

COURSE INFORMATON					
Course Title	Code	Semester	L+P Hour	Credits	ECTS
Orthopedics and Traumatology (Clinical Clerkship)	MED501	Phase 5/9-10	29+41	5	5*

* ECTS credits are the university credits of the courses in Yeditepe University, Faculty of Medicine, Undergraduate Medical Education Program

Prerequisites	The student that joins this course, should completed Phase 1, 2, 3 and 4 courses of medical faculty.
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Language of Instruction	English
Course Level	Second Cycle including First Cycle Degree (One Tier Programme)
Course Type	Compulsory Professional/Clinical Clerkship (Professional and Clinical Skills: clinical skills performance at introductory clerkship level)
Course Coordinator	Turhan Özler, MD, Prof.
Instructors	Faik Altıntaş, MD Prof. Hasan Bombacı ,MD, Prof. Gökhan Meriç, MD, Prof. Onur Kocadal, MD, Assoc. Prof. Koray Başdelioğlu, MD, Assoc. Prof. Burak Çağrı Aksu, MD Assist. Prof. Samet Bayram, MD. Spec.
Assistants	
Goals	The course aims to equip the clerkship attendees with necessary knowledge and skills to: <ul style="list-style-type: none"> • convey necessary knowledge on symptoms of congenital, acquired or traumatic clinical conditions related to musculoskeletal system, • equip students with knowledge, skills and attitudes required to detect clinical sings in clinical conditions related to musculoskeletal system, • equip students with knowledge, skills and attitudes required to employ diagnostic tools and treatment modalities in clinical conditions related to musculoskeletal system.
Content	performing short arm cast on training model,

Learning Outcomes	Program Outcomes (APK)	Teaching Methods	Assessment Methods
At the end of this clerkship, the student should be able to:			
<ul style="list-style-type: none"> ● explain anatomy and physiology of musculoskeletal system, besides pathology of clinical conditions related to musculoskeletal system ● describe diagnosis of traumatic, skeletal and soft tissue pathologies, and their management in emergency states ● describe congenital pediatric orthopedic problems and general treatment strategies ● describe physiopathological causes of degenerative disorders and optimal managements ● describe degenerative spinal disorders, spine deformities and traumatic spine disorders ● explain diagnostic and therapeutic modalities in sports injury ● describe classification, diagnosis and treatment modalities in musculoskeletal tumors 	1.1.	1, 2, 4, 6,9	A, B, D
<ul style="list-style-type: none"> ● Skills: ● perform orthopedic examination of musculoskeletal system, ● perform first aid, wound care, bandaging, and management of temporary fracture stabilization, in case of fracture 	1.1., 1.2, 1.3, 1.5., 1.6., 2.1., 2.2., 2.5., 3.3.	1, 2, 4, 6, 9	A, B, D
<ul style="list-style-type: none"> ● Attitudes: ● be aware of importance of differentiation of musculoskeletal diseases and fractures, ● make guidance to patient about treatment, ● have good communication with patient and accompanying persons or care givers 	1.2., 2.1., 2.2., 2.5.	1, 2, 4, 6, 9	A, B, D
<ul style="list-style-type: none"> ● Competencies: ○ take the history of patient ○ check general condition and vital signs assessment ○ exam the musculoskeletal system ○ read direct radiographs and assessment 	1.1., 1.2., 1.3., 2.5., 3.3.	1, 2, 4, 6, 9	A, B, D

<ul style="list-style-type: none"> ○ apply bandage and tourniquet, ○ do appropriate patient transportation ○ transport amputated limb after trauma ○ arrange appropriate initial treatment, suture superficial wounds and removal of sutures 			
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<p>Teaching/Learning Methods:</p>	<ul style="list-style-type: none"> ● CONTACT HOURS (CH) 1. Theoretical-Class/Auditorium/Conference Hall/Multimedia <ul style="list-style-type: none"> 1.1. Lecture/Tutorial 1.2. Case report 1.3. Case presentation 1.4. Research seminar 1.5. Seminar 1.6. Student seminar/Journal club 1.7. Invited speaker 1.8. Hospital conference 1.9. Online/Distance or e-learning (paper based or ICT based) 1.10. Other: 2. Theoretical-Group Activity/Interactive <ul style="list-style-type: none"> 2.1. Case discussion 2.2. Discussion class 2.3. Small group study session/Problem solving session/Brainstorm session 2.4. Exercise class 2.5. Oral presentation and criticism 2.6. Panel 2.7. Workshop 2.8. Online/Distance or e-learning (paper based or ICT based) 2.9. Other: 3. Practice Based-Laboratory/Class <ul style="list-style-type: none"> 3.1. Demonstration class 3.2. Laboratory teaching 3.3. Clinical skills laboratory 3.4. Small group study session/Problem solving session 3.5. Exercise class 3.6. Workshop (practical class) 3.7. Other: 4. Clerkship (Clinical practice and training) <ul style="list-style-type: none"> 4.1. Field study/Fieldwork 4.2. Outpatient clinic 4.3. Patient bedside 4.4. Imaging round 4.5. Laboratory round 4.6. Work based practice 4.7. Grand round 4.8. Operating room 4.9. Invasive Intervention room 4.10. Night shift at ward 4.11. Night shift at intensive care unit 4.12. Night shift at emergency care unit 4.13. Other: 5. Work placement/Internship (Clinical performance under supervision) <ul style="list-style-type: none"> 5.1. Field study/Fieldwork 5.2. Outpatient clinic 5.3. Patient bedside 5.4. Imaging round 5.5. Laboratory round 5.6. Work based practice
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	<p>5.7. Grand round 5.8. Operating room 5.9. Invasive intervention room 5.10. Night shift at ward 5.11. Night shift at intensive care unit 5.12. Night shift at emergency care unit 5.13. Other:</p> <ul style="list-style-type: none"> • INDEPENDENT STUDY HOURS (ISH) <p>6. KNOWLEDGE (Levels: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation) 6.1. Theoretical/Written/Oral exam/s 6.2. Presentation 6.3. Seminar 6.4. Discussion 6.5. Session 6.6. Research paper writing 6.7. Project writing 6.8. Report writing 6.9. Dissertation writing 6.10. Homework 6.11. Investigation/Survey study 6.12. Other:</p> <p>7. SKILLS: (Levels: Imitation, Manipulation, Precision, Articulation, Naturalization) 7.1. Oral/practical exam/s 7.2. Presentation 7.3. Seminar 7.4. Discussion 7.5. Session 7.6. Exercise 7.7. Workshop 7.8. Imaging round 7.9. Laboratory round 7.10. Grand round 7.11. Other:</p> <p>8. ATTITUDES (Receiving, Responding, Valuing, Organization, Characterization) 8.1. Questionnaire (self-assessment) 8.2. Paper case 8.3. Other:</p> <p>9. COMPETENCY (Doing/Making, Co-ordinating/Operating, Observing/Analysing/Listening to/ Controlling/Driving, Choosing/Communicating/Enhancing, Conceiving/Visioning/Foreseeing) 9.1. Portfolio preparation 9.2. Clinical performance at outpatient wards 9.3. Clinical performance at inpatient wards 9.4. Clinical performance at night shifts (ward, emergency care unit, intensive care unit) 9.5. Other: (e.g. mini-clinical exam, etc.)</p> <p>10. PROFICIENCY (Doing/Making, Co-ordinating/Operating, Observing/Analysing/Listening to/ Controlling/Driving, Choosing/Communicating/Enhancing, Conceiving/Visioning/Foreseeing) 10.1. Portfolio preparation 10.2. Clinical performance at outpatient wards 10.3. Clinical performance at inpatient wards 10.4. Clinical performance at night shifts (ward, emergency care unit, intensive care unit) 10.5. Other: (e.g. mini-clinical exam, etc.)</p>
Assessment Methods:	<p>A. Knowledge Assessment a. Written Exam (MCQ+EMQ+KFQ) (F, S) b. Objectively Structured Oral Examination (S)</p>

	<ul style="list-style-type: none"> c. Oral Examination (F) d. Other: <p>B. Skills Assessment</p> <ul style="list-style-type: none"> a. Practical Examination (F) b. Objectively Structured Practical Examination (S) c. Mini Clinical Examination (S) d. Other: <p>C. Attitude Assessment</p> <ul style="list-style-type: none"> a. Mini Clinical Examination (S) b. Questionnaire (self-assessment) (F) c. Paper case (S) d. Observation of behaviour (360°) (F, S) e. Other: <p>D. Competency Assessment</p> <ul style="list-style-type: none"> a. Mini Clinical Examination (S) b. Clerkship/Internship Guide/Checklist Assessment (F, S) c. Professional Portfolio Assessment (F) d. Presentation Performance Assessment (F) e. Seminar Performance Assessment (F) f. Project Writing Assessment (S) g. Other: <p>E. Proficiency Assessment</p> <ul style="list-style-type: none"> a. Mini Clinical Examination (S) b. Clerkship/Internship Guide/Checklist Assessment (F, S) c. Professional Portfolio Assessment (F) d. Presentation Performance Assessment (F) e. Seminar Performance Assessment (F) f. Other: <p>*F: Formative, S: Summative</p>
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COURSE CONTENT		
Week	Topics	Study Materials
1	Introductory Session Introduction to Orthopedics and Traumatology	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Basic Principles of Fractures	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Osteomyelitis	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Pelvic Fractures	Textbook, Lecture Notes, Checklists, Guidelines, Case Files

1	Lecture Shoulder and Elbow Disorders	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Congenital Anomalies of the Lower Extremity	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Pes Equinovarus	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Dislocations and Fractures of the Upper Extremity	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Septic Arthritis	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Disorders of the Foot and Ankle in Adults	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Lecture Open Fractures	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Clinical Experience Surgical	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Clinical Skills Learning Examination of Knee	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Case Presentation (Student) or Ward Round or Preop X-Ray Round	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Clinical Skills Learning Examination of Hip	Textbook, Lecture Notes, Checklists, Guidelines, Case Files

1	Clinical Skills Learning Examination of Shoulder	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Clinical Skills Learning Examination of Ankle	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
1	Clinical Skills Learning Examination of Spine	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Developmental Dysplasia of the Hip	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Osteoporosis, Avascular Necrosis of the Bone	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Osteoarthritis, Faik Altıntaş	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Perthes Disease,	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Shoulder Disorders	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Knee Problems in Sports Medicine	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Arthroscopy, Cartilage Biology and Injuries	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Cerebral Palsy	Textbook, Lecture Notes, Checklists, Guidelines, Case Files

2	Lecture Hand Surgery	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Lecture Dislocations and Fractures of the Lower Extremity,	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Clinical Experience Surgical	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Clinical Skills Learning Gait Evaluation	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Case Presentation (Student) or Ward Round or Preop X-Ray Round	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Clinical Skills Learning Pediatric Examination	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Clinical Skills Learning Wound Management	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Clinical Skills Learning Management After Sports Injury	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
2	Clinical Skills Learning Examination of Cerebral Palsy	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Benign Tumors of the Bone	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Malignant Tumors of the Bone	Textbook, Lecture Notes, Checklists, Guidelines, Case Files

3	Lecture Spinal Trauma and Fractures	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Pediatric Fractures.	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Elbow Disorders	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Fracture Healing	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Arthroplasty	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Lecture Scoliosis	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Case Presentation (Student) or Ward Round or Preop X-Ray Round	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Clinical Experience Surgical	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Clinical Skills Learning Cast Application	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Clinical Skills Learning Hand Examination	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
3	Clinical Skills Learning Pediatric Hip Examination	Textbook, Lecture Notes, Checklists, Guidelines, Case Files

3	Clinical Skills Learning Management After Trauma	Textbook, Lecture Notes, Checklists, Guidelines, Case Files
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NCC 2014 – Essential Medical Procedures (National Core Curriculum)	Performance Level
General and symptom-based history taking	3
General condition and vital signs assessment	3
Musculoskeletal system examination	3
Preparing patient file	3
Reading direct radiographs and assessment	3
Preparing and applying splints	3
Applying bandage and tourniquet	3
Incision and drainage of skin and soft tissue abscess	3
Appropriate patient transportation	3
Cervical collar application	3
Transportation of amputated limb after trauma	2
Superficial suturing and removal of sutures	3

RECOMMENDED SOURCES	
Textbook	<ol style="list-style-type: none"> 1. Rockwood and Green Fractures in Adults and Pediatrics, 7th edition 2. Miller’s Review of the Orthopaedics 7th edition
Additional Resources	<ol style="list-style-type: none"> 1. www.uptodate.com

ASSESSMENT (APK)	
Questions Types (Pencil-Paper Tests)	Proportion <i>(in Pencil-Paper Tests)</i>
Multiple Choice Questions	80%
Extended Matching Questions	10%
Key Features	10%
Total	100%
Other Assessment Methods and Tools	Proportion <i>(in Pass/Fail Decision)</i>
Oral Exam (OE)	50%
Mini Clinical Evaluation Exercise (mini-CEX)	50%
Total	100 %
Pass/Fail Decision	Proportion <i>(in Pass/Fail Decision)</i>
Pencil-Paper Tests	50%
Other Assessments Methods and Tools	50%
Total	100 %

* WEs consists of 50 questions.
Detailed Assessment Tables are shown for each clerkship program in related pages of Academic Program Book.
Assessment details also will be announced and explained in the introductory sessions at the beginning of the clerkship.

MATERIAL SHARING	
Documents	Shared
Assignments	Shared
Exams	After the exam; exam questions, question discussions, After performance assessment; individual performance analysis reports/feedbacks will be shared.

COURSE CATEGORY	Expertise/Field Courses
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COURSE'S CONTRIBUTION TO PROGRAM						
	PODG.1. Basic Professional Competencies	Contribution				
	POD.1.1. Clinical Competencies	1	2	3	4	5
PO.1.1.1.	values preventive health services, offers primary prevention (i.e. prevention of diseases for the protection of health), secondary prevention (i.e. early diagnosis and treatment) tertiary prevention (i.e. rehabilitation) and quaternary prevention (i.e. prevention of excessive and unnecessary diagnosis and treatment) services, provides consultancy on these issues.			X		
PO.1.1.2.	employs a patient-centered approach in patient management.			X		
PO.1.1.3.	recognizes most frequently occurring or significant clinical complaints, symptoms, signs, findings and their emergence mechanisms in clinical conditions.			X		
PO.1.1.4.	takes medical history from the applicant himself/herself or from the individual's companions.			X		
PO.1.1.5.	does general and focused physical and mental examination.			X		
PO.1.1.6.	interprets findings in medical history, physical and mental examination.			X		
PO.1.1.7.	employs diagnostic procedures that are used frequently at the primary health care level.			X		
PO.1.1.8.	selects tests that have evidence-based high efficacy at the primary health care level and interprets results.			X		
PO.1.1.9.	makes clinical decisions using evidence-based systematic data in health care service.			X		
PO.1.1.10.	performs medical interventional procedures that are used frequently at the primary health care level.			X		
PO.1.1.11.	manages healthy individuals and patients in the context of health care services.			X		
PO.1.1.12.	keeps medical records in health care provision and uses information systems to that aim.			X		
	POD.1.2. Competencies related to Communication					
PO.1.2.1.	throughout his/her career, communicates effectively with health care beneficiaries, co-workers, accompanying persons, visitors, patient's relatives, care givers, colleagues, other individuals, organizations and institutions.			X		
PO.1.2.2.	collaborates as a team member with related organizations and institutions, with other professionals and health care workers, on issues related to health.			X		
PO.1.2.3.	recognizes the protection and privacy policy for health care beneficiaries, co-workers, accompanying persons and visitors.			X		
PO.1.2.4.	communicates with all stakeholders taking into consideration the socio-cultural diversity.			X		
	POD.1.3. Competencies Related to Leadership and Management					
PO.1.3.1.	manages and leads within the health care team in primary health care organization.			X		
PO.1.3.2.	recognizes the principles of health management and health sector economy, models of organization and financing of health care services.			X		
PO.1.3.3.	recognizes the resources in the health care service, the principles for cost-effective use.			X		
	POD.1.4. Competencies related to Health Advocacy					

PO.1.4.1.	recognizes the health status of the individual and the community and the factors affecting the health, implements the necessary measures to prevent effects of these factors on the health.					
PO.1.4.2.	recognizes and manages the health determinants including conditions that prevent access to health care.					
	POD.1.5. Competencies related to Research					
PO.1.5.1.	develops, prepares and presents research projects			X		
	POD.1.6. Competencies related to Health Education and Counseling					
PO.1.6.1.	provides consultancy services and organizes health education for the community to sustain and promote the health of individual and community.		X			
	PODG.2. Professional Values and Perspectives					
	POD.2.1. Competencies related to Law and Legal Regulations					
PO.2.1.1.	performs medical practices in accordance with the legal framework which regulates the primary health care service.		X			
	POD.2.2. Competencies Related to Ethical Aspects of Medicine					
PO.2.2.1.	recognizes basic ethical principles completely, and distinguishes ethical and legal problems.			X		
PO.2.2.2.	pays importance to the rights of patient, patient's relatives and physicians, and provides services in this context.			X		
	POD.2.3. Competencies Related to Social and Behavioral Sciences					
PO.2.3.1.	relates historical, anthropological and philosophical evolution of medicine, with the current medical practice.					
PO.2.3.2.	recognizes the individual's behavior and attitudes and factors that determine the social dynamics of the community.					
	POD.2.4. Competencies Related to Social Awareness and Participation					
PO.2.4.1.	leads community with sense of responsibility, behavior and attitudes in consideration of individual behaviors and social dynamics of the community, and if there is a necessity, develops projects directed towards health care services.					
	POD.2.5. Competencies Related to Professional Attitudes and Behaviors					
PO.2.5.1.	displays a patient-centered and holistic (biopsychosocial) approach to patients and their problems.		X			
PO.2.5.2.	respects patients, colleagues and all stakeholders in health care delivery.		X			
PO.2.5.3.	displays the proper behavior in case of disadvantaged groups and situations in the community.		X			
PO.2.5.4.	takes responsibility for the development of patient safety and healthcare quality.		X			
PO.2.5.5.	evaluates own performance as open to criticism, realizes the qualifications and limitations.		X			
	PODG.3. Professional Development and Self-Worth					
	PODG.3.1. Personal Development and Values					
PO.3.1.1.	embraces the importance of lifelong self-learning and implements .					

PO.3.1.2.	embraces the importance of updating knowledge and skills; searches current advancements and improves own knowledge and skills.					
PO.3.1.3.	uses English language at least at a level adequate to follow the international literature and to establish communication related to the profession.					
POD.3.2. Competencies Related to Career Management						
PO.3.2.1.	recognizes and investigates postgraduate work domains and job opportunities.					
PO.3.2.2.	recognizes the application requirements to postgraduate work/job domains, and distinguishes and plans any requirement for further training and work experience.					
PO.3.2.3.	prepares a resume, and recognizes job interview methods.					
POD.3.3. Competencies Related to Protection and Development of Own Physical and Mental Health						
PO.3.3.1.	implements the rules of healthy living.			X		
PO.3.3.2.	displays appropriate behavior specific to work under stressful conditions.			X		
PO.3.3.3.	uses self-motivation factors.			X		

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity/ day	Duration (Hour)	Total Workload (Hour)
Course Duration (3 weeks)	15	5	75
Hours for off-the-classroom study (Pre-study, practice, review/week)	15	4	60
Homework	-	-	-
Exam	1	2	2
Total Work Load			137
Total Work Load / 30 (h)			4.56
ECTS Credit of the Course			5