

COURSE INFORMATON					
Course Title	Code	Semester	L+P Hour	Credits	EC TS
Orthopedics and Traumatology (Clinical Clerkship)	MED501	5/9-10	29+46		5*

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

Prerequisites	Phase IV MED (MED 402, MED 403, MED 404, MED 405, MED 406, MED 407, MED 408, MED 409, MED 410, MED 411, MED 412, MED 413).
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Language of Instruction	English / Turkish
Course Level	First Cycle, (Bachelor of Science), Undergraduate, Directive 2005/36/EC; “Regulated Profession” (Exempt from EQF Level Scheme)
Course Type	Compulsory Professional/Clinical Clerkship (Professional and Clinical Skills: clinical skills performance at introductory clerkship level)
Course Coordinator	Gökhan Meriç, MD Assoc. Prof.
Instructors	Faik Altıntaş, MD Prof. Turhan Özler, MD Assoc. Prof. Gökhan Meriç, MD Assoc. Prof. Hakan Turan Çift, MD, Assoc. Prof. Onur Kocadal, MD Assist. Prof. Burak Çağrı Aksu, MD Assist. Prof.
Assistants	
Goals	<p>The course aims to equip the clerkship attendees with necessary knowledge and skills to:</p> <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
Students who take this course will be able to; (APK)			
<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

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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
- **apply** bandage and tourniquet,
- **do** appropriate patient transportation
- **transport** amputated limb after trauma
- **arrange** appropriate initial treatment,
- **suture** superficial wounds and removal of sutures

For further details please see Academic Program Book of Phase V at
http://med.yeditepe.edu.tr/sites/default/files/phase_5_0.pdf

Teaching/Learning Methods:

• CONTACT HOURS (CH)

1. Theoretical-Class/Auditorium/Conference Hall/Multimedia
 - 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
 - 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
 - 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)
 - 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

	<p>4.9. Invasive Intervention room</p> <p>4.10. Night shift at ward</p> <p>4.11. Night shift at intensive care unit</p> <p>4.12. Night shift at emergency care unit</p> <p>4.13. Other:</p> <p>5. Work placement/Internship (Clinical performance under supervision)</p> <p>5.1. Field study/Fieldwork</p> <p>5.2. Outpatient clinic</p> <p>5.3. Patient bedside</p> <p>5.4. Imaging round</p> <p>5.5. Laboratory round</p> <p>5.6. Work based practice</p> <p>5.7. Grand round</p> <p>5.8. Operating room</p> <p>5.9. Invasive intervention room</p> <p>5.10. Night shift at ward</p> <p>5.11. Night shift at intensive care unit</p> <p>5.12. Night shift at emergency care unit</p> <p>5.13. Other:</p> <p>• INDEPENDENT STUDY HOURS (ISH)</p> <p>6. KNOWLEDGE (Levels: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation)</p> <p>6.1. Theoretical/Written/Oral exam/s</p> <p>6.2. Presentation</p> <p>6.3. Seminar</p> <p>6.4. Discussion</p> <p>6.5. Session</p> <p>6.6. Research paper writing</p> <p>6.7. Project writing</p> <p>6.8. Report writing</p> <p>6.9. Dissertation writing</p> <p>6.10. Homework</p> <p>6.11. Investigation/Survey study</p> <p>6.12. Other:</p> <p>7. SKILLS: (Levels: Imitation, Manipulation, Precision, Articulation, Naturalization)</p> <p>7.1. Oral/practical exam/s</p> <p>7.2. Presentation</p> <p>7.3. Seminar</p> <p>7.4. Discussion</p> <p>7.5. Session</p> <p>7.6. Exercise</p> <p>7.7. Workshop</p> <p>7.8. Imaging round</p> <p>7.9. Laboratory round</p> <p>7.10. Grand round</p> <p>7.11. Other:</p> <p>8. ATTITUDES (Receiving, Responding, Valuing, Organization, Characterization)</p> <p>8.1. Questionnaire (self-assessment)</p> <p>8.2. Paper case</p> <p>8.3. Other:</p> <p>9. COMPETENCY (Doing/Making, Co-ordinating/Operating, Observing/Analysing/Listening to/ Controlling/Driving, Choosing/Communicating/Enhancing, Conceiving/Visioning/Foreseeing)</p> <p>9.1. Portfolio preparation</p> <p>9.2. Clinical performance at outpatient wards</p> <p>9.3. Clinical performance at inpatient wards</p> <p>9.4. Clinical performance at night shifts (ward, emergency care unit, intensive care unit)</p> <p>9.5. Other: (e.g. mini-clinical exam, etc.)</p>
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	<p>10. PROFICIENCY (Doing/Making, Co-ordinating/Operating, Observing/Analysing/Listening to/ Controlling/Driving, Choosing/Communicating/Enhancing, Conceiving/Visioning/Foreseeing)</p> <p>10.1.Portfolio preparation</p> <p>10.2.Clinical performance at outpatient wards</p> <p>10.3.Clinical performance at inpatient wards</p> <p>10.4.Clinical performance at night shifts (ward, emergency care unit, intensive care unit)</p> <p>10.5.Other: (e.g. mini-clinical exam, etc.)</p>
Assessment Methods:	<p>A. Knowledge Assessment</p> <ul style="list-style-type: none"> a. Written Exam (MCQ+EMQ+KFQ) (F, S) b. Objectively Structured Oral Examination (S) 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>

COURSE CONTENT		
<p>For further details please see Academic Program Book of Phase V at http://med.yeditepe.edu.tr/sites/default/files/phase_5_0.pdf</p>		
Week	Topics	Study Materials

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00	Introductory Session Introduction to Orthopedics and Traumatology <i>Faik Altıntaş</i>	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round
9:00-12:00	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-16:00	Lecture Pelvic Fractures Open Fractures <i>Gökhan Meriç</i>	Lecture Dislocations and Fractures of the Lower Extremity, Pediatric Fractures. <i>Turhan Özler</i>	Lecture Basic Principles of Fractures and Fracture Healing <i>Hakan Turan Çift</i> Osteomyelitis and Septic Arthritis <i>Onur Kocadal</i>	Lecture Benign and Malignant Tumors of the Bone <i>Hakan Turan Çift</i>	Lecture Spinal Trauma and Fractures Degenerative Diseases of the Spine <i>Hakan Turan Çift</i>
16:00-17:00	Clinical Skills Learning (Examination of Hip)	Clinical Skills Learning (Examination of Knee)	Clinical Skills Learning (Examination of Upper Extremity)	Clinical Skills Learning (Pediatric Examination)	Clinical Skills Training (Cast Application)
17:00-18:00	Independent Learning	Independent Learning	Independent Learning	Independent Learning	Independent Learning

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round
9:00-12:00	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-16:00	Lecture Developmental Dysplasia of the Hip, Perthes Disease, <i>Onur Kocadal</i>	Lecture Osteoporosis, Avascular Necrosis of the Bone <i>Onur Kocadal</i>	Lecture Osteoarthritis and Arthroplasty <i>Faik Altıntaş</i>	Lecture Shoulder and Elbow Disorders <i>Hakan Turan Çift</i> Knee Problems in Sports Medicine and Arthroscopy, Cartilage Biology and Injuries <i>Turhan Özler</i>	Lecture Scoliosis Cerebral palsy <i>Gökhan Meriç</i>
16:00-17:00	Clinical Skills Training (Gait Evaluation)	Clinical Skills Training (Wound Management)	Clinical Skills Training (Management after Sports Injury)	Clinical Skills Training (Examination of Spine)	Clinical Skills Training (Examination of Cerebral Palsy)
17.00-18.00	Independent Learning	Independent Learning	Independent Learning	Independent Learning	Independent Learning

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	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Case Presentation (Student) or Ward Round or Preop-X Ray Round	Assessment Session
9:00-12:00	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	Clinical Experience (Outpatient/ Surgical)	
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-16:00	Lecture Congenital Anomalies of the Lower Extremity PEV <i>Burak Çağrı Aksu</i>	Lecture Disorders of the Foot and Ankle <i>Burak Çağrı Aksu</i>	Lecture Dislocations and Fractures of the Upper Extremity, <i>Onur Kocadal</i>	Lecture Hand surgery, Cerebral Palsy <i>Gökhan Meriç</i>	Program Evaluation Session Review of the Exam Questions, Evaluation of the Program
16:00-17:00	Clinical Skills Training (Evaluation of X-ray in Pediatric Orthopaedics)	Clinical Skills Training (Evaluation of X-ray in Tumors)	Clinical Skills Training (The Follow-up after Microsurgery)	Independent Learning	<i>Turhan Özler</i>

RECOMMENDED SOURCES

Textbook

1. Rockwood and Green Fractures in Adults and Pediatrics, 7th edition
2. Miller's Review of the Orthopaedics 7th edition

Additional Resources

1. www.uptodate.com

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

Compulsory
Professional (Knowledge and Skills,
Competency: clinical knowledge, clinical skills
and competency)

COURSE'S CONTRIBUTION TO PROGRAM						
No	Program Learning Outcomes (APK)	Contribution				
		1	2	3	4	5
1	1.1.					x
2	1.2.					x
3	1.3					x
4	1.5					x
5	1.6					x
6	2.1.					x
7	2.2.					x
8	2.5					x
9	3.3					x

ASSESSMENT

(APK)

For further details please see Academic Program Book of Phase V athttp://med.yeditepe.edu.tr/sites/default/files/phase_5_0.pdf

Assessment Approaches, assessment methods and assessment tools that used in Phase V, Clerkship Programs are shown in below table.

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

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION

MED Orthopaedics and Traumatology (7 Student Groups: From 1 to 7.) For further details please see Academic Program Book of Phase V at http://med.yeditepe.edu.tr/sites/default/files/phase_5_0.pdf			
ACTIVITIES	#	Time (hour)	Workload (hour)
TEACHING/LEARNING ACTIVITIES			
CONTACT HOURS			
Theoretical-Class/Auditorium/Conference Hall/Multimedia			
Lecture/Tutorial	29	1.0-1.5	29.50
Case report			0.00
Case presentation			0.00
Research seminar			0.00
Seminar			0.00
Student seminar/Journal club			0.00
Invited speaker			0.00
Hospital conference			0.00
Online/Distance or e-learning (paper based or ICT based)			0.00
Other:			0.00
Theoretical-Group Activity/Interactive			
Case discussion	1	13	13.00
Discussion class			0.00
Small group study session/Problem solving session/Brainstorm session			0.00
Exercise class			0.00
Oral presentation and criticism			0.00
Panel			0.00
Workshop			0.00
Online/Distance or e-learning (paper based or ICT based)			0.00
Other:			0.00
Practice Based-Laboratory/Class			
Demonstration class			0.00

Laboratory teaching			0.00	
Clinical skills laboratory	1	13	13.00	
Small group study session/Problem solving session			0.00	
Exercise class			0.00	
Workshop (practical class)			0.00	
Other:			0.00	
Clerkship (Clinical practice and training)				
Field study/Fieldwork				
Outpatient clinic	1	8.00	8.00	
Patient bedside	2	8.00	16.00	
Imaging round			0.00	
Laboratory round			0.00	
Work based practice	1	4	4.00	
Grand round			0.00	
Operating room	4	4.00	16.00	
Invasive Intervention room			0.00	
Night shift at ward			0.00	
Night shift at intensive care unit			0.00	
Night shift at emergency care unit			0.00	
Other:			0.00	
Work placement/Internship (Clinical performance under supervision)				
Field study/Fieldwork			0.00	
Outpatient clinic			0.00	
Patient bedside			0.00	
Imaging round			0.00	
Laboratory round			0.00	
Work based practice			0.00	
Grand round			0.00	
Operating room			0.00	
Invasive intervention room			0.00	

Night shift at ward			0.00	
Night shift at intensive care unit			0.00	
Night shift at emergency care unit			0.00	
Other:			0.00	
INDEPENDENT STUDY HOURS				
KNOWLEDGE (Levels: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation)				
Theoretical/Written/Oral exam/s	1	8	8.00	
Presentation			0.00	
Seminar			0.00	
Discussion			0.00	
Session			0.00	
Research paper writing			0.00	
Project writing			0.00	
Report writing			0.00	
Dissertation writing			0.00	
Homework			0.00	
Investigation/Survey study			0.00	
Other:			0.00	
SKILLS: (Levels: Imitation, Manipulation, Precision, Articulation, Naturalization)				
Oral/practical exam/s			0.00	
Presentation			0.00	
Seminar			0.00	
Discussion			0.00	
Session			0.00	
Exercise			0.00	
Workshop	1	1	1.00	
Imaging round			0.00	
Laboratory round			0.00	
Grand round			0.00	

Other:			0.00	
ATTITUDES (Receiving, Responding, Valuing, Organization, Characterization)				
Questionnaire (self-assessment)			0.00	
Paper case			0.00	
Other:			0.00	
COMPETENCY (Doing/Making, Coordinating/Operating, Observing/Analyzing/Listening to/ Controlling/Driving, Choosing/Communicating/Enhancing, Conceiving/Visioning/Foreseeing)				
Portfolio preparation	1	4	4.00	
Clinical performance at outpatient wards	2	8	16.00	
Clinical performance at inpatient wards	1	8	8.00	
Clinical performance at night shifts (ward, emergency care unit, intensive care unit)			0.00	
Other: (e.g. mini-clinical exam, etc.)			0.00	
PROFICIENCY (Doing/Making, Coordinating/Operating, Observing/Analyzing/Listening to/ Controlling/Driving, Choosing/Communicating/Enhancing, Conceiving/Visioning/Foreseeing)				
Portfolio preparation			0.00	
Clinical performance at outpatient wards			0.00	
Clinical performance at inpatient wards			0.00	
Clinical performance at night shifts (ward, emergency care unit, intensive care unit)			0.00	
Other: (e.g. mini-clinical exam, etc.)			0.00	
ASSESSMENT/APPRAISAL MODES (F: Formative, S: Summative)				
Knowledge Assessment				
Written Exam (MCQ+EMQ+KFQ) (F, S)	1.00	1.00	1.00	
Objectively Structured Oral Examination (S)			0.00	
Oral Examination (F)			0.00	
Other:			0.00	
Skills Assessment				
Practical Examination (F)	1.00	1.00	1.00	
Objectively Structured Practical Examination (S)				

Mini Clinical Examination (S)			0.00	
Other: Objectively Structured Clinical Examination (OSCE) (S)			0.00	
Attitude Assessment				
Mini Clinical Examination (S)			0.00	
Questionnaire (self-assessment) (F)			0.00	
Paper case (S)			0.00	
Observation of behavior (360°) (F, S)			0.00	
Other:			0.00	
Competency Assessment				
Mini Clinical Examination (S)			0.00	
Clerkship/Internship Guide/Checklist Assessment (F, S)			0.00	
Professional Portfolio Assessment (F)	1	0,5	0.5	
Presentation Performance Assessment (F)			0.00	
Seminar Performance Assessment (F)			0.00	
Project Writing Assessment (S)			0.00	
Other:			0.00	
Proficiency Assessment				
Mini Clinical Examination (S)			0.00	
Clerkship/Internship Guide/Checklist Assessment (F, S)			0.00	
Professional Portfolio Assessment (F)			0.00	
Presentation Performance Assessment (F)			0.00	
Seminar Performance Assessment (F)			0.00	
Other:			0.00	
Total Workload per Course			137	
ECTS Credits per Course (Exact)			5.2	
ECTS Credits per Course (Rounded)			5.0	
Course Dates Group 1 (Beginning)				
Course Dates Group 1 (Completion)				
Course Dates Group 2 (Beginning)				
Course Dates Group 2 (Completion)				

Course Dates Group 4 (Beginning)		
Course Dates Group 4 (Completion)		
Course Dates Group 5 (Beginning)		
Course Dates Group 5 (Completion)		
Course Dates Group 6 (Beginning)		
Course Dates Group 6 (Completion)		
Course Dates Group 7 (Beginning)		
Course Dates Group 7 (Completion)		
Course Dates Group 3 (Beginning)		
Course Dates Group 3 (Completion)		

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