



Module Descriptor for CNWY40130 in 2014

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Conway Institute of Biomolecular & Biomedical Research

Short Title	Long Title
Flow Cytometry	Flow Cytometry: Principles and Practice

Level	Credits	Semester	Passing Grade	Available on Blackboard ?	Module Coordinator	Status	Last Modified
4	2.5	Semester Three	DPF	Yes	Alfonso Fernández	Continuing Module	09 Jul 2013

Total Places	Core /Option	In Prog	Gen Electives	Intl Places
10	10	0	0	0

Module Description
This module is designed for research students who wish to understand and become critically aware of principles, practice and applications of flow cytometry and become competent, independent users of this technology. It will be delivered in five blocks comprising seminars (3 hrs - morning) and practical sessions (3 hrs - afternoon) covering: Introduction to flow cytometry: principles & data analysis [Block 1] Flow cytometry instrumentation [Block 2] Flow cytometry applications; Apoptosis, cell cycle & physiology [Block 3] Flow cytometry applications; immunology, physiology and clinical cytometry [Block 4] Flow cytometry clinical and industrial applications & synergies with allied technologies [Block 5]

Learning Outcomes
On completion of the course, students should: 1. Demonstrate knowledge and understanding of the principles of Flow Cytometry (FC). 2. Be able to obtain and critically assess FC data using specific analysis software applications and pre-acquired samples. 3. Become familiar with instruments and their components, demonstrate understanding and critical awareness of the process of analysis protocol creation. 4. Integrate knowledge of good laboratory practice in instrument usage, sample preparation, quality control, troubleshooting. 5. Describe the biology of apoptosis, the cell cycle & general physiology. 6. Be able to integrate knowledge of apoptosis, cell cycle and physiology into protocol design for FC analysis and to carry out sample analysis using standard (and/or own) samples and protocols. 7. Understand the concepts of immunophenotyping & phagocytosis. 8. Apply knowledge and understanding of FC to the analysis of immunological & phagocytic cells, carry out sample characterization using standard (and/or own) samples and protocols. 9. Become critically aware of uses of FC outside the academic research setting. 10. Achieve understanding of allied technologies such as high content analysis, live cell imaging, confocal and fluorescent microscopy and be able to critically assess the synergistic benefits of flow cytometric analysis in combination with allied technologies.

Workload

Type	Hours
Lectures	15
Specified Learning Activities	15
Autonomous Student Learning	30
Total	60

Assessment Details

Description	Timing	Score By	% Final Grade	In Blackboard ?
Competency in usage of technology	Unspecified	LET	15	N
Course end problem based assignment	Unspecified	LET	70	N
Online analysis	Unspecified	LET	15	N
Total			100	

Module Resits

Resit Type	Duration - Hours	Timing Weeks
In-semester assessment		

Module Remediation Strategies

Remediation
If you fail this module you may repeat, resit or substitute where permissible

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