COURSE DETAIL

FUNCTIONAL GENETICS

Country
South Africa

Host Institution
University of Cape Town

Program(s)
University of Cape Town

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Biological Sciences

UCEAP Course Number
111

UCEAP Course Suffix

UCEAP Official Title
FUNCTIONAL GENETICS

UCEAP Transcript Title
FUNCTIONAL GENETIC

UCEAP Quarter Units
8.00

UCEAP Semester Units
5.30

Course Description

The course shows how the tools of classical and molecular genetics can be applied to understanding the regulation of gene expression, cell differentiation, and patterning in bacteria and eukaryotes. Concepts covered include gene mapping, forward and reverse genetics; microbial genetics, including regulation of the lac operon; CRISPR/ Cas9 gene editing and DNA repair; alternative splicing and sex-determination; epigenetic mechanisms used in dosage compensation; the genetic analysis of cell cycle regulation; stem cell technology and axis determination in Drosophila. Tests and assignments count 40%; practicals count 10%; one three-hour paper written in November counts 50%.

Language(s) of Instruction
English

Host Institution Course Number
MCB2023S

Host Institution Course Title
FUNCTIONAL GENETICS

Host Institution Campus
University of Cape Town

Host Institution Faculty
Faculty of Science

Host Institution Degree

Host Institution Department
MOLECULAR AND CELL BIOLOGY

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