

Research Studies Board

## Flow Cytometry, continuation course, MEFLFO1 Flödescytometri, fortsättningskurs

1.5 credits

Third cycle

### General information

The course is offered as part of the graduate school in stem cell biology's range of courses; but it is also open to other participants, subject to the availability of places. The course is aimed at third cycle students, researchers and technical staff at the Faculty of Medicine who wish to deepen their theoretical and practical knowledge of flow cytometry.

It is a full-time course and corresponds to one week of full-time study.

### Language of instruction

English

### Purpose

The course aims to provide a broad understanding of different aspects of flow cytometry, including experimental design, sample material handling, analysis of flow cytometry data, as well as file and image handling prior to research publication. The course provides practical knowledge of advanced flow cytometry that can be directly transferred to research questions.

### Learning outcomes

On completion of the course, the participants shall be able to:

- set up FACS analysis instruments and conduct quality controls
- analyse flow cytometry data
- formulate a topical research question and select relevant method(s) within the area of flow cytometry.

### Course content

The course includes the following elements:

- the theory behind flow cytometry
- applications of flow cytometry within biomedical research
- sources of error, quality assurance, validation of flow cytometry methods
- FACS experiments: planning, implementation and analysis of flow cytometry data.

### Course design

The course comprises theoretical lectures associated with advanced flow cytometry, practical demonstrations, theoretical and practical group work, as well as individual discussion forums and

practical exercises regarding specific research questions in which advanced flow cytometry is applied. The results of these exercises are presented to, and discussed by, the course coordinator and course participants.

### **Assessment**

In addition to completed practical components, there is a requirement for attendance at all the teaching sessions as well as active participation in discussions and group exercises. There is an assessment of an individual assignment that is to be based on the participant's own research question in which advanced flow cytometry is applied. This assignment is to be submitted in writing and be presented to, and defended in, the group.

### **Grades**

Pass or Fail.

### **Entry requirements**

The participants are to have completed the introductory course in flow cytometry or equivalent, and have practical experience of flow cytometry. The participants are to be enrolled for third cycle studies at the Faculty of Medicine or equivalent. Researchers with PhDs, technical staff and others with a justified need to take the course may attend the course subject to the availability of places.

### **Reading list**

Original and overview research articles. Literature references will be given at the start of the course.