Universitat Autònoma de Barcelona

2022/2023

Integrated Learning in Medicine III

Code: 103635
ECTS Credits: 3

Degree	Type	Year	Semester
2502442 Medicine	OB	3	2
2502442 Medicine	OB	4	0

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Inés Maria de Torres Ramirez
Albert Selva O'callaghan
María Natividad de Benito Hernández
Marta Navarro Vilasaro
Ricard Comet Monte

Prerequisites

It is advisable that the student has acquired basic competencies in cell biology, biochemistry and molecular biology, biophysics, anatomy, physiology and general and specific microscopic structure of the different human systems. It is also recommended that students have acquired basic competencies in biostatistics and epidemiology. In addition, the student should have sufficient knowledge of the psychological basis of the states of health and illness, and have an adequate level of knowledge in interpersonal communication and English.

The students will acquire the commitment to preserve the confidentiality and professional secrecy of the data to which they may have access due to the learning of health care services. They will also commit to maintain a professional ethical attitude in all their actions.

Objectives and Contextualisation

Integrated Learning in Medicine III (AIM III) is a subject taught in the second four-month period of the third year of the degree in Medicine. Like the rest of AIM, it is a transversal subject that aims to develop some basic skills for the professional activity and scientific thinking of graduates in Medicine. The aim is to provide an integral formation of medical knowledge, so that the biological and physiopathological bases of medicine and clinical disciplines are not considered isolated subjects without continuity. During the course of the AIM, an attempt must be made to develop some basic transversal competences for the professional activity and scientific thought of graduates in Medicine: argumentation based on evidence, ability to ask the most suitable questions,

analysis and interpretation of data and application of physiopathological principles to the understanding of illnesses. Generic self-learning skills such as teamwork, oral and written communication, reading and searching for information, including new information technologies, will also be developed.

During the academic period, students will have to solve problem cases, the content of which will vary from academic year to academic year. The work will be done in small groups and will have the collaboration of a tutor responsible for each case and tutors responsible for the different third year subjects involved in the development of the case. The subject will be developed in the problem-based learning format and will combine the tutoring sessions with the student's autonomous work. In the presentation session of each case, the characteristics of the work to be done will be explained. Students must attend the scheduled tutorials and consult all the sources they consider appropriate to solve the syndromic problem raised, which will be presented to the whole class in the last closing session of the case.

The general training objectives of the subject are:

- To learn basic skills in medical practice
- To acquire the scientific basis of basic procedures in clinical medicine
- To integrate knowledge and contents worked on in the rest of the core subjects of the third year.
- To apply this knowledge to real situations based on simulated clinical cases.
- To develop syndromic and clinical diagnostic skills as well as therapeutic procedures.
- To develop generic self-learning skills: temporary organization of self-employment, teamwork, information search, including new information technologies, critical information analysis.
- To acquire the ability to prepare and present biomedical works.

Competences

Medicine

- Accept one's role in actions to prevent or protect against diseases, injuries or accidents and to maintain and promote health, on both personal and community-wide levels.
- Convey knowledge and techniques to professionals working in other fields.
- Critically assess and use clinical and biomedical information sources to obtain, organise, interpret and present information on science and health.
- Demonstrate understanding of the manifestations of the illness in the structure and function of the human body.
- Demonstrate understanding of the structure and function of the human organism in illness, at different stages in life and in both sexes.
- Engage in professional practice with respect for patients' autonomy, beliefs and culture, and for other healthcare professionals, showing an aptitude for teamwork.
- Establish a diagnostic approach and a well thought-out strategy for action, taking account of the results of the anamnesis and the physical examination, and the results of the appropriate complementary tests carried out subsequently.
- Indicate the basic diagnosis techniques and procedures and analyse and interpret the results so as to better pinpoint the nature of the problems.
- Indicate the most suitable treatment for the most prevalent acute and chronic processes, and for the terminally ill.
- Listen carefully, obtain and synthesise relevant information on patients' problems, and understand this information.
- Obtain and prepare a patient record that contains all important information and is structured and patient-centred, taking into account all age and gender groups and cultural, social and ethnic factors.
- Organise and plan time and workload in professional activity.
- Perform a general and a system-by-system physical examination appropriate to the patient's age and sex, in complete and systematic way, and a mental evaluation.
- Recognise the professional values of excellence, altruism, sense of duty, compassion, empathy, honesty, integrity and commitment to scientific methods.
- Recognise, understand and apply the doctor's role as a manager of public resources.
- Recognize one's role in multi-professional teams, assuming leadership where appropriate, both for healthcare provision and for promoting health.
- Use information and communication technologies in professional practice.

- Write patient records and other medical documents that can be understood by third parties.

Learning Outcomes

1. Accept other viewpoints (lecturers, colleagues, etc.) regarding the problem or topic at hand.
2. Acquire the principles and values of good medical practice, both in health and in illness.
3. Apply analytic tests in accordance with their cost efficiency.
4. Assess organised attempts by society to achieve better health for all citizens.
5. Assess physical incapacity, and its impact on patients and their families.
6. Assess the efficiency of the main therapeutic interventions.
7. Assess the importance of every sign and symptom in the current illness.
8. Assess the need, indications, contraindications, chronology, risk, benefits and costs of each examination.
9. Assess the relationship between efficacy and risk in the main therapeutic interventions.
10. Assess the semiological value of laboratory tests used in the most common human pathologies.
11. Be self-critical and reflect on one's own learning.
12. Compare one's own opinions with those of colleagues and other healthcare professionals as a basis for teamwork.
13. Conduct the interview correctly to obtain significant clinical data.
14. Convey knowledge and techniques to professionals working in other fields.
15. Correctly record the information obtained in interviews with patients.
16. Critically assess the results of complementary examinations, taking their limitations into account.
17. Describe the basic features of planning and scheduling in healthcare.
18. Describe the elements that should be considered when determining the reasons for a consultation and those of the patient's therapeutic itinerary.
19. Distinguish normality from pathological alterations on performing a physical examination.
20. Distinguish situations that require hospitalisation and those that require intensive care.
21. Establish a method for complementary examinations, in accordance with the standard process and the diagnostic expectations.
22. Establish a therapeutic action plan considering the needs of patients and their family and social environment, and involving all members of the healthcare team.
23. Explain that health requires the commitment of the whole of society.
24. Explain the legislation that regulates the use and confidentiality of analysis results.
25. Explain the mechanisms by which illness affects the different systems of the human body at different stages in life and in both sexes.
26. Gather meaningful psychosocial data.
27. Gather, choose and record important information patient supplied by patients and accompanying persons.
28. Identify serious clinical situations.
29. Identify sources of information on analytic tests for patients and professionals and critically evaluate their content.
30. Identify symptoms of anxiety, depression, psychosis, toxics consumption, delirium and cognitive deterioration.
31. Identify the affectation of medical and surgical diseases of the genital system.
32. Identify the affectation on organs and systems of medical and surgical diseases of the blood, cardiovascular system, respiratory system digestive system and musculoskeletal system.
33. Identify the most efficient analytic tests for prevention, diagnosis and control of treatment for the most common human pathologies.
34. Identify the physical, chemical, environmental, psychological, social and occupational and carcinogenic factors, and the factors associated with food habits and drug use, that determine the development of the disease.
35. Indicate and interpret the basic techniques and procedures for laboratory diagnosis, diagnostic imaging and others.
36. Indicate suitable therapeutic interventions for the main health problems.
37. Inform on the results of analytic tests.
38. Obtain, in an appropriate way, clinical samples needed for laboratory tests.
39. Order signs and symptoms to perform a differential syndromic diagnosis.
40. Organise and plan time and workload in professional activity.

41. Summarise and order information on the problems of the sick.
42. Use biomedical databases.
43. Use information and communication technologies in professional practice.

Content

ORGANIZATION OF CASES

- Subjects of the "Human Clinical Formation" Module

Physiopathology and clinical semiology: 5 cases of large clinical syndromes

- Subjects of the Module "Diagnostic and therapeutic procedures and social medicine, communication skills and initiation to research".

- Bases of the surgery
- Medical microbiology and parasitology
- Clinical Radiology
- Structural and molecular pathology
- General Pharmacology
- Medical Immunology
- Epidemiology

DISTRIBUTION

Presentation and solution of 5 case studies of large clinical syndromes

Organization of case studies:

Clinical Physiopathology and Semiology, 5 case studies according to the scheme of large syndromes:

- Modifications of body temperature
- Pain
- Constitutional syndrome
- Respiratory system syndromes: acute and chronic respiratory failure, pulmonary condensation, pleural syndromes
- Cardiocirculatory system syndromes: heart failure, coronary insufficiency, pericardial syndrome, syncope, intermittent claudication
- Digestive tract syndromes: icteric syndrome, liver failure, portal hypertension syndrome, ascitic syndrome, gastrointestinal bleeding, diarrheal syndrome
- Syndromes of the nephrourological apparatus: urinary syndrome, acute and chronic renal failure, nephritic syndrome, nephrotic syndrome.
- Nervous system syndromes: sensory and motor syndromes, peripheral paralysis syndrome, pyramidal syndrome, medullary syndromes, meningeal syndrome, syndrome and comatose, cerebellar syndrome and vestibular syndrome.
- Syndromes of the locomotor system: arthritic syndrome and arthritic syndrome
- Hematologic syndromes: anemic syndrome, hyper and medullary hypofunction, adenopathic syndrome
- Endocrinological and metabolic syndromes: thyroid hyper andhypofunction, parathyroid hyper and hypofunction, adrenal hyper and hypofunction, hyperglycemia and hypoglycemia.

The development of the case includes aspects of diagnostic and therapeutic procedures and social medicine, communication skills and initiation to research.

Examples of possible case studies (to be specified by those responsible for the cases):

Case: Epigastric complaints and weight loss. Constitutional syndrome (pancreas tumor)

Case: Diarrhea and abdominal pain of long evolution. Maldigestion (chronic pancreatitis)

Case: Black stools and drowsiness (liver failure and portal hypertension)

Case: Acute abdominal pain, jaundice and fever (acute cholecystitis)

Case: Abdominal pain and urinary discomfort (acute Pyelonephritis)

Case: Cough, expectoration with blood and anorexia. Hemoptysis (pulmonary tumor)

Case: Pain on the left side of the chest and asthenia (pleuritic syndrome)

Case: Fever and difficulty breathing. Respiratory failure (pneumonia, COPD, cor pulmonale)

Case: Sudden shortness of breath and heart murmur. Left heart failure (aortic Stenosis)

Case: Chest pain, tightness and dyspnea (coronary ischemia, heart failure)

Case: Acute diarrhoea and scarce urine (renal Insufficiency)

Case: Generalized Swelling (nephrotic syndrome)

Case: Fatigue and pallor. Anemic syndrome (ferropenia and colonic neoplasia)

Case: Tiredness and bone pain. Anemic syndrome (myeloma)

Case: Tumors of the neck and armpits. Mediastinal syndrome (lymphoma)

Case: Neck lump. Adenopathic syndrome (scrofula)

Case: Progressive jaundice. Icteric syndrome (neoplasia of head of pancreas)

Case: Fever, cough and dysphagia. Esophageal Syndrome, Immunodeficiency (ssophagitis candida,HIV)

Case: Nervousness and weight loss (hyperfunction thyroid)

Case: Apathy and hoarseness (hypothyroidism)

Case: Tiredness and abdominal pain (adrenal Insufficiency)

Case: Fever, cough, polyuria and obnubilation. Hyperglycemic syndrome (pneumonia, diabetes)

Case: Loss of strength in the right arm and leg. Pyramidal Syndrome (cardioembolism)

Case: Imbalance and tiredness. Posterior Cord Syndrome (pernicious anemia)

Case: Difficulty walking straight and vertigo. Vestibular Syndrome (Menière)

Case: Loss of strength in both legs. Spinal cord compression syndrome (pulmonary neoplasia, vertebral metastasis).

Case: Convulsions. Seizure syndrome (secondary, brain tumor)

Case: Coma (cerebral Hemorrhage, HTA)

Methodology

This guide describes the framework, contents, methodology and general rules of the subject, according to the current curriculum. The final organization of the subject, with respect to the number and measure of groups, distribution in the calendar and dates of exams, specific evaluation criteria and review of exams, will be specified in each of the hospital teaching units (UDH), which will be explained through the web pages and the first day of class of each subject, through the teachers responsible for the subject in the UDH.

For this academic year, the professors designated by the departments as responsible for the subject at Faculty and UDH level are:

Responsible department(s): Multidepartmental.

Head of Faculty: Gustavo Tapia (gustavo.tapia@ucab.cat)

Responsible UDH:

- UD Vall d'Hebron: Albert Selva (aselva@vhebron.net), Inés de Torres (itorres@vhebron.net).
- UD Germans Trias i Pujol: Gustavo Tapia (gustavo.tapia@uab.cat).
- UD Sant Pau: Natividad de Benito (nbenito@santpau.cat).
- UD Parc Taulí: Ricard Comet Monte (rcomet@tauli.cat) i Marta Navarro Vilasaró (mnavarro@tauli.cat)

TUTORS AND SESSIONS

A. Tutors:

A case tutor for module 3 subjects, responsible for the initial presentation of cases, closure and specific tutoring.

Module 3: Human Clinical Training (FCH):

Clinical physiopathology and semiology: 5 cases (1 case manager).

A referential tutor for each module 4 subject, responsible for documentation, discussion and tutoring of the subject matter of the subject in case it is necessary.

Module 4. Diagnostic and Therapeutic Procedures (PDT)

- Bases of the surgery (1 tutor referent of the matter).
- Medical microbiology and parasitology (1 tutor on the subject).
- Clinical radiology (1 tutoron the subject).
- Structuraland molecular pathology (1 tutor on the subject). General pharmacology (1 tutor on the subject).
- Medical Immunology (1 tutor on the subject).

B. Sessions:

Activity hours (3 ECTS credits = 75 hours).

Directed activity 40 %, 30 hours: 5 case studies; one case study = 6 hours, in 4 sessions.

Self-employed activity 55 %; 41.25 hours: personal study, case preparation and presentations.

Types of sessions

Sessions 1 and 4 (type TE): Initial presentation and final solution of cases 10 h (initial and final sessions 5h+5h). These sessions will be programmed at the beginning (session 1) and at the end (session 4) of the subject.

Sessions 2 and 3: Clinical case seminar (type PCLI, SCC); 20 hours in two blocks of sessions, which will be scheduled after session 1 and with sufficient time before session 4, so that the students have time to prepare the presentations:

Session 2 (typology PCLI, SCC). Documentation sessions; block of therapeutic diagnostic procedures: 10 h (2 h per case study; allows consecutive tutors).

Session 3 (typologyPCLI, SCC). Problem-solving sessions, supervision of prepared simulated cases and preparation of presentation: 10 h (2 h per case study; allows consecutive tutors):

Session1	Session 2	Session 3
Presentation (1h)	SCC (2h)	SCC (2h)
Responsible of the case study Presents the case Selection of case groups, presentation of referentsof subjects	Case group PDT tutors and case tutor (depending on the case they can share session: 2h= 3x 40'; 4X30' etc.) Documentation and problem solving	Case group PDT tutors and case tutor (dependin on the case they can share session: 2h= 3x 40'; 4X30' etc.) Documentation, problem solving and supervision of presentation
Total 5 h (1x5 cases)	Total 10 h (2x5 cases)	Total 10 h (2x5 cases)

All students should know and participate more or less directly in the solution of all cases. The knowledge acquired and the participation and presentation of the solutions will constitute the basis of the evaluation of the subject.

The enrolment group is divided into the corresponding working groups for each case. The presentation session (session 1), directed by the tutor responsible for the case, is attended by the entire registration group, the case is presented and the group of students working on the case is assigned. These groups will participate directly in the solution of each case study, in the documentation and problem-solving sessions (sessions 2-3), led by the tutors of each subject involved in the case study. In these sessions the rest of the students also participate as listeners; they can also have direct access to the documentation and attend the discussion of each case study.

At the case-resolution session (session 4), led by the case-responsible tutor, the case-student group presents the solution to the entire enrollment group, so that allstudents have access to the final solution discussion and can adequately acquire the knowledge necessary for the final assessment, which includes all cases. The presentation will follow a similar scheme and will last approximately 45 minutes:

1. Summary of the case. Symptoms and guide signs
2. Clinical syndrome
3. Etiology
4. Physiopathology/pathogenesis
5. Complementary Explorations
6. Syndromic differential diagnosis and diagnosis
7. Therapeutic approach

At the end of the presentation a period of discussion and discussion of the case study will begin.

In the current exceptional circumstances, at the discretion of the teachers and also depending on the resources available and the public health situation, some of the theoretical classes, practicals and seminars organized by the Teaching Units may be taught either in person or virtually.

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			
CLINICAL CASES SEMINARS (SCC)	20	0.8	1, 2, 3, 17, 18, 20, 21, 11, 34, 25, 30, 29, 28, 35, 36, 38, 39, 40, 26, 27, 15
THEORY (TE)	10	0.4	1, 2, 3, 17, 18, 20, 21, 11, 34, 25, 30, 29, 28, 35, 36, 38, 39, 40, 27, 15
Type: Autonomous			
PERSONAL STUDY / READING OF ARTICLES / REPORTS OF INTEREST	41.25	1.65	1, 2, 3, 12, 17, 18, 19, 20, 14, 22, 21, 31, 24, 23, 11, 34, 25, 30, 32, 29, 33, 28, 35, 36, 37, 38, 39, 40, 13, 26, 27, 15

Assessment

Evaluation activities (5 % = 3,75 hours)

Evaluation of the presentation and discussion of the case studies: 2,5h (150'=30' x 5 cases, is done in the presentation session).

Multiple choice exam: 1.25 h.

Evaluation:

All students will participate in the presentation of a case and respond to a 50 question multiple-choice test, which will include questions from all cases worked during the course and presented in class.

1. Attendance and active participation in classes and seminars: 20 % of the grade.
2. Evaluation of case studies and problem solving: 30 % of the mark.
3. Written evaluation with objective tests: 50 % of the mark. Test of 50 questions of all AIM cases (10 questions per case), with 5 possible answers, but only one will be correct. Each incorrect answer will subtract 0.25 points.

Final Grade

Weighted sum of the continuous evaluation of attendance and active participation (20 %), evaluation of case studies and problem solving (30 %) and of the result of the objective written test (50 %).

Expression: numerical note with one decimal place, from 0 to 10.

the subject will be considered passed with a 5.

Qualitative qualification: fail, pass, good, merit and honour distinction.

Exam review system

The review of the examinations will be carried out individually with the student, prior written request within the

established deadlines.

Non-assessable students

Students who do not take the theoretical and practical evaluation tests will be considered as not evaluated and will exhaust the tuition fees of the course.

Students who have not passed the subject

Those students who have not passed the subject, will have a make-up test consisting of a test with 5 answers, a valid one and subtraction of 0.25 points in each incorrect answer.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
ATTENDANCE AND ACTIVE PARTICIPATION IN CLASSES AND SEMINARS	20%	0	0	1, 2, 17, 18, 11, 34, 28, 36
PRACTICAL CASE EVALUATION AND PROBLEM SOLVING	30%	2.5	0.1	1, 2, 3, 12, 17, 18, 19, 20, 14, 22, 21, 31, 24, 23, 11, 34, 25, 30, 32, 29, 33, 28, 35, 36, 37, 38, 39, 40, 13, 26, 27, 15, 41, 42, 43, 16, 10, 4, 6, 5, 8, 9, 7
WRITTEN EVALUATION WITH OBJECTIVE EVIDENCE	50%	1.25	0.05	3, 31, 34, 25, 32, 27, 16, 10, 4, 6, 5, 8, 9, 7

Bibliography

Consult the specific bibliography of the teaching guides of the different subjects of the third year of the modules of «Human clinical training» and «Diagnostic and therapeutic procedures and social medicine, communication skills and initiation to research».

Software

There are not specific programs