SUBJECT OUTLINE

1. Programme of study description

1.1.	**THE "CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY**
1.2.	**THE FACULTY OF MEDICINE / THE CLINICAL DEPARTMENT 14**
1.3.	**DISCIPLINE ORTHOPEDICS AND TRAUMATOLOGY**
1.4.	**DOMAIN OF STUDY: Healthcare – regulated sector within the EU**
1.5.	**CYCLE OF STUDIES: BACHELOR'S DEGREE**
1.6.	**PROGRAMME OF STUDY: MEDICINE**

2. Subject description

2.1.	**Name of the subject/compulsory subject/elective subject within the discipline: Orthopedics and Traumatology**
2.2.	**Location of the discipline:**
2.3.	**Course tenured coordinator:**
2.4.	**Practicals/clinical rotations tenured coordinator:**

2.5. Year of study	2022-2023	**2.6. Semester**	I-II	**2.7. Type of assessment**	Written & Practical exam	**2.8. Subject classification**	Mandatory DS

3. Total estimated time (hours/semester of didactic activity) – teaching module

Number of hours per week	25	**Out of which: course**	10	**Clinical rotation**	15
Total number of hours from curriculum	90	**Out of which: course**	**36**	**Clinical rotation**	54
Distribution of allotted time	**4 weeks**		6h/day		**Hours**
Study from textbooks, courses, bibliography, and student notes					
Additional library study, study on specialized online platforms and field study					
Preparing seminars / laboratories, assignments, reports, portfolios and essays					
Tutoring					
Examinations					
Other activities					
Total hours of individual study					
Number of credit points					

4. Prerequisites (where applicable)

4.1. of curriculum	Fundamental knowledge of locomotor apparatus anatomy and physiology.
4.2. of competencies	Patient general clinical examination, surgical techniques, and maneuvers.

5. Requirements (where applicable)

5.1. for delivering the course	Multimedia projector, negatoscope, osteosynthesis materials, external fixators, hip and knee primary and revision arthroplasty, digital imagistic database, plastic skeleton material, etc.
5.2. for delivering the clinical rotation	Orthopedic departments, hospital ambulatory,

	emergency room, amphitheater.

6. Acquired specific competencies

Professional competencies (expressed through knowledge and skills)	At the end of the stage the students must know: - The main pathologies in orthopedics and traumatology - Diagnostics and principles of treatment At the end of the stage the students must be able to: - Examine patients with osteoarticular pathologies - Interpret clinical and imagistic exams - Do usual maneuvers for reduction and immobilization
Transversal competencies (of role, of professional and personal development)	- Teamwork - Communicate with patients and caregivers. - Manifest empathy and professional deontology.

7. Subject learning objectives (based on the scale of acquired specific competencies)

7.1. General learning objective	At the end of the stage the students must know: - the main diseases in the field of orthopedics and traumatology - diagnosis and principles of treatment
7.2. Specific learning objectives	At the end of the internship, the student must be able to: - examines patients with orthopedic-traumatology conditions -interpret clinical and imaging examinations - perform usual reduction and immobilization maneuvers

8. Content

8.1. Course	**Teaching methods**	**Observations**
Course 1 Fractures – generalities	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 2 Fracture complications	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 3 Joint injuries (dislocations, sprains)	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions,

		questions, additional explanations upon request
Course 4 Pelvic and acetabulum fractures	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 5 Acetabular fractures	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 6 Fractures of the upper limb (1)	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 7 Fractures of the upper limb (2)	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 8 Fractures of the lower limb (1)	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 9 Fractures of the lower limb (2)	Power point presentation	Use of computer and projector - projection of static and dynamic

		images, interactive discussions, questions, additional explanations upon request
Course 10 Fractures of the spine	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 11 Bone infections – osteoarticular TB	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 12 osteoarticular TB	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 13 Polytraumatism	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 14 Hip arthrosis (coxarthrosis)	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 15 Knee arthrosis (gonarthrosis)	Power point presentation	Use of computer and projector -

		projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 16 Vertebral deformities (scoliosis, kyphosis, degenerative diseases)	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 17 Benign bone tumors	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
Course 18 Malignant bone tumors	Power point presentation	Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
8.2. Clinical rotation	**Teaching methods**	**Observations**
CR 1 Examination of the patient with orthopedic or traumatic pathology and specific maneuvers daily 2 hours	Clinical examination of the patient and specific maneuvers, completion of FO daily 2 hours	Directly to the patient in the ward, the on-call room, the hospital ambulatory, plaster room, operating room (on request)
CR 2 Plaster devices	Direct with materials specific to the topic addressed, including PPT projection: Plaster devices	Presentation of materials specific to orthopedics and traumatology: plaster devices (plaster chamber), direct example. Use of computer

		and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 3 Transskeletal traction	Direct with materials specific to the topic addressed, including PPT projection: Transskeletal traction	Presentation of materials specific to orthopedics and traumatology: transskeletal traction (traction horseshoe, K pins, etc.), using as examples, traction horseshoe, K pins, plastic skeleton pieces, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 4 Pathological anatomy of fracture healing	Direct with materials specific to the topic addressed, including PPT projection: Pathological anatomy of fracture healing	Presentation of specific anatomopathology imaging materials, using for exemplification, pieces of pathological anatomy, slide examinations, microscopy, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 5 Pathological anatomy of NAACF + infections + inflammations	Direct with materials specific to the topic addressed, including PPT projection: Pathological anatomy of NAACF + infections + inflammations	Presentation of specific anatomopathology imaging materials,

		using for exemplification, pieces of pathological anatomy, slide examinations, microscopy, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 6 Hobanage External fixators	Direct with materials specific to the topic addressed, including PPT projection: Hobanage External fasteners	Presentation of materials specific to orthopedics and traumatology: osteosynthesis materials specific to hobanage, using as an example, external fixators, plastic skeleton parts, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 7 Plate and screw osteosynthesis (including DHS & DCS)	Direct with materials specific to the topic addressed, including PPT projection: Plate and screw osteosynthesis	Presentation of materials specific to orthopedics and traumatology: osteosynthesis materials, using as examples, plates, various screws, plastic skeleton parts, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional

		explanations upon request
CR 8 Elastic centromedullary osteosynthesis	Direct with materials specific to the topic addressed, including PPT projection: Elastic centromedullary osteosynthesis	Presentation of materials specific to orthopedics and traumatology: osteosynthesis materials, using for example, elastic centromedullary rods, plastic skeleton parts, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 9 Rigid centromedullary osteosynthesis	Direct with materials specific to the topic addressed, including PPT projection: Rigid centromedullary osteosynthesis	Presentation of materials specific to orthopedics and traumatology: osteosynthesis materials, using for example, rigid centromedullary rods, plastic skeleton parts, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 10 Non-cemented endoprostheses	Direct with materials specific to the topic addressed, including PPT projection: Non-cemented endoprostheses	Presentation of materials specific to orthopedics and traumatology: non-cemented articular endoprostheses, using as examples, non-cemented endoprostheses, plastic skeleton parts, etc. Use of computer

		and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 11 Cemented endoprostheses	Direct with materials specific to the topic addressed, including PPT projection: Cemented endoprostheses	Presentation of materials specific to orthopedics and traumatology: cemented articular endoprostheses, using for example, non-cemented endoprostheses, plastic skeleton parts, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 12 Other types Endoprostheses	Direct with materials specific to the topic addressed, including PPT projection: Other endoprosthesis types	Presentation of materials specific to orthopedics and traumatology: other various joint endoprostheses (knee, elbow, shoulder, ankle, revision), using for example, uncemented/cemented endoprostheses, plastic skeleton parts, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 13 Pathological anatomy -	Direct with materials specific to the	Presentation of

Benign bone tumors	subject addressed including PPT projection: Pathological anatomy - Benign bone tumors	specific anatomopathology imaging materials, using for exemplification, pieces of pathological anatomy, slide examinations, microscopy, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 14 Pathological anatomy - Malignant bone tumors	Direct with materials specific to the topic addressed, including PPT projection: Pathological anatomy - Malignant bone tumors	Presentation of specific anatomopathology imaging materials, using for exemplification, pieces of pathological anatomy, slide examinations, microscopy, etc. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional explanations upon request
CR 15 Orthoses, corsets, exoprosthetics	Direct with materials specific to the topic addressed, including PPT projection: Orthoses, corsets, exoprosthetics	Presentation of materials specific to orthopedics and traumatology: orthoses, corsets, exoprosthetics. Use of computer and projector - projection of static and dynamic images, interactive discussions, questions, additional

		explanations upon request
CR 16 Examination of the radiological image	Examination of the radiological image - presentation by projection or negatoscope examination	Presentation of classic radiological imaging, specific to traumatology orthopedics, using the digital imaging database
CR 17 Examination of the radiological image	Examination of the radiological image - presentation by projection or negatoscope examination	Presentation of classic radiological imaging, specific to traumatology orthopedics, using the digital imaging database
CR 18 Repetition on request of one of the themes	Repetition on request of one of the themes	Repetition on request of one of the themes
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Bibliography for course and clinical rotation

N.Angelescu – Treatise on surgical pathology – vol.II, Ed.Medical, Bucharest, 2011
D.Antonescu – Elements of Orthopedics and Traumatology – Course for students – UMFCD 1999 –
D. Antonescu – Pathology of the locomotor system – Vol. I, Medical Ed., 2006
D.Antonescu – Pathology of the locomotor system – Vol.II, Ed.Medical, 2008
C. Baciu - Surgery and prosthetics of the locomotor system - Medical Ed., 1986
A.Denischi, O.Medrea and collaborators - Treatise on surgical pathology (E.Proca) - Vol.III, Ed.Medical, 1988
N. Gorun – Joint traumas of the clavicular region – Old Court Ed., Bucharest, 1996
N. Gorun – Malleolar fractures – Ed. Curtea Veche, Bucharest, 2000
I.Pana, A.Voinea, Roventa Nicolina, Gh.Filipescu, N.Gorun, M.Vladareanu – Bone tumors – Medical Ed., 1984
Irinel Popescu, C. Ciuce, Dinu Antonescu – Treatise on surgery – Vol. II, Ed. Romanian Academy, 2012
A.Prundeanu, H.Vermesan, H.Prundeanu, et al. – Polytraumatisms - Ed.II, Vol.II, Ed.Mirton, Timisoara, 2001
Gh. Tomoaia – Course of osteoarticular traumatology – University Ed. I. Hatieganu, Cluj, 1999
F.C. Cirstoiu – Orthopedics Traumatology Unique Course – 2017 - UMFCD

9. Corroboration of the subject content with the expectations of the representatives of the epistemic community, professional associations, and major employers in the field of the programme of study

The appropriate training at the end of the orthopedics-traumatology module confers the prerequisites for admission to residency and the development of a successful medical activity.

10. Assessment

Type of activity	Assessment criteria	Assessment methods	Assessment weighting within the final grade
Course	Knowledge of the theoretical notions of the subject	Grid type exam	50 %
Clinical rotation	Performing the main	Practical exam in front	25 %

	treatment maneuvers	of the group assistant	
	The ability to interpret clinical and imaging examinations	Practical exam in front of the teacher	25 %
Minimum performance standard			
At least 50% for each component of the assessment			

Date of filing	**Signature of the course tenured coordinator**	**Signature of the seminar tenured coordinator**

Date of approval in the Council of the Department: **Signature of the Head of the Department**