



POLITÉCNICA

INTERNATIONAL
CAMPUS OF
EXCELLENCE

COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001



E.T.S. de Ingenieros de
Telecomunicacion

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

93000990 - Clinical Seminars

DEGREE PROGRAMME

09AU - Master Universitario en Ingeniería Biomedica

ACADEMIC YEAR & SEMESTER

2020/21 - Semester 1

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1. Description

1.1. Subject details

Name of the subject	93000990 - Clinical Seminars
No of credits	3 ECTS
Type	Compulsory
Academic year of the programme	First year
Semester of tuition	Semester 1
Tuition period	September-January
Tuition languages	English
Degree programme	09AU - Master Universitario en Ingeniería Biomedica
Centre	09 - Escuela Técnica Superior de Ingenieros de Telecomunicacion
Academic year	2020-21

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Enrique Javier Gomez Aguilera (Subject coordinator)		enriquejavier.gomez@upm.es	--
Maria Elena Hernando Perez		mariaelena.hernando@upm.es	Sin horario.

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Skills and learning outcomes *

3.1. Skills to be learned

CB06 - Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación de ideas, a menudo en un contexto de investigación

CB07 - Que los estudiantes sepan aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio

CB08 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios

CB09 - Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades

CB10 - Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo.

CE-MIB01 - Utilizar el lenguaje especializado empleado en entornos biomédicos y los fundamentos de las ciencias biomédicas para su aplicación en la resolución de problemas médicos de la Ingeniería Biomédica.

CG-MIB01 - Resolver problemas e integrar conocimiento en temas nuevos o escasamente definidos y en entornos multidisciplinares del área de la Ingeniería Biomédica

CG-MIB02 - Analizar y aplicar la reglamentación correspondiente a la sensibilidad social y ética en los ámbitos de operación que pueden darse en Ingeniería Biomédica

CG-MIB03 - Utilizar la filosofía, el método científico y el método experimental para la búsqueda de innovación, la curiosidad científica y el desarrollo de actitudes creativas

CG-MIB04 - Utilizar las tecnologías de la información y la comunicación para la búsqueda de información, datos bibliográficos y adquisición de nuevo conocimiento para la formación permanente y el trabajo autónomo

CG-MIB05 - Utilizar técnicas de expresión oral y escrita para comunicar trabajos y conclusiones a comunidades de iguales o divulgación científica, elaboración de artículos, manuales de estilo y herramientas de edición para fomentar la capacidad de comunicación y disseminación de resultados

CG-MIB06 - Aplicar técnicas de trabajo colaborativo en equipos multidisciplinares internacionales y liderazgo, así como utilizar métodos para asumir la responsabilidad de orientar y dirigir trabajos científicos en el ámbito de la ingeniería Biomédica

CG-MIB07 - Utilizar la lengua inglesa como herramienta de trabajo

3.2. Learning outcomes

RA79 - Identify and analyse the main concepts and innovation provided by the clinical seminar and generate a critical summary of the seminar, stating a personal judge for the contents and relevance of the seminar topic

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

This course includes a series of seminars in the field of medicine and biomedical engineering. Students will acquire knowledge about physiological foundations and the role of biomedical technologies in the main clinical fields.

Students will prepare a brief summary of each seminar, which they will deliver within a period of no more than 7 days. There will also be specific sessions organized in the context of the Master on subjects that may vary annually.

b) Content

This course is organized around various seminars taught by professionals in the field of medicine and renowned researchers in the field of Biomedical Engineering and Medicine.

The topics will be related to medicine and clinical practice: Fundamentals of physiology and Cardiology, Neurology and Neuroplasticity, Metabolism and Diabetes, Anesthesiology and Orthopedic Surgery.

Students will prepare a critical summary of each seminar.

4.2. Syllabus

1. Tools for scientific publication search and management
2. Immunology
3. Radiotherapy
4. Neuromuscular anatomy and physiology system
5. Neuroplasticity
6. Biomechanics and biomaterials in knee prosthesis
7. Minimally Invasive Surgery
8. Artificial Pancreas
9. Future of Electronic Health records

5. Schedule

5.1. Subject schedule*

Week	Face-to-face classroom activities	Face-to-face laboratory activities	Distant / On-line	Assessment activities
1	Tools for scientific publication search and management Duration: 02:00 Lecture			Students will prepare a brief summary of each seminar, which they will deliver within a period of no more than 7 days Other assessment Continuous assessment Presential Duration: 02:00
2	Inmunology Duration: 02:00 Lecture			
3	Radiotherapy Duration: 02:00 Lecture			
4	Neuromuscular anatomy and pshiology system Duration: 02:00 Lecture			
5	Neuroplasticity Duration: 02:00 Lecture			
6	Biomechanics and biomaterials in knee prosthesis Duration: 02:00 Lecture			
7	Minimally Invasive Surgery Duration: 02:00 Lecture			
8	Artificial Pancreas Duration: 02:00 Lecture			
9	Future of Electronic Health records Duration: 02:00 Lecture			
10				
11				
12				Written report Written test Final examination Presential Duration: 02:00

13				
14				
15				
16				
17				

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The schedule is based on an a priori planning of the subject; it might be modified during the academic year, especially considering the COVID19 evolution.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Continuous assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
1	Students will prepare a brief summary of each seminar, which they will deliver within a period of no more than 7 days	Other assessment	Face-to-face	02:00	100%	5 / 10	CG-MIB06 CG-MIB04 CG-MIB01 CB09 CB10 CB06 CG-MIB05 CE-MIB01 CB08 CG-MIB03 CG-MIB07 CG-MIB02 CB07

6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
12	Written report	Written test	Face-to-face	02:00	100%	5 / 10	CG-MIB06 CG-MIB04 CG-MIB01 CB09 CB10 CB06 CG-MIB05 CE-MIB01 CB08 CG-MIB03 CG-MIB07 CG-MIB02 CB07

6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
Written report	Other assessment	Face-to-face	02:00	100%	5 / 10	CG-MIB06 CG-MIB04 CG-MIB01 CB09 CB10 CB06 CG-MIB05 CE-MIB01 CB08 CG-MIB03 CG-MIB07 CG-MIB02 CB07

6.2. Assessment criteria

Written report (100%)

Continuous assessment

Passing score for the whole course is 5/10.

Assistance to lectures is compulsory unless justified absence.

Students who do not reach the passing score via continuous assessment will be able to do so in the extraordinary examination.

Final assessment

Final assessment is based solely on an exam. Students will need to attain a score of 5 or above to pass the course.

Students who do not reach the passing score via continuous assessment will be able to do so in the extraordinary examination.

Extraordinary assessment

Extraordinary assessment is based solely on an exam. Students will need to attain a score of 5 or above to pass the course.

Students will be qualified through continuous evaluation by default. According to the Normativa de Evaluación del Aprendizaje de la Universidad Politécnica de Madrid, students willing to renounce to continuous evaluation must send an email via Moodle to the coordinator before three weeks have passed from the beginning of the course.

Evaluation will assess if students have acquired all the competences of the subject. Thus, evaluation through final assessment will be carried out considering all the evaluation techniques used in continuous evaluation (EX, ET, TG, etc.), and will be celebrated in the exam period approved by Junta de Escuela for the current academic semester and year. Evaluation activities that assess learning outcomes that cannot be evaluated through a single exam can be carried out along the semester.

Extraordinary examination will be carried out exclusively by the final examination method.

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Anatomy & Physiology (includes A&P Online course), 9e (Anatomy & Physiology (Thibodeau)) 9th Edition	Bibliography	

8. Other information

8.1. Other information about the subject

NOTA IMPORTANTE: MODALIDAD NO PRESENCIAL DE LA ASIGNATURA

Debido a la crisis sanitaria por la covid-19, se indica en esta nota qué modificaciones experimentaría la asignatura si la situación sanitaria obligara a continuar la docencia en modalidad "no presencial". En ese caso, las acciones que se prevén son las siguientes:

Docencia: las clases se impartirían on-line a través de una sala virtual.

Evaluación: las pruebas de evaluación serían las mismas pero en formato "no presencial" a través del moodle de la asignatura. El examen final consistiría en un cuestionario