantly in nature and composition. This throws an obligate need for the cells to communicate with their ever-changing external environment to adapt or survive and to secure nutrients. Cells may need to respond to several "changes" (i.e. stimuli or "signals," for example arrival of glucose or a hormone in blood) occurring in the extracellular milieu at once and different cells may need to respond to the same stimulus in different ways. For all these, cells are endowed with machineries (proteins and messenger molecules) dedicated to receive, transduce and decode these signals and eventually to trigger appropriate response. The whole process is known as signal transduction, often simply referred to as cell signalling. The beauty of cell signalling lies in the way different pathways converge, diverge and adapt to control a diverse array of cellular processes. It is essential for simple to complex life forms, be it either plants or animals. Cellular signalling in higher organisms is a major topic in modern medical and pharmaceutical research and is of central importance in the biomolecular sciences.

Language(s) of Instruction
English

Host Institution Course Number
455

Host Institution Course Title
PRINCIPLES OF CELL SIGNALLING

Host Institution Course Details

Host Institution Campus
University of Cambridge

Host Institution Faculty

Host Institution Degree
Host Institution Department Science and Maths
Course Last Reviewed

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