

Medical Oncology

Code: 106702
ECTS Credits: 4

| Degree | Type | Year | Semester |
|------------------|------|------|----------|
| 2502442 Medicine | OB | 4 | 0 |

Contact

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Teaching groups languages

You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Teachers

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Prerequisites

Students should have acquired all the knowledge corresponding to the structure and function of the human organism.

In addition, students should have a basis of knowledge and competence in Structural Pathology, Physiopathology, Semiology, Epidemiology and Surgery principles.

Students will acquire the commitment to preserve confidentiality and professional secrets corresponding to the data they could have access to in relationship to their learning in healthcare departments. In addition, they should maintain professional ethics in all their actions.

Objectives and Contextualisation

Medical Oncology is a medical specialty, the objectives of which are the diagnosis, treatment and a comprehensive attention to patients who are suffering from cancer.

Oncological diseases are the second most common cause of mortality in developed countries. To have a solid knowledge of them will allow future graduates to have competence for attending these patients including different issues related to diagnosis and treatment, side effects derived from therapy, symptom control and also some aspects related to prevention.

Competences

- Communicate clearly, orally and in writing, with other professionals and the media.
- Demonstrate understanding of the causal agents and the risk factors that determine states of health and the progression of illnesses.
- Demonstrate understanding of the manifestations of the illness in the structure and function of the human body.
- Demonstrate understanding of the mechanisms of alterations to the structure and function of the systems of the organism in illness.
- Demonstrate understanding of the structure and function of the human organism in illness, at different stages in life and in both sexes.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- 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.
- Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
- Give the patient and/or accompanying persons the relevant information about the disease process, its bases and consequences, including bad news, in an appropriate way.
- 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.
- 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.
- 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.
- Perform the basic practical procedures of examination and treatment.
- Recognise and take action in life-threatening situations and others that require an immediate response.
- Recognise the basic elements of the medical profession as the result of an evolving, scientific, social and cultural process, including ethical principles, legal responsibilities and patient-oriented professional practice.
- 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.

Learning Outcomes

1. Anticipate and compare information for good decision-making.
2. Assess modifications to clinical parameters in the different age groups.
3. Assess physical incapacity, and its impact on patients and their families.
4. Assess the efficiency of the main therapeutic interventions.
5. Assess the importance of every sign and symptom in the current illness.
6. Assess the relationship between efficacy and risk in the main therapeutic interventions.
7. Assess the semiological value of laboratory tests used in the most common human pathologies.

8. Categorise emergency situations in accordance with the available indices of seriousness.
9. Communicate clearly, orally and in writing, with other professionals and the media.
10. Conduct the interview correctly to obtain significant clinical data.
11. Critically assess the results of complementary examinations, taking their limitations into account.
12. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
13. Describe nutritional therapies, especially in the dietary treatment of diabetes mellitus, obesity, cardiovascular risk, renal and liver insufficiency and states of malnutrition.
14. Describe the diagnostic process based on the different radiological densities.
15. Describe the general and local factors that affect the development of diseases.
16. Describe the illnesses related to nutritional imbalances.
17. Describe the main diagnostic and therapeutic techniques performed in the hospital service corresponding to the subject.
18. Describe the main diagnostic and therapeutic techniques used in the prescription of physical activity and in the re-establishment of functionality.
19. Describe the main pathological situations of nutrition.
20. Describe the main pathological situations of the musculoskeletal system, the blood, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the genitourinary system, infectious pathologies and diseases of the elderly.
21. Describe the natural history of neoplasms.
22. Describe the organ and system involvement and forms of presentation of diseases of the respiratory, circulatory and digestive systems, blood and hematopoietic organs, nervous system, musculoskeletal system, genitourinary system, metabolism and endocrine system.
23. Describe the pain mechanisms and other common symptoms in the terminal phase and establish a treatment plan.
24. Describe the person as a multidimensional being in which the interplay of biological, psychological, social, environmental and ethical factors determines and alters the states of health and disease and their manifestations.
25. Describe the relationship between constitution and disease as well as the food habits and drug use, and the physical, chemical, environmental, psychological, social and occupational and carcinogenic factors that determine the development of the disease.
26. Detail the steps and procedures for giving bad news.
27. Distinguish normality from pathological alterations on performing a physical examination.
28. Distinguish situations that require hospitalisation and those that require intensive care.
29. Enumerate the necessary complementary explorations that can lead to accurate diagnosis in a case of dermatosis, including laboratory studies and serological, immunological, microbiological and dermatopathological studies.
30. Establish a diagnostic and therapeutic approach in emergencies.
31. Establish a therapeutic action plan considering the needs of patients and their family and social environment, and involving all members of the healthcare team.
32. Establish clear and effective communication with patients and their family-members.
33. Establish nutritional counselling in illness and dietary intervention.
34. Explain enteral and parenteral nutrition, their therapeutic indications and their complications.
35. Explain ethical, legal and technical features and those of confidentiality related to patient documentation.
36. Explain multidisciplinary intervention during patient care.
37. Explain the mechanisms of radiological image and anatomopathological alterations of the commonest diseases of the different body systems.
38. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
39. Gather, choose and record important information patient supplied by patients and accompanying persons.
40. Give patients the maximum possible information about their health, diagnostic steps, complementary examinations and treatments in an appropriate way.
41. Identify images showing normality.
42. Identify images that do not correspond to normal variants.
43. Identify imbalances in body weight and nutritional states.
44. Identify serious clinical situations.
45. Identify skin injuries from possible life-threatening processes.

46. Identify symptoms of anxiety, depression, psychosis, toxics consumption, delirium and cognitive deterioration.
47. Identify the affection on organs and systems of diseases of the blood, cardiovascular system, respiratory system, digestive system, nervous system, renal system and musculoskeletal system.
48. Identify the biochemical, cytogenetic and molecular biology markers applied to clinical diagnosis of importance in diagnostic imaging: radiological-anatomopathological.
49. Identify the cardiovascular risk factors and perform the actions of primary and secondary prevention.
50. Identify the causes and propose the most appropriate systematic study to be performed in all patients with generalised itching without skin lesions that justify it.
51. Identify the fundamental principles of palliative medicine.
52. Identify the guiding symptoms of the most common neoplasms.
53. Identify the major skin injuries and describe them appropriately.
54. Identify the most common neoplasms from the warning signs.
55. Identify the most important cutaneous signs that can accompany a potentially serious systemic disease.
56. 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.
57. Identify the radiological and anatomopathological alterations of the commonest diseases in the different body systems, at different stages in life and in both sexes.
58. Identify tumour diseases, and the diagnosis and management of these.
59. Identify type, evolution and limitations in chronic diseases, their possible treatments and prevention of complications.
60. Indicate suitable therapeutic interventions for the main health problems.
61. Indicate the basic complementary examinations for interpreting the manifestations of the illness in the different organs and systems of the human body.
62. Interpret the most specific images in the most common pathologies.
63. Justify the complementary examinations that can lead to the diagnosis of a systemic disease from the visualisation, diagnostic suspicion and confirmation of a particular dermatosis.
64. Know the main agents of infection and their mechanisms of action.
65. Make a record that includes the personal, physiological and pathological antecedents of the illness, as well as the main symptoms of diseases of the respiratory, circulatory and digestive systems, blood and hematopoietic organs, nervous system, musculoskeletal system, genitourinary system, metabolism and endocrine system.
66. Order signs and symptoms to perform a differential syndromic diagnosis.
67. Propose a basic diagnostic strategy to reach a definitive diagnosis.
68. Relate clinical findings to those of imaging tests.
69. Understand the manifestations of the main pathologies on the structure and function of the human body.
70. Use information and communication technologies in professional practice.
71. Write a report giving guidance on diagnosing the main infectious diseases, diseases of the blood, of the elderly, and of the hematopoietic system, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the renal and genitourinary system, the retroperitoneal system and the musculoskeletal system.
72. a complete physical examination general and the respiratory, circulatory and digestive systems, blood and hematopoietic organs, nervous system, musculoskeletal system, genitourinary system, metabolism and endocrine system.

Content

Subject 1: Introduction to Oncology. Epidemiological principles of cancer.

- Cancer as a systemic disease
- Epidemiology of cancer
- Early diagnosis

- Primary and secondary prevention

Subject 2: Diagnosis of oncological diseases (I).

- Dissemination patterns
- Staging principles
- Classification methods used
- General symptoms in advanced disease:
 - Malnutrition
 - Tumoural fever
 - Hematological alterations in cancer

- Bone metastases

- Cerebral metastases

Subject 3: Diagnosis of oncological diseases (II).

- General performance
- Evaluation scales: Karnofsky index and ECOG
- Prognostic variables in cancer
- Predictive variables in cancer

Subject 4: Diagnosis of oncological diseases (III): Biomarkers.

- Biomarkers definition and their use in clinical practice
 - Plasmatic tumoural markers
 - Genomic platforms
 - Massive sequencing
 - Liquid biopsy

Subject 5: Hereditary cancer.

- Principles of familial cancer and principal hereditary syndromes
- Genetic Counselling principles

Subject 6: Principles of cancer treatment (I): Surgery.

- Objectives of the surgical treatment of cancer
- Radical and palliative treatment concept
- Breast cancer surgery

Subject 7: Principles of cancer treatment (II): Surgery.

- Colon cancer surgery

Subject 8: Principles of cancer treatment (III): Radiotherapy and Chemotherapy.

- Radiotherapy principles
- Chemotherapy principles

- Pharmacological and pharmacodynamics principles
- Concept of dose intensity and dose density
- Groups of cytostatic agents and their mechanism of action

- Endocrine therapy principles

- Endocrine sensitive neoplasms

Subject 9: Principles of cancer treatment (IV): Biological therapy.

- Main signal transduction pathways

- Biological treatment principles

- Pharmacological fundamentals

- Effective biological dose concept

- Biological drug groups in solid tumours

- Mechanisms of action and applicability

Subject 10: Principles of cancer treatment (V): Immunotherapy.

- Principles of the immune system in cancer

- Primary utilities in cancer treatment:

- Melanoma
- Head and neck tumours
- Lung cancer
- Urological tumours

Subject 11: Principles of cancer treatment (VI): Chemotherapy side-effects.

- Acute secondary effects

- Vomiting
- Stomatitis
- Neutropenia and febrile neutropenia
- Anaemia
- Thrombopenia
- Alopecia

- Chronic side effects

- Cardiac effects
- Neurological effects
- Pulmonary effects
- Gonadal effects

Subject 12: Principles of cancer treatment (VII).

- Endocrine therapy side-effects

- Biological therapy side-effects

- Immunotherapy side-effects

- Immuno-related effects
- Pathogenesis

- Diagnostic and treatment strategies

Subject 13: Palliative care and cancer.

- Quality of life concept
- Measurement instruments and scales
- Information for cancer patients
- Terminal situation protagonists: the patient, the family and therapeutic team
- Factors contributing to suffering: physical, emotional, social and spiritual
- Patient and family adaptation to the terminal situation: Kübler-Ross phases

Subject 14: Symptom control strategy in advanced disease (I).

- Pain:
 - Pathogenesis
 - Evaluation
 - Prognostic factors and basic principles of pain treatment
- Respiratory symptoms

Subject 15: Symptom control strategy in advanced disease (II)

- Digestive symptoms
- Cachexia and anorexia
- Cognitive dysfunction syndromes

Subject 16: Attention to the most frequent neoplasms (I): Lung Cancer.

- Epidemiology and risk factors
- Diagnosis and staging
- Treatment options: a multidisciplinary approach
- Prognosis
- Follow-up

Subject 17: Attention to the most frequent neoplasms (II): Colon and Rectal Cancer.

- Epidemiology and risk factors
- Diagnosis and staging
- Treatment options: a multidisciplinary approach
- Prognosis
- Follow-up

Subject 18: Attention to the most frequent neoplasms (III): Breast Cancer.

- Epidemiology and risk factors
- Diagnosis and staging

- Treatment options: a multidisciplinary approach
- Prognosis
- Follow-up

Subject 19: Attention to the most frequent neoplasms (IV): Prostate Cancer.

- Epidemiology and risk factors
- Diagnosis and staging
- Treatment options: a multidisciplinary approach
- Prognosis
- Follow-up

Subject 20: Oncological Emergencies

- Hypercalcemia
- Other metabolic alterations: AIDS
- Medullar compression syndrome
- Endocraneal hypertension
- Superior vena cava syndrome

Seminars Programme

Seminar A: Communication in Oncology: shared decision. Role-playing session.

- Information at diagnosis
- Information at the beginning of the disease
- Information at recurrence
- Information in advanced disease

Seminar B: Clinical research in Oncology.

- Role of clinical trials in developing new treatments
- Result evaluation methodology: RECIST method

Seminar C: Bioethics at the end of life.

Seminar D: Role of the Multidisciplinary tumour board in the definition of the diagnosis and treatment strategies. Role of the Molecular Boards.

Seminar E: Rare tumours.

- Rare tumour concept: sarcoma, central nervous system tumours, germ-cell tumours
- Tumour agnostic concept
- Role of the reference institutions

Seminar F: Clinical cases in surgery.

- Metastases surgery
- Palliative surgery

Seminar G: Clinical cases in gynecological tumours.

Seminar H: Clinical cases in melanoma/kidney and urological tumours

Methodology

- Theory (TE): 20 hours

Group dimension: 1 Group. Number of scheduled sessions: 20

- Simulation seminar (PSCA): 2 hour

Group dimension: 10 people attending

Number of scheduled sessions: 1

- Seminars 4 hours

Group dimension: 15 people attending.

Number of scheduled sessions: 3

- Clinical Case seminars: 4 hours

Group dimension: 15 people attending.

Number of scheduled sessions: 3

- Care Practicum (PCAh)

Groups of 2-4 students

Scheduled hours: 15 hours (3 hours every day for one week)

- Autonomous work (50% of total time)

Reading of texts and articles

Study to assimilate contents

Essay preparation and presentation based on clinical cases

- Evaluation (5% of total time: 4.0 hours)

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) | 4 | 0.16 | 8, 69, 12, 15, 23, 22, 21, 24, 25, 20, 19, 17, 31, 35, 36, 37, 38, 43, 56, 51, 48, 54, 52, 41, 47, 58, 57, 61, 62, 66, 67, 63, 68, 70, 11, 7, 5 |
| Clinical simulation (PSCA) | 2 | 0.08 | 1, 24, 26, 32, 36, 46, 52, 58, 40, 67, 10, 5 |
| Seminar (SEM) | 4 | 0.16 | 9, 12, 22, 24, 20, 26, 31, 32, 35, 36, 38, 51, 54, 52, 47, 58, 57, 60, 40, 70, 7, 4, 6, 5 |
| Theory (TE) | 20 | 0.8 | 69, 14, 15, 23, 22, 21, 24, 25, 20, 18, 26, 30, 35, 36, 37, 38, 59, 43, 56, 51, 48, 54, 52, 47, 58, 57, 44, 40, 66, 67, 63, 68, 7, 4, 6, 5 |
| Type: Supervised | | | |
| Hospital Care Practicum (PCAh) | 15 | 0.6 | 1, 8, 69, 9, 64, 12, 14, 15, 23, 22, 21, 24, 25, 20, 17, 18, 26, 27, 28, 33, 31, 32, 30, 35, 36, 34, 37, 43, 51, 48, 54, 46, 52, 47, 58, 57, 53, 44, 61, 40, 62, 66, 67, 63, 10, 72, 65, 71, 39, 68, 70, 11, 7, 4, 6, 5 |
| Type: Autonomous | | | |
| Personal study, essay preparation | 50 | 2 | 69, 14, 15, 23, 22, 21, 24, 25, 20, 33, 30, 37, 43, 56, 51, 48, 54, 52, 47, 58, 57, 61, 60, 66, 67, 63, 7, 5 |

Assessment

This subject does not provide the single assessment system

The theoretical assessment consists of 40 multiple choice questions with five possible options in which only one for each question is valid.

The practical assessment consists of 20 multiple choice questions which five possible options in which only one for each question is valid.

Each student will deliver an essay with the description of a clinical case experienced first-hand during the rotation at the end of practicum. This essay will have the following parts: a) Introduction; b) Description of the clinical case; c) Identification of problems that motivated the admission to the hospital; d) Treatment strategy; e) Evolution; f) Discussion with five references.

Full attendance to the seminars is obligatory

Students who have not passed the continuous evaluation of the subject can resit the exam which will be announced in advance notice

Students who do not sit the exams (Theoretical and Practicum) and also the practicum will be considered as Not Evaluated and lose their right of registration for that year's course.

Assessment Activities

| Title | Weighting | Hours | ECTS | Learning Outcomes |
|-------|-----------|-------|------|-------------------|
|-------|-----------|-------|------|-------------------|

| | | | | |
|----------------------|-----|---|------|---|
| Essay presentation | 20% | 2 | 0.08 | 1, 69, 9, 64, 12, 14, 15, 23, 22, 21, 24, 25, 16, 20, 19, 17, 26, 27, 28, 31, 32, 35, 36, 34, 37, 38, 59, 43, 56, 51, 48, 55, 54, 46, 52, 41, 47, 58, 57, 50, 45, 44, 61, 60, 40, 62, 66, 67, 63, 29, 10, 72, 65, 71, 39, 68, 70, 11, 7, 3, 6, 5, 2 |
| Practical evaluation | 30% | 1 | 0.04 | 8, 69, 64, 14, 15, 23, 22, 21, 24, 25, 20, 17, 18, 13, 28, 33, 31, 32, 30, 36, 37, 38, 59, 43, 49, 56, 51, 48, 55, 54, 52, 42, 47, 58, 57, 45, 44, 61, 60, 66, 67, 63, 65, 68, 11, 7, 4, 3, 6, 5, 2 |
| Theory evaluation | 45% | 2 | 0.08 | 69, 64, 12, 14, 15, 23, 22, 21, 25, 16, 20, 17, 26, 30, 36, 59, 56, 51, 48, 55, 54, 52, 41, 47, 57, 53, 61, 60, 62, 66, 67, 63, 29, 68, 11, 7, 4, 6, 5 |

Bibliography

- DeVita Vincent T, Lawrence Theodore S, Rosenberg, Steven A, editors. Cancer. Principles & Practice of Oncology. 3rd ed. Philadelphia: Wolters Kluwer; 2021. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/ja52mf/alma991010614977006709
- Govindan R, Morgensztern D, editors. Manual Washington Oncología. 3^a ed. Barcelona: Wolters Kluwer; 2016. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/ja52mf/alma991010495156606709
- Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL, editors. Harrison Principios de medicina interna. 21^a ed. Madrid: Mc Graw-Hill; 2022. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/1pvhgf7/alma991010637433606709
- Iwassa J, Marshall W, editors. Karp Biología celular y molecular. 8^a ed. México, D.F.: McGraw-Hill; 2020. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/1c3utr0/cdi_mcgrawhill_accessmedicina_Medicina28
- Kerr David J, editor. Oxford textbook of oncology. 3rd ed. Oxford: Oxford University Press; 2018.
- Cruz Hernández JJ, Rodríguez CA, Barco E, Fonseca E, editores. Oncología clínica. 6^a ed. Barcelona: Elsevier; 2018. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/avjcib/alma991000573619706709
- Internet address of interest:

National Cancer Institute [Internet]. Bethesda, MD: NCI; 2023. Available at: <https://www.cancer.gov/>

Sociedad Española de Oncología Médica [Internet]. Madrid: SEOM; 2023. Available at: <https://www.seom.org/>

American Society of Clinical Oncology [Internet]. Alexandria, VA: ASCO; 2023. Disponible en: <http://www.asco.org/>

European Society for Medical Oncology [Internet]. Lugano, CH: ESMO; 2023. Available at: <https://www.esmo.org/>

Software

none