

# BSC (HONS) GENETICS - CK405

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## Programme Learning Outcomes

Programme Learning Outcomes for BSc in Genetics (NFQ Level 8, Major Award)

On successful completion of this programme, students should be able to:

- Apply the principals of Mendelian and non-Mendelian inheritance patterns to rationalize the patterns of gene flow and gene expression in microbes, plants and animals;
- Explain the phenotype conferred by a given gene in the context of cell and organismal biology, and gene-environment interaction;
- Apply knowledge of cellular and molecular genetics to develop concepts and solutions to problems and processes in biotechnology;
- Analyze and predict patterns of gene distribution in populations, and identify factors which affect the frequency of alleles;
- Explain how genes may be located, identified and characterized by genetic mapping and functional genomics, and identify appropriate practical and bioinformatic approaches;
- Analyze and summarize primary data and literature reports in biology and genetics, and communicate findings effectively verbally and in writing;
- Develop an hypothesis to answer a practical question in genetics, and apply theoretical and practical approaches to test the hypothesis.