UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Clerkship 1

2627-1-H4104D006

Aims

Chemistry and Propaedeutic Biochemistry II : Practical laboratory activities useful for medical students.

Cellular and Molecular Biology: The course will provide the essential basic theoretical knowledge of biology focusing on future applications in the biomedical field.

Basic Computer Science: Practical laboratory activities with computers and personal applications.

Clerkship 1 – Dublin Descriptors

DD1) Knowledge and insight
The course provides knowledge and detailed insights regarding basic practical laboratory activities useful for medical students, including basic knowledge and practical aspects of clinical proteomics, commonly used experimental biology techniques, as well as technologies employed in medical informatics.
Following completion of the course, students will obtain and understanding of:
? The importance of good laboratory practice that is particularly relevant for the processing and preparation of clinical samples
? Advanced analytical technologies, such as mass spectrometry, utilised in clinical research
? Experimental biology techniques and their possible relevance in biomedical research. This knowledge will be further stimulated through active discussion to provide critical evaluation skills
? Computer-related methodologies and technologies employed in medical informatics and their relevance in medicine and health-care contexts.

DD2) Applying knowledge and insight
Through practical activities, students will be able to apply their newly obtained knowledge and insights in new or unknown circumstances, such as:
? Generating and interpreting analytical data to solve unknown laboratory questions
? Using modern experimental biology techniques to address specific biological questions
? Solving problems arising in different areas of medicine and the health-care system

DD3) Judgement
The content of the course, delivered through laboratory activities as well as theoretical sessions and group activities, will enable students to develop critical thinking skills and, as a result, offer suggestions regarding experiments and data interpretation. In particular, students will be able to:
? Evaluate the quality of analytical data and provide suggestions on how to improve the quality of experimental findings
? Formulate scientific opinions regarding scientific articles and their relevance to specific biological questions
? Determine which methodologies and technologies may best address problems related to the field of medicine

DD4) Communication
Certain activities within this course, in particular related to Cell and Molecular Biology, will require students to present findings from scientific articles to the rest of their peers, enhancing their communication skills in general, but also allowing them develop new skills related to digesting complex information and relaying it in a manner that can be understood by individuals less familiar with the material, a scenario that may be regularly encountered in the field of medical practice.

DD5) Learning skills
The teaching activities and self-assessment tests included in this course will enable students to:
? Improve independent study skills
? Work as part of a team
? Perform appropriate bibliographical searches
? Critically analyse scientific literature
? Improve their dissemination skills
? Be part of active discussions that may allow them to view relevant scientific research findings from another point-of-view

Contents

Chemistry and Propaedeutic Biochemistry II : To learn basic practical laboratory activities useful for medical students, including basic knowledge and practical aspects of clinical proteomics.

Cellular and Molecular Biology: The content of the course will involve relevant biotechnological techniques and their applications in the biomedical field.

Basic Computer Science: Practice the knowledge of computer-related methodologies and technologies employed in medical informatics and to apply those methods in solving problems arising in different areas of medicine and the health-care system (starting from personal use).

Detailed program

Chemistry and Propaedeutic Biochemistry II : please consult the module syllabus

Cellular and Molecular Biology: please consult the module syllabus

Basic Computer Science: please consult the module syllabus

Prerequisites

The attended Chemistry, cell biology and propedeutical biochemistry courses.

Attendance of the Cell and Molecular Biology I: Basic scientific knowledge (basic biology, chemistry, physics).

Basic Computer Science: Basic knowledge in the use of computers. Attendance of the Basic Computer Science course

Teaching form

Chemistry and Propaedeutic Biochemistry II : please consult the module syllabus.

Cellular and Molecular Biology: please consult the module syllabus.

Basic Computer Science:please consult the module syllabus

Textbook and teaching resource

Cellular and Molecular Biology: Primary research articles and reviews

Basic Computer Science: Flora R. Heathcote, O.H.U Heathcot, Pat M. Heathcote, R.P. Richards, Pass ECDL 5 Units 1-7 Paperback, Editor Alex Sharpe;

Semester

First semester

Assessment method

The final grade is ELIGIBLE / NOT ELIGIBLE. Eligibility is achieved by having obtained the eligibility of all the three modules of Clerkship 1.

Chemistry and Propaedeutic Biochemistry II : Assignments will be given based on discussion of the laboratory activity.

Cellular and Molecular Biology: Evaluation of presentations and related group discussions

Basic Computer Science: To have Clerkship1 - BCS module eligibility, the student must attend 70% of the Clerkship1 - BCS module lessons.
If the student is unable to attend the course (e.g. due to late enrolment), eligibility will be acquired upon passing the BCS module exam (course number: yyYY-1-H4102D004-H4102D010M).

Office hours

Upon appointment

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING