Universitat Autònoma de Barcelona

2023/2024

Cell and Tissue Therapy. Tissue bank

Code: 44439
ECTS Credits: 12

Degree	Type	Year	Semester
4317563 Transfusion Medicine and Cellular and Tissue Therapies	OB	0	A

Contact

Name: Joaquim Vives Armengol

Email: joaquim.vives@uab.cat

Teaching groups languages

To check the language/s of instruction, you must click on "Methodolody" section of the course guide.

Teachers

Jaap Jan Zwaginga

Chantal Lechanteur

Sergio Querol Giner

Prerequisites

Level B2 or equivalent in English.

Objectives and Contextualisation

In this module, the most extensive of the programme, will be about advanced therapies. Cell therapy and the basic concepts will be introduced in order to follow with the in-depth study of haematopoietic cell therapy, immunotherapy, and regenerative medicine.

The module goes into depth on the cell banks, cord and tissue banks with an emphasis on safety, standards and quality credentials of the bio-banks, as well as the regulatory and ethical aspects.

Competences

- Apply the biological principles of cell therapies in the treatment of local and systemic disease processes.
- Integrate scientific and technical knowledge in accordance with a commitment to ethics and the code of conduct.

- Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
- Take reasoned decisions based on critical, objective analysis.
- That the students can apply their knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.

Learning Outcomes

1. Describe the distinct concepts and processes of a tissue bank.
2. Describe the state of the art of the distinct concepts of regenerative medicine.
3. Identify the biological and technological bases of cellular immunotherapy.
4. Integrate scientific and technical knowledge in accordance with a commitment to ethics and the code of conduct
5. Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
6. Take reasoned decisions based on critical, objective analysis
7. That the students can apply their knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
8. Understand the distinct concepts and levels of ex-vivo cell manipulation.

Content

1. Introduction to advanced therapies.
2. Haematopoietic stem cells.
3. Immunotherapy.
4. Cell therapy for organ repair.
5. Regenerative medicine.
6. Advanced therapies.
7. Umbilical cord cell bank.
8. Tissue bank.

Methodology

The methodology for this course is active and constructive. It does not only contemplate the content but also reading, reflecting and applying knowledge to reasonably close situation to create meaningful learning.

Students will work on real life examples and case studies, reflecting on complex and relatively unstructured situations to find adequate solutions.

Faithful to the proposed methodology, students form the centre of the learning process and generate knowledge by interacting significantly with their peers, with the teaching materials and with the environment. This programme not only teaches training in a virtual environment but also allows them to experience their learning every day.

At the beginning of the unit, the teacher will present a learning plan to the group with specific objectives, learning activities, the necessary resources and recommended deadlines for each activity.

The dates for carrying out the activities are recommended in order to be able to follow the course. The only fixed dates are the beginning and end of each teaching unit. This means that students can do their own planning but they must respect the dates for the beginning and the end of each unit.

Students are recommended to work in a continuous and consistent manner and not allow tasks to accumulate around the deadlines, which may lead to haste, undue time pressure and not allow the students to enjoy their

learning or carry out additional reflections. Also the course offers group activities which require synchronisation among the group.

Some of the activities must be send online to the teacher for assessment and receive feedback of progress. Teachers will return the work with comments and together the students can continue to think and learn. The deadline for each of these activities is the end of the teaching unit. Other activities will consist in discussion and working together in shared spaces.

The primary language used during the course will be English. However, the use of Spanish will also be allowed. The course materials will also be in English.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Discussions	20	0.8	1, 2, 3, 4, 5, 6, 7, 8
Type: Supervised			
Virtual Cases/Problem Solving	50	2	1, 2, 3, 8
Type: Autonomous			
Personal Study	30	1.2	1, 2, 3, 4, 5, 6, 7, 8
Reading Articles/Reports of Interest/Videos	30	1.2	1, 2, 3, 4, 5, 6, 7, 8
Test/Scheme	30	1.2	1, 2, 3, 4, 5, 6, 7, 8

Assessment

This module will be assessed as follows:

1. Moderated discussions on the online campus (Campus Virtual). These discussion account for 20% of the grade.

2. Work, tests, online cases and problem solving. These activities count for 60% of the grade.

3. Personal study, reading articles and reports of interest and/or videos. This individual work counts for 20% of the grade.

Single evaluation

1. Case study. Capacity to create a useful and sustainable cell and tissue bank for a concrete territory. This activity counts for 100% of the module. The same retrieval system as for the continuous assessment will be applied.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exercise 1	7%	15	0.6	2, 5, 7, 8
Exercise 2	13%	25	1	3, 5, 7, 8
Exercise 9	7%	15	0.6	4
Exercises 3 and 4	28%	40	1.6	3, 6, 8
Exercises 5 and 6	10%	30	1.2	2, 6
Exercises 7 and 8	7%	15	0.6	1, 5, 6, 7

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Software

No specific software for this Module.