كلية الطب

Faculty of Medicine

MINIA UNIVERSITY

Doctorate (MD) Program & Courses' Specifications of Orthopedic Surgery and Traumatology

2022/2023

University: Minia

Faculty: Medicine

Department: Orthopedic Surgery & Traumatology

A- Basic Information

1. **Program title and code:** Doctorate degree (MD) in Orthopedic Surgery and Traumatology,OT100
2. **Final award:** Doctorate degree (MD) in Orthopedic Surgery and Traumatology
3. **Responsible department:** orthopedics & traumatology
4. **Departments involved in the program:** orthopedics & traumatology-anatomy-pathology-public health departments.
5. **Program duration:** 3.5 years
6. **Number of program courses:** 7 courses
7. **Coordinator:** prof/Ahmed fathy sadek

8. **External evalutor:** prof/ Fasil fahmy Adem
9. **Program management:**
10. **Program type:** single

B- Professional Information

1. **Program aims**

The involved candidate should be able to:

- Recognize, analyze, diagnose, and treat most of the commonly seen problems of orthopedics and traumatology.
- Able to conduct a scientific clinical and academic research.
- Gain continuous medical education through seminars, internet communications, fulfilling clinical or academic assignments, attending meetings and conferences and sharing in scientific channels.
- Able to make decisions in different clinical situations.
- Estimate of the degree of candidate ability to fulfill the goals of the program via a series of exams through each phase of the program.
- Gain ethical principles related to practice in the highly sensitive specialty.
- participate in community needs assessment and problem identification.

2. Intended learning outcomes (ILOs)

a) Knowledge and understanding

By the end of the program the student should be able to:

a1. Recognize thoroughly surgical anatomy of the musculoskeletal system.

a2. Describe the normal growth and development of the human musculoskeletal system and the basic biomechanical facts in orthopaedics and traumatology.

a3. Outline the recent advances in the abnormal structure, function, growth, and development of human musculoskeletal system.

a4. Recognize recent advances in the natural history of orthopedic diseases and traumatology problems.

a5. Recognize and fully interpret the basic underlying pathology of the common orthopaedic problems including infections, tumours and deformities.

a6. Outline recent methods of fixation of different fracture pattern.

a7. Explain the clinical picture and differential diagnosis of orthopedic diseases.

a8. Outline recent advances in the common diagnostic and laboratory techniques necessary to establish diagnosis of orthopedic diseases.

a9. Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases.

a10. Rrecognize basic knowledge of physiology, pathology and histology that is related to orthopedic diseases and fractures.

a11. Rrecognize basic knowledge of general complications of surgery.

a12. Define recent advanced trauma management.

a13. Explain principles, methodologies, tools and ethics of scientific research.

a14. Describe the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology.

a15. Outline the principles and fundamentals of quality assurance of professional practice in the field of orthopedic surgery and traumatology.

a16. Recognize the effect of professional practice on the environment and the methods of environmental development and maintenance.

b) Intellectual skills

By the end of the program the student should be able to:

b1. Appraise & interpret data acquired through history taking to reach a provisional diagnosis for orthopedic diseases.

b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic diseases.

b3. Manage a sound and scientifically based research and assignments.

b4. Conduct efficiently a continuous medical education through telecomminications and internet based medicine.

b5. Relate scientific writing of articles and publications in the field of orthopedic surgery and traumatology based on the well known and accepted standards.

b8. Demonstrate the capability of providing nontraditional solutions to orthopedic and traumatology problems.

b10. Relate the skills to criticize researches related to orthopedic surgery and traumatology according to scientific standards.

b11. Correlate & manage efficiently potential risks in professional practices in the field of orthopedic surgery and traumatology.

c) Professional and practical skills

By the end of the program the student should be able to:

c1. Perform the basic and modern professional skills in the area of orthopedic surgery and traumatology.

c2. Practice the skills to write and evaluate medical reports.

c3. Practice endoscopic and imaging evaluation of orthopedic problems.

c5. Evaluate & improve methods to train junior staff through continuous medical education programs.

c6. Develop new methods, tools, and ways of professional practice.

c7. Achieve the highest level at certain subspecialty.

d) General and transferable skills

d1. Demonstrate skills in presenting reports in seminars effectively.

d2. Use appropriate computer program package

d3. Demonstrate capability of teaching others and evaluate their performance.

d4. Assess and identify his personal learning needs.

d5. Use different sources for information and knowledge.

d6. Work coherently and successfully as a part of a team and team's leadership.

d7. Demonstrate capability of managing scientific meetings according to the available time.

d8. Demonstrate essential competencies for achieving the best method of patient-physician relationship.

d9. Use competently a specific protocol of musculoskeletal investigation to reach the correct diagnosis

3- Program Academic Reference Standards

- Faculty of Medicine, Minia University adopted the general national academic reference standards provided by the national authority for quality assurance and accreditation of education (NAQAAE) for all postgraduate programs. (Date 18/5/2009 and NO.177 of faculty council decree No.6854).
- Faculty of Medicine, Minia University has developed the academic standards (ARS) for MD program & approved in faculty council & decree No. 7528, in its session No.191, Dated 15/3/2010, & these standards (faculty ARS) has been updated & approved in faculty council No.52/2 dated 20/2/2023 **{Annex 1}.**
- Then, Orthopedic Surgery and Traumatology department has adopted these academic standards (ARS) and developed the intended learning outcomes (ILOs) for doctorate (MD) program in Orthopedic Surgery and Traumatology and the Date of program specification first approval by department council: 13/5/2013 and the last date of approval **6/3/2023. {Annex 2}.**

4. Program External References

- Minia faculty of medicine adopted the standards provided by "Accreditation council for graduate Medical Education" (http: acgme.org).

4. Curriculum Structure and Contents

4. a- Program duration: 3.5 years

4. b- Program structure:

	Hours/week		
Subject	**Lectures**	**Practical**	**Clinical**
First part			
Research methodology, Statistics and	**2**	**2**	
Use of Computer in medicine			
Applied anatomy	**2**	**2**	**2**
Biomechanics	**1**	**1**	**1**
Surgical pathology	**2**	**2**	
Second part			
Orthopedic surgery	**4**	**5**	**6**
Traumatology	**2**	**2**	**2**

5. Program courses: 6 Compulsory courses

5 1- Level of Program

A. Compulsory

Course title	No. of Units	**Hours/week**			Program ILOs covered (By No.)
		Lectures	**Laboratory**	**Exercises**	
First part					
1.Research methodology, Statistics and		**2**	**2**		**A11, A12, A13 B3-5-8-9-11, C2-6, D2-4-9**
2.Computer science		**1**	**1**		

3.Applied anatomy		**2**	**2**	**2**	**A10-12-13, 16 B3-4-6-7-9-10 C3-6, D2-5-6**
4-Biomechanics		**1**	**1**	**1**	**A1-3-4-5-6, B2-5, C5-7 D3-5**
5.Surgical pathology		**2**	**2**		**A1-2-3-4-5-6-7-8-9-10-11-12-16 B1-2-4-6-7-8-9-10-11 C1-3-4-5,7 D1-3-7-9**
Second part					
6.Orthopedic surgery		**4**	**5**	**6**	**A1-3-4-5-6-7-8-9,10-12-13-16 B2-5-11, C5-7, D3-5-8-9**
7.Traumatology		**2**	**2**	**2**	**A1-3-4-5-6, B2-5, C1-2-3-5-7, D3-5-6-7-8**

6. Program admission requirements

a. General Requirement

1. Candidates should have either:

A. MBBCh Degree from any Egyptian Faculties of Medicine, or

B. Equivalent Degree from Medical Schools abroad approved by the Ministry of Higher Education.

2. Master Degree in Orthopedic Surgery and Traumatology

3. Follow postgraduate regulatory rules of El Minia Faculty of Medicine.

b. Specific Requirements:

1. Candidates graduated from Egyptian Universities should have at least “Good Rank” in their final/cumulative year(s) examination, and grade “Good Rank” in General Surgery Course too.

2. Master Degree in Orthopedic Surgery and Traumatology with at least “Good Rank”.

3. Candidate should know how to speak & write English well (have Toeffol certificate).

4. Candidate should have computer skills.

7. Regulations for progression and program completion

Duration of program is (3.5 years), starting from registration till acceptance of the thesis; divided to:

First Part: (≥6 months):

1. Program-related basic science, Research Methodology, Ethics, primary medical reports Biostatistics and computer & SPSS.

2. At least six months after registration should pass before the student can ask for examination in the 1st part.

3. Two sets of exams: 1st in April — 2nd in October.

4. For the student to pass the first part exam, a score of at least 60% in each curriculum is needed.

5. Those who fail in one curriculum need to re-exam it only.

Second Part: (≥24 months):

1. Program related specialized science Orthopedic Surgery and Traumatology Courses and ILOs. At least 24 months after passing the 1st part should pass before the student can ask for examination in the 2nd part.

2. Fulfillment of the requirements in each course as described in the template and registered in the log book is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; as following:

Grand rounds	اجتماع علمى موسع
Training courses	دورات تدريبية
Conference attendance	حضور مؤتمرات علمية
Thesis discussion	حضور مناقشة الرسائل
Workshops	حضور ورش عمل
Journal clubs	ندوة الدوريات العلمية الحديثة
Case presentations	تقييم حالة مرضية
Seminars	لقاء علمى موسع
Mortality and morbidity conference	ندوة تحليل المخاطر المرضية أوالوفاة
Self education program	برنامج التعليم الذاتى

3. Two sets of exams: 1st in April— 2nd in October.

4. At least 60% of the written exam is needed to be admitted to the oral and practical exams.

5. 4 times of oral and practical exams are allowed before the student has to re-attend the written exam.

6. Thesis (24-48 months):

- Could start after registration and should be completed, defended and accepted after passing the 2nd part final examination, and after passing of at least 24 months after documentation of the subject of the thesis.
- Accepting the thesis is enough to pass this part after publication of two thesis based papers at least one of them in an international journal with impact factor > 0.5.

8- Teaching and learning methods: seminars - lectures – journal clubs – clinics – operative lists – workshops – conferences.

9. Methods of student's assessment:

Method of assessment	The assessed ILOs
1. Research (Thesis)	**a.** Knowledge & understanding, **b.** Intellectual skills **c.** Professional & practical skills **d.** General & transferable skills
2. Written Exams: • Short essay • MCQs • Complete • True or false and correct the wrong • Commentary • Problem solving	**a.** Knowledge & understanding **b.** Intellectual skills
3. Clinical Exams	**a.** Knowledge & understanding **b.** Intellectual skills **c.** Professional & practical skills
4. Seminars, presentations, assignments	**a.** Knowledge & understanding, **b.** Intellectual skills **c.** Professional & practical skills **d.** General & transferable skills
5. Oral Exams	**a.** knowledge & understanding **b.** Intellectual skills **c.** General & transferable skills
6. Others (Please specify)	

10. **Evaluation of program**

Evaluator (By whom)	Method/tool	Sample
1. Senior students (Students of last year	Questionnaires	10
2. Graduates (Alumni)	Questionnaires	10
3. Stakeholders	Meeting Questionnaires	2
4. External & Internal evaluators and external examiners	Reports	1
5. Quality Assurance Unit	Reports Questionnaires Site visits	

	Written	Practical	Oral
Anatomy	100	100	100
Pathology	100	100	100
Community	100	100	100
Orthopedics	100	100	100
Traumatology	100	100	100
Biomechanics	100	100	100

- **Program Coordinators:** Prof/Ahmed Fathy Sadek
- **Head of Department**: Prof/Ahmed Omar Yousef

Date of program specifications 1st approval by <u>department council</u>: 13/5/2013.

Date of <u>last update</u> & approval by <u>department council</u>: 3\2023

Annex I: Comparison between National Academic Quality Assurance & Accreditation (NAQAAE) General Academic Reference Standards (GARS) and Faculty Academic Reference Standards (ARS)

2. المعايير القياسية العامة: NAQAAE General Academic Reference Standards "GARS" for MD Programs	2. Faculty Academic Reference Standards (ARS) for MD Program
1.2. المعرفة والفهم: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدراية بكل من:	2.1. Knowledge and understanding: Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:
1.1.2. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.
2.1.2. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.
3.1.2. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medicolegal principles of medical practice.
4.1.2. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.
5.1.2. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.

2.2. المهارات الذهنية: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	**2.2. Intellectual skills:** Upon completion of the doctorate program (MD), the graduate must be able to:
1.2.2.تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها	2.2.1 Analysis and evaluation of information to correlate and deduce from it.
2.2.2. حل المشاكل المتخصصة استنادا على المعطيات المتاحة	2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.
3.2.2. إجراء دراسات بحثية تضيف إلى المعارف	2.2.3. Carryout research projects related to his scholarly field.
4.2.2. صياغة أوراق علمية	2.2.4. Write and publish scientific papers.
5.2.2. تقييم المخاطر في الممارسات المهنية	2.2.5. Assess risk in professional medical practice.
6.2.2. التخطيط لتطوير الأداء في مجال التخصص	2.2.6. Establish goals, commitments and strategies for improved productivity and performance.
7.2.2. اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2.7. Making professional decisions in different professional contexts.
8.2.2. الابتكار/ الإبداع	2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.
9.2.2. الحوار والنقاش المبني على البراهين والأدلة	2.2.9. Using Evidence-based strategies to during discussion or teaching others.

3.2. مهارات المهنية: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	**2.3. Professional skills:** Upon completion of the doctorate program (MD), the graduate must be able to:
1.3.2. إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.

2.3.2 . كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.
2.3.3 . تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and improve the methods and tools in the specific field
4.3.2. استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice
2.3.5. التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين.	2.3.5. Planning for the development of professional practice and improve of the performance of others
4.2. المهارات العامة والمنتقلة: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.4. General and transferable skills** Upon completion of the doctorate program (MD), the graduate must be able to:
1.4.2. التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.
2.4.2. استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.

2.4.3. Demonstrate effective teaching and evaluating others.	3.4.2. تعليم الآخرين وتقييم أداءهم
2.4.4. Self-assessment and continuous learning.	4.2.4. التقييم الذاتي والتعلم المستمر.
2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth	5.4.2. استخدام المصادر المختلفة للحصول على المعلومات والمعارف.
2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.	6.4.2. العمل في فريق وقيادة فرق العمل
2.4.7. Manage of scientific meetings and the ability to manage Time effectively.	7...4.2 إدارة اللقاءات العلمية والقدرة علي إدارة الوقت

MATRIX II: Faculty ARS VS. MD PROGRAM of Orthopedic Surgery and traumatology

2. المعايير القياسية العامة: **NAQAAE General Academic Reference Standards "GARS" for MD Programs**	**2. Faculty Academic Reference Standards (ARS) for MD Program**	**3-Program ILOS**
1.2. المعرفة والفهم: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدراية بكل من:**	**2.1. Knowledge and understanding:** Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:	**2.1. Knowledge and understanding:** Upon completion of **the doctorate Orthopedic Surgery and traumatology Program of** the graduate should be able to :
1.1.2. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.	a1. Recognize thoroughly surgical anatomy of the musculoskeletal system. a2. Describe the normal growth and development of the human musculoskeletal system and the basic biomechanical facts in orthopaedics and traumatology. a3. Outline the recent advances in the abnormal structure, function, growth, and development of human musculoskeletal system. a16. Recognize the effect of professional practice on the environment and the methods of environmental development and maintenance.
2.1.2. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.	. a4. Rrecognize recent advances in the natural history of orthopedic diseases and traumatology problems. a5. Rrecognize and fully interpret the basic underlying pathology of the common orthopaedic problems including infections, tumours and deformities. a6. Outline recent methods of fixation of different fracture pattern.
3.1.2. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medico legal principles of medical practice.	a7. Explain the clinical picture and differential diagnosis of orthopedic diseases. a8. Outline recent advances in the common diagnostic and laboratory techniques necessary to establish diagnosis of orthopedic diseases. a9. Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases.

4.1.2. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.	a10. Rrecognize basic knowledge of physiology, pathology and histology that is related to orthopedic diseases and fractures. a11. Rrecognize basic knowledge of general complications of surgery. a12. Define recent advanced trauma management.
5.1.2. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.	a13. Explain principles, methodologies, tools and ethics of scientific research. a14. Describe the principles and fundamentals of ethics and legal aspects of professional practice in the field of orthopedic surgery and traumatology. a15. Outline the principles and fundamentals of quality assurance of professional practice in the field of orthopedic surgery and traumatology.
2.2. المهارات الذهنية: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.2. Intellectual skills:** Upon completion of the doctorate program (MD), the graduate must be able to:	**2.2. Intellectual skills:** Upon completion of **the doctorate Program of public health and preventive medicine** he graduate should be able to :

1.2.2.تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها	2.2.1 Analysis and evaluation of information to correlate and deduce from it.	b1. Appraise & interpret data acquired through history taking to reach a provisional diagnosis for orthopedic diseases.
2.2.2. حل المشاكل المتخصصة استنادا على المعطيات المتاحة	2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	b3. Manage a sound and scientifically based research and assignments.
3.2.2. إجراء دراسات بحثية تضيف إلى المعارف	2.2.3. Carryout research projects related to his scholarly field.	b5. Relate scientific writing of articles and publications in the field of orthopedic surgery and traumatology based on the well known and accepted standards.
4.2.2. صياغة أوراق علمية	2.2.4. Write and publish scientific papers.	b4. Conduct efficiently a continuous medical education through telecomminications and internet based medicine.

5.2.2. تقييم المخاطر في الممارسات المهنية	2.2.5. Assess risk in professional medical practice.	b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic diseases.
6.2.2. التخطيط لتطوير الأداء في مجال التخصص	2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	b8. Demonstrate the capability of providing nontraditional solutions to orthopedic and traumatology problems.
7.2.2. اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2.7. Making professional decisions in different professional contexts.	b10. Relate the skills to criticize researches related to orthopedic surgery and traumatology according to scientific standards.
8.2.2. الابتكار/ الإبداع	2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	b11. Correlate & manage efficiently potential risks in professional practices in the field of orthopedic surgery and Traumatology.
9.2.2. الحوار والنقاش المبني على البراهين والأدلة	2.2.9. Using Evidence-based strategies to during discussion or teaching others.	b5. Relate scientific writing of articles and publications in the field of orthopedic surgery and traumatology based on the well-known and accepted standards.
3.2. مهارات المهنية: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.3. Professional skills:** Upon completion of the doctorate program (MD), the graduate must be able to:	**2.3Professional skills:** Upon completion of **the doctorate Program of public health and preventive medicine** the graduate should be able to :
1.3.2. إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.	c1. Perform the basic and modern professional skills in the area of orthopedic surgery and traumatology. c3. Practice endoscopic and imaging evaluation of orthopedic problems. c7. Achieve the highest level at certain subspecialty.
2.3.2 . كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.	c2. Practice the skills to write and evaluate medical reports
2.3.3 . تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and improve the methods and tools in the specific field	c5. Evaluate & improve methods to train junior staff through continuous medical education programs
4.3.2. استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice	c3. Practice endoscopic and imaging evaluation of orthopedic problems.

2.3.5. التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين.	2.3.5. Planning for the development of professional practice and improve of the performance of others	c7. Achieve the highest level at certain subspecialty.
.4.2. المهارات العامة والمنتقلة: **بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:**	**2.4. General and transferable skills** Upon completion of the doctorate program (MD), the graduate must be able to:	**2.4. General and transferable skills** Upon completion of the doctorate program (MD), the graduate must be able to:
1.4.2. التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.	d1. Demonstrate skills in presenting reports in seminars effectively. d4. Assess and identify his personal learning needs. d5. Use different sources for information and knowledge.
2.4.2. استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.	d2. Use appropriate computer program package
3.4.2. تعليم الآخرين وتقييم أداءهم	2.4.3. Demonstrate effective teaching and evaluating others.	d3. Demonstrate capability of teaching others and evaluate their performance.
.4.2.4. التقييم الذاتي والتعلم المستمر.	2.4.4. Self-assessment and continuous learning.	d4. Assess and identify his personal learning needs. d5. Use different sources for information and knowledge.
5.4.2. استخدام المصادر المختلفة للحصول على المعلومات والمعارف.	2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth	d6. Work coherently and successfully as a part of a team and team's leadership.
6.4.2. العمل في فريق وقيادة فرق العمل	2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.	d7. Demonstrate capability of managing scientific meetings according to the available time.

7...4.2 إدارة اللقاءات العلمية والقدرة علي إدارة الوقت	2.4.7. Manage of scientific meetings and the ability to manage Time effectively.	d8. Demonstrate essential competencies for achieving the best method of patient-physician relationship. d9. Use competently a specific protocol of musculoskeletal investigation to reach the correct diagnosis

Annex 4

نموذج رقم (11ب)

جامعة/أكاديمية : .....المنيا.....

كلية / معهد: .....الطب.....

قسم: .....جراحة العظام و الاصابات

مسمى البرنامج	M.D. Orthopedic Surgery and Traumatology
كود البرنامج	OT 100

Matrix of Coverage of MD Program ILOs By Course

Courses (List of courses in 1st and 2nd parts)	Program Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General &Transferable Skills
	A	B	C	D
1. Research methodology, Statistics and Computer science	A11, A12, A13,	3-5-8-9-11	2-6	2-4-9

2. Applied anatomy	**A10-12-13, 16**	**3-4-6-7-9-10**	**3-6**	**2-5-6**
3. Biomechanics	**A1-3-4-5-6,**	**2-5**	**5-7**	**3-5**
4. Surgical pathology	**A1-2-3-4-5-6-7-8-9-10-11-12-16**	**1-2-4-6-7-8-9-10-11**	**1-3-4-5,7**	**1-3-7-9**
5. Orthopedic surgery	**A1-3-4-5-6-7-8-9,10-12-13-16**	**2-5-11**	**5-7**	**3-5-8-9**
6. Traumatology	**A1-3-4-5-6**	**B2-5**	**C1-2-3-5-7**	**D3-5-6-7-8**

Methods of teaching & learning	Intended learning outcomes (ILOs)			
	A.knowledge & understanding	B.Intellectual skills	C.Professional & practical skills	D.General & transferable skills
	A	B	C	D
Lectures	A1-16	B1-11		
Seminars				D1-9
Journal clubs				D1-9
Workshops				D1-9
Clinics			C1-7	
Conferences				D1-9
Lists				D1-9
Thesis discussion				D1-9

Methods of assessment	Intended learning outcomes (ILOs)			
	A.knowledge & understanding	B.Intellectual skills	C.Professional & practical skills	D.General & transferable skills
	A	B	C	D
Written exam	A1-16	B1-11		
Clinical exam			C1-7	
Oral exam	A1-16	B1-11		

Last date of approval: 6/3/2023

Course Specification of Traumatology in MD degree in Orthopedic Surgery and traumatology

El Minia University-Faculty of Medicine

1. Program (s) on which the course is given: MD degree in Orthopedic Surgery and Traumatology
2. Major element of program.
3. Department offering the course: Orthopedic Surgery and Traumatology department
4. Department offering the program: Orthopedic Surgery and Traumatology Department
5. Academic year / Level: 2st part.

A- Basic Information

Title: Orthopedic Surgery and Traumatology

Credit Hours:

Lecture: 6

Tutorial: 7

Practical: 8

B- Professional Information

1. Overall Aims of Course

The involved candidate should be able to:

- Recognize, analyze, diagnose and treat most of the commonly seen problems of orthopedics and traumatology.
- conduct a scientific clinical and academic research.
- Gain education through seminars, internet communications, fulfilling clinical or academic assignments, attending meetings and conferences and sharing in scientific channels.
- Make decisions in different clinical situations.
- Estimate the degree of candidate ability to fulfill the goals of the program via a series of exams through each phase of the program.

2. Intended Learning Outcomes of Course (ILOs):

a) Knowledge and understanding

By the end of the program the student should be able to:

a1. Recognize recent advances in the natural history of orthopedic diseases and traumatology problems.

a2. Outline recent methods of fixation of different fracture pattern.

a3. Explain the clinical picture and differential diagnosis of orthopedic diseases.

a4. Outline recent advances in the common diagnostic and laboratory techniques necessary to establish diagnosis of orthopedic diseases.

a5. Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases.

a6. Recognize basic knowledge of general complications of surgery.

a7. Define recent advanced trauma management..

b) Intellectual skills

By the end of the program the student should be able to:

b1. Appraise & interpret data acquired through history taking to reach a provisional diagnosis for orthopedic diseases.

b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic diseases.

b3. Demonstrate the capability of providing nontraditional solutions to orthopedic and traumatology problems.

b4. Criticize researches related to orthopedic surgery and traumatology according to scientific standards.

b5. Evaluate & manage efficiently potential risks in professional practices in the field of orthopedic surgery and traumatology.

c) Professional and practical skills

By the end of the program the student should be able to:

c1. Practice the basic and modern professional skills in the area of orthopedic surgery and traumatology.

c2. Practice endoscopic and imaging evaluation of orthopedic problems.

c3. Evaluate & improve methods to train junior staff through continuous medical education programs.

c4. Develop new methods, tools, and ways of professional practice.

c5. Achieve the highest level at certain subspecialty.

d) General and transferable skills

d1. Demonstrate skills in presenting reports in seminars effectively.

d2. Use appropriate computer program package

d3. Demonstrate capability of teaching others and evaluate their performance.

d4. Assess himself and identify his personal learning needs.

d5. Work coherently and successfully as a part of a team and team's leadership.

d6. Demonstrate essential competencies for achieving the best method of patient-physician relationship.

Trauma course

Topic	No. of hours	seminar	Lectures	Tutorial/Practical Work
Introduction to traumatology with general review of mechanisms of injury, diagnosis, general lines of treatment.	4		2	2
Biology of fracture healing and factors affecting.	4		2	2
Biomechanics.	4		2	2
Open fractures, external fixation.	4		2	2
Management of polytrauma patients.	4		2	2

Determination of treatment priorities of trauma patients.	4		2	2
Immature skeleton injuries.	4		2	2
Complications of fractures.	4		2	2
Principles of internal fixation: plates, screws, wires, nail.	4		2	2
Fracture spine.	4		2	2
Fracture pelvis.	4		2	2
Injuries around the shoulder.	4		2	2
Humeral fractures	4		2	2
Injuries around the elbow.	4		2	2
Forearm fractures.	4		2	2
Injuries around the wrist and hand fracture.	4		2	2
Dislocations and fractures around the hip.	4		2	2
Fractures of the femur: ▪ Proximal. ▪ Shaft. ▪ Distal.	4		2	2
Total	72		36	36

4. Teaching and Learning Methods

4.1 Lectures.

4.2 Practical / surgical /clinical lessons.

4.3 seminars and grand rounds.

4.4 Discussion sessions.

4.5 Information collection from different sources.

4.6 Attending and participating in scientific meeting and workshops

5. Student Assessment Methods

5.1 written exams to assess the ability to express their comprehensive understanding of certain subjects and the use of their mentality in solving clinical problems.

5.2 oral exams to assess the presentation of the candidate and the intellectual thinking in brief period of times.

5.3 clinical exams to make sure that the candidate can utilize the acquired skill in the program to reach a good provisional diagnosis and assess the ability to evaluate and manage variety of orthopaedic cases.

5.4 operative exams to assess the ability of the candidate to follow the basic rules of orthopaedic surgery and his/her recognition of the basic instruments and tools used both in trauma and orthopaedic cases.

5.5 radiology exams to assess the ability to interpret the available radiological investigations.

5.6. thesis evaluation at the end of the program.

Assessment Schedule

Assessment 1 … Assignment…. . Week: 30-31

Assessment 2 … Written exam…Week: 96

Assessment 3…. Clinical exam…Week: 96

Assessment 4….. Oral exam…….Week: 96

Assessment 5: thesis evaluation at week 144

Weighting of Assessments

Final-Written Examination …….. Separate exam

Passing in the written exam is a condition to attend the following exams

Oral Examination 50 %

Clinical Examination 50 %

Total 100 %

Formative only assessment: single research assignment, log book, attendance

and absenteeism

6. List of References

- Course notes
- Essential Books (Text Books)

1. Campell"s Operative Orthopedic 14th edition
2. Manual of internal fixation
3. Stanley"s Surgical approaches 6th edition
4. Rockwood' text book for fractures 7th Edition.
5. Apley's text book for orthopedic surgery
6. American academy text book for orthopedic surgery
7. Jupiter text book for trauma 3rd edition.

7. Periodicals and Web Sites:

Spine Journal

British bone and joint Journal

American bone and joint Journal

Journal of hand and microsurgery

Clinical Orthopedic Journal

www.Maitraise orthope.com

www.pubmed.com

www.springerlink.com

www.sciencedirect.com

www.gatewayovid.com

8. Facilities Required for Teaching and Learning

-Adequate infrastructure including teaching rooms, comfortable desks.

- Teaching tools including screen, slide Projector, computer and data show.

Course Coordinator: Dr .Ahmad Fathy Sadek

Head of Department: Prof. Dr. Ahmed Amr Youssef

Date: 3/2023

جامعة/أكاديمية : .....المنيا.....

كلية / معهد: .....الطب البشري.....

قسم: جراحة العظام و الاصابات.....

مسمى المقرر	Post-Graduate Course Specifications of Orthopedic Surgery and Traumatology in MD degree in Orthopedic Surgery and Traumatology
كود المقرر	OT 100

	Week	Intended Learning Outcomes (ILOs)

A. Matrix of Coverage of Course ILOs By Content

		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Introduction to traumatology with general review of mechanisms of injury, diagnosis, general lines of treatment.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Biology of fracture healing and factors affecting.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Biomechanics.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Open fractures, external fixation.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Management of polytrauma patients.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Determination of treatment priorities of trauma patients.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Immature skeleton injuries.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Complications of fractures.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**

Principles of internal fixation: plates, screws, wires, nail.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Methods of	**Intended Learning Outcomes (ILOs)**				
Fracture pelvis.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Injuries around the shoulder.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Humeral fractures		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Injuries around the elbow.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Forearm fractures.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Injuries around the wrist and hand fracture.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Dislocations and fractures around the hip.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Fractures of the femur: ▪ Proximal. ▪ Shaft. Distal.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**

	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	1,2,3	1,2,3		
Practical		1,2,3	1,2,3	1,2
Assignment	1,2,3	1,2,3	1,2,3	1,2

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	1,2,3	1,2,3		
Practical		1,2,3	1,2,3	1,2
Assignment	1,2,3	1,2,3	1,2,3	1,2

C.Matrix of Coverage of Course ILOs by Methods of Assessment

	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
itten exam	**1,2,3**	**1,2,3**		
ctical exam		**1,2,3**	**1,2,3**	**1,2**
ral Exam	**1,2,3**	**1,2,3**	**1,2,3**	**1,2**

Course Specification of Orthopedic Surgery in MD degree in Orthopedic Surgery and traumatology

El Minia University-Faculty of Medicine

1. Program (s) on which the course is given: MD degree in Orthopedic Surgery and Traumatology
2. Major element of program.
3. Department offering the course: Orthopedic Surgery and Traumatology department
4. Department offering the program: Orthopedic Surgery and Traumatology Department
5. Academic year / Level: 2st part.

A- Basic Information

Title: Orthopedic Surgery and Traumatology

Lecture: 6

Tutorial: 7

Practical: 8

B- Professional Information

1. Overall Aims of Course

The involved candidate should be able to:

- Recognize, analyze, diagnose and treat most of the commonly seen problems of orthopedics and traumatology.
- Able to conduct a scientific clinical and academic research.
- Gain continuous medical education through seminars, internet communications, fulfilling clinical or academic assignments, attending meetings and conferences and sharing in scientific channels.
- Able to make decisions in different clinical situations.
- Estimate degree of candidate ability to fulfill the goals of the program via a series of exams through each phase of the program.

2. Intended Learning Outcomes of Course (ILOs):

a) Knowledge and understanding

By the end of the program the student should be able to:

a1. Rrecognize recent advances in the natural history of orthopedic diseases and traumatology problems.

a2. Outline recent methods of fixation of different fracture pattern.

a3. Explain the clinical picture and differential diagnosis of orthopedic diseases.

a4. Outline recent advances in the common diagnostic and laboratory techniques necessary to establish diagnosis of orthopedic diseases.

a5. Describe recent advances in the various therapeutic methods/alternatives used for orthopedic diseases.

a6. Rrecognize basic knowledge of general complications of surgery.

a7. Define recent advanced trauma management..

b) Intellectual skills

By the end of the program the student should be able to:

b1. Appraise & interpret data acquired through history taking to reach a provisional diagnosis for orthopedic diseases.

b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for orthopedic diseases.

b3. Correlate nontraditional solutions to orthopedic and traumatology problems.

b4. Interpret the scientific knowledge of orthopedic surgery and traumatology according to scientific standards.

b5. Evaluate & manage efficiently potential risks in professional practices in the field of orthopedic surgery and traumatology.

c) Professional and practical skills

By the end of the program the student should be able to:

c1. Practice the basic and modern professional skills in the area of orthopedic surgery and traumatology.

c2. Practice endoscopic and imaging evaluation of orthopedic problems.

c3. Evaluate & improve methods to train junior staff through continuous medical education programs.

c4. Perform new methods, tools, and ways of professional practice.

c5. Achieve the highest level at certain subspecialty.

d) General and transferable skills

d1. Demonstrate skills in presenting reports in seminars effectively.

d2. Use appropriate computer program package

d3. Demonstrate capability of teaching others and evaluate their performance.

d4. Assess himself and identify his personal learning needs.

d5. Work coherently and successfully as a part of a team and team's leadership.

d6. Demonstrate essential competencies for achieving the best method of patient-physician relationship.

3- Contents: included in a two-year program of progressing academic and clinical comprehensive and up to date program

Orthopedic course:

Topic	No. of hours	seminar	lectures	Tutorial/Practical Work
Comprehensive clinical examination.	4		2	2
Neurological, paralytic disorders, entrapment syndromes.	4		2	2
Arthrodesis and amputations.	4		2	2
Principles of arthroplasty.	4		2	2
Bone and joint infections: non specific and specific.	4		2	2
Gait analysis, cycle and abnormality.	4		2	2
Arthropathies	4		2	2
LLD and Ilizarov techniques.	4		2	2
Cartilage & apophysis problems.	4		2	2
A vascular necrosis (AVN).	4		2	2
Endocrinal disorders.	4		2	2
Dysplastic disorders.	4		2	2
Collagen disorders.	4		2	2
Pediatric disorders (hip).	4		2	2
Skeletal deformities.	4		2	2

Congenital conditions of the LL.	4		2	2
Oncology: ▪ Basics of neoplasia. ▪ Benign bony lesions. ▪ Malignant bony lesions I: Osteosarcoma, Chondrosarcoma, and Fibrosarcoma. ▪ Malignant bony lesions II: Giant cell tumors, Ewing tumors, Bone secondaries.	4		2	2
Metallurgy and implant material.	4		2	2
Soft tissue problems, tendinopathies.	4		2	2
Spine; ▪ examinations, operations. ▪ congenital disorders, deformities, infections, tumours of cervical,thorcic and lumbosacral spine.	4		2	2
Shoulder: examinations, problems, & operations.	4		2	2
Elbow: examinations, problems, & operations.	4		2	2
Wrist and hand: examinations, problems, & operations.	4		2	2
Congenital anomalies of the UL.	4		2	2
Hip: examinations and problems & operations.	4		2	2
Knee: examinations and problems & operations.	4		2	2
Foot and ankle: examinations and problems & operations.	4		2	2
Total	**108**		**54**	**54**

4. Teaching and Learning Methods

4.1 Lectures.

4.2 Practical / surgical /clinical lessons.

4.3 seminars and grand rounds.

4.4 Discussion sessions.

4.5 Information collection from different sources.

4.6 Attending and participating in scientific meeting and workshops

5. Student Assessment Methods

5.1 written exams to assess the ability to express their comprehensive understanding of certain subjects and the use of their mentality in solving clinical problems.

5.2 oral exams to assess the presentation of the candidate and the intellectual thinking in brief period of times.

5.3 clinical exams to make sure that the candidate can utilize the acquired skill in the program to reach a good provisional diagnosis and assess the ability to evaluate and manage variety of orthopaedic cases.

5.4 operative exams to assess the ability of the candidate to follow the basic rules of orthopaedic surgery and his/her recognition of the basic instruments and tools used both in trauma and orthopaedic cases.

5.5 radiology exams to assess the ability to interpret the available radiological investigations.

5.6. thesis evaluation at the end of the program.

Assessment Schedule

Assessment 1 … Assignment…. . Week: 30-31

Assessment 2 … Written exam…Week: 96

Assessment 3…. Clinical exam…Week: 96

Assessment 4….. Oral exam…….Week: 96

Assessment 5: thesis evaluation at week 144

Weighting of Assessments

Final-Written Examination …….. Separate exam

Passing in the written exam is a condition to attend the following exams

Oral Examination 50 %

Clinical Examination 50 %

Total 100 %

Formative only assessment: single research assignment, log book, attendance and absenteeism

6. List of References

- Course notes
- Essential Books (Text Books)

8. Campell"s Operative Orthopedic 14th edition
9. Manual of internal fixation
10. Stanley"s Surgical approaches 6th edition
11. Rockwood' text book for fractures 7th Edition.
12. Apley's text book for orthopedic surgery
13. American academy text book for orthopedic surgery
14. Jupiter text book for trauma 3rd edition.

7. Periodicals and Web Sites:

Spine Journal

British bone and joint Journal

American bone and joint Journal

Journal of hand and microsurgery

Clinical Orthopedic Journal

www.Maitraise orthope.com

www.pubmed.com

www.springerlink.com

www.sciencedirect.com

www.gatewayovid.com

8. Facilities Required for Teaching and Learning

-Adequate infrastructure including teaching rooms, comfortable desks.

- Teaching tools including screen, slide Projector, computer and data show.

Course Coordinator: Dr .Ahmad Fathy Sadek

Head of Department: Prof. Dr. Ahmed Amr Youssef

Date: 3/2023

جامعة/أكاديمية : .....المنيا.....

كلية / معهد: .....الطب البشري.....

قسم: جراحة العظام و الاصابات.....

مسمى المقرر	Post-Graduate Course Specifications of Orthopedic Surgery and Traumatology in MD degree in Orthopedic Surgery and Traumatology
كود المقرر	OT 100

A. Matrix of Coverage of Course ILOs By Content

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Comprehensive clinical examination.		1,2,3	1,2,3	1,2,3	1,2
Neurological, paralytic disorders, entrapment syndromes.		1,2,3	1,2,3	1,2,3	1,2
Arthrodesis and amputations.		1,2,3	1,2,3	1,2,3	1,2
Principles of arthroplasty.		1,2,3	1,2,3	1,2,3	1,2
Bone and joint infections: non specific and specific.		1,2,3	1,2,3	1,2,3	1,2

Gait analysis, cycle and abnormality.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Arthropathies		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
LLD and Ilizarov techniques.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Cartilage & apophysis problems.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
A vascular necrosis (AVN).		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Endocrinal disorders.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Dysplastic disorders.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Collagen disorders.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Pediatric disorders (hip).		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Skeletal deformities.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Congenital conditions of the LL.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Oncology: ▪ Basics of neoplasia. ▪ Benign bony lesions. ▪ Malignant bony lesions I: Osteosarcoma, Chondrosarcoma, and Fibrosarcoma. ▪ Malignant bony lesions II: Giant cell tumors, Ewing tumors, Bone secondaries.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**

Metallurgy and implant material.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Soft tissue problems, tendinopathies.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Spine; ▪ examinations, operations. congenital disorders, deformities, infections, tumours of cervical,thorcic and lumbosacral spine.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Shoulder: examinations, problems, & operations.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Elbow: examinations, problems, & operations.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Wrist and hand: examinations, problems, & operations.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Congenital anomalies of the UL.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Hip: examinations and problems & operations.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Knee: examinations and problems & operations.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**
Foot and ankle: examinations and problems & operations.		**1,2,3**	**1,2,3**	**1,2,3**	**1,2**

B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	1,2,3	1,2,3		
Practical		1,2,3	1,2,3	1,2
Assignment	1,2,3	1,2,3	1,2,3	1,2

C.Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	1,2,3	1,2,3		
Practical exam		1,2,3	1,2,3	1,2
Oral Exam	1,2,3	1,2,3	1,2,3	1,2

Course Specification of Applied Anatomy in MD degree in Orthopedic Surgery and Traumatology

El Minia University-Faculty of Medicine

1. Program (s) on which the course is given: MD degree in Orthopedic Surgery and traumatology
2. Minor element of program.
3. Department offering the course: Orthopedic Surgery and Traumatology Department

4.Department offering the program: Orthopedic Surgery and Traumatology Department

5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty Council, dated: ----6/4/2020--

A. Basic Information

Title: Applied Anatomy **Credit Hours: Lecture: 2 hs.**

Tutorial: 2 hs

Practical: 2 hs.

B. Professional Information

1. Overall Aims of Course

By the end of the course the student should be able to have the professional knowledge about the anatomy and embryology upper limb, lower limb, pelvis, and vertebral column.

2. Intended Learning Outcomes of Course (ILOs):

a. Knowledge and understanding:

By the end of the course, the student is expected to be able to:

a1. Mention the normal structure of the human musculoskeletal system.

a2. Understand recent advances in the normal development of the human musculoskeletal system.

a3. Understand the relationship between the structural anatomy of the musculoskeletal system and the function provided.

a4. Understand the different surgical approaches related to the orthopedic and traumatology specialty with both advantages and disadvantages.

b. Intellectual Skills

By the end of the course, the student is expected to be allowed to:

b1. Interpret data acquired to understand applied anatomy of orthopedic diseases

b2. Know the risks of each surgical approach.

c. Professional and Practical Skills:

By the end of the course, the student is expected to practice the following:

c1. Master the basic and modern professional skills in surgical dissection on anatomical basis.

c2. The most recent and innovative approaches regarding the subspecialty.

d. General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Use of different sources for information and knowledge to learn more about abnormal anatomy of orthopedic diseases.

. Contents

Topic	No. of hours	Lectures
Introduction		2
Anatomy and embryology of the upper limb		5
Anatomy and embryology of the vertebral column		3
Anatomy of the muscles of the back		3
Anatomy and embryology of the lower limb		5
Anatomy and embryology of the spinal nerves		2
Anatomy and embryology of the pelvis		3
Revision		6

. Teaching and Learning Methods

4.1-lectures.

4.2-practical lessons.

4.3- Assignments for the students to empower and assess the general and transferable skills.

5. Student Assessment Methods

5.1- Assignments for the students to assess general transferable skills and intellectual skills 5.2- periodic written exam to assess Knowledge, understanding and intellectual skills.

5.3- periodic practical+ written examination to assess practical skills as well as Knowledge.

4 final written exam to assess Knowledge, understanding and intellectual skills.

5 final oral exam to assess understanding and intellectual skills.

6 final practical exam to assess practical skills.

Assessment Schedule

Assessment 1… Periodic 1… week: 10-12…. Assessment

2 … Assignment…. Week: 15-16……. Assessment

3….periodic. 2…. Week …18-20…….

Assessment 2 …Final practical exam… week: 26-28…….

Assessment 3…. Final written exam…. Week …26-28…….

Assessment 4…..Final oral exam…….. week….26-28

Weighting of Assessments

Periodic Examinations 20% including

Assignment5%

Periodic 1: 5%

Periodic. 2 10%

Final-term written examination 50% Oral

Examination 20%

Practical Examination 10%

Total 100 %

6. List of References

6.1- Course Notes

Notes of the department and practical notebook

6.2- Essential Books (Text Books)

Gray's Anatomy

Grant's dissector

Last anatomy Frank

Nitter

6.3- Recommended Books

A colored Atlas of Human anatomy and Embryology.

7. Facilities Required for Teaching and Learning

Data show device for lectures. Cadavers

Simulators

- **Course Coordinators:**

➢ **Coordinators:**

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

Post-Graduate Course Specifications of **Anatomy** in MD degree in Orthopedic Surgery and Traumatology	ىمسم ررقملا
OT 100	دوك ررقملا

ةعماج/ةيميداكأ : ....اينملا..................

ةيلك / دهعم: ....بطلا يرشبلا..................

مسق:ج ةحارماظعلاو تاباصلاا......

A. Matrix of Coverage of Course ILOs By Content

Intended Learning Outcomes (ILOs)

Contents (List of course topics)	**A. Knowledge & Understanding**	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Introduction	**1,2,3,4**	**1,2**	**1,2**	**1**
Anatomy and embryology of the upper limb	**1,2,3,4**	**1,2**	**1,2**	**1**
Anatomy and embryology of the vertebral column	**1,2,3,4**	**1,2**	**1,2**	**1**
Anatomy of the muscles of the back	**1,2,3,4**	**1,2**	**1,2**	**1**
Anatomy and embryology of the lower limb	**1,2,3,4**	**1,2**	**1,2**	**1**
Anatomy and	**1,2,3,4**	**1,2**	**1,2**	**1**

embryology of the spinal nerves					
Anatomy and embryology of the pelvis		**1,2,3,4**	**1,2**	**1,2**	**1**

. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lecture	**1,2,3,4**	**1,2**		
Practical		**1,2**	**1,2**	**1**
Assignment	**1,2,3,4**	**1,2**	**1,2**	**1**

C.Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	1,2,3,4	1,2		
Practical exam		1,2	1,2	1
Oral Exam	1,2,3,4	1,2	1,2	1

- **Course Coordinators:**

Coordinators:

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

Test blueprint for Anatomy course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (Percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Introduction	2	10%	2	**4**	**2**	10%	10%
Anatomy and embryology of the upper limb	3	15%	4	**4**	**2**	15%	20%
Anatomy and embryology of the vertebral column	3	15%	4	**4**	**2**	15%	15%
Anatomy of the muscles of the back	3	15%	2	**4**	**2**	15%	10%
Anatomy and embryology of the lower limb	3	15%	4	**4**	**2**	15%	20%
Anatomy and embryology of the spinal nerves	3	15%	2	**4**	**2**	15%	10%
Anatomy and embryology of the pelvis	3	15%	2	**4**	**2**	15%	15%
Total	20	100%	20			100%	100%

Course Coordinators:

Coordinators:

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

Course Specification of Surgical Pathology in MD degree in Orthopedic Surgery and Traumatology

El Minia University-Faculty of Medicine

1. Program (s) on which the course is given: MD degree in Orthopedic Surgery and traumatology

2. Major or minor element of program: Minor
3. Department offering the course: Orthopedic surgery Department
4. Department offering the program: Orthopedic Surgery and Traumatology Department
5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty Council Dated: ---6/4/2020-

A- Basic Information

Title: Pathology

Credit Hours:

Lecture: 2

Tutorial: 2

Practical:

B- Professional Information

1. Overall Aims of Course

By the end of the course the post graduate students should be able to have the professional knowledge of the pathology of orthopedic diseases.

2. Intended Learning Outcomes of Course (ILOs):

According to the intended goals of the faculty

a- Knowledge and Understanding:

By the end of the course the student should be able to:

a1. Develop understanding of recent advances of general and systemic pathology related to his/her subspecialty of orthopedics and traumatology.

a2. Become familiar with etiology, pathogenesis and pathologic manifestation of diseases especially musculoskeletal & soft tissue disorders.

a3. Define and discuss the main disease categories that may affect the body (general pathology).

b- Intellectual Skills:

By the end of the course the student should have the ability to:

b2. Correlate gross and histopathology with the clinical basis of diseases especially musculoskeletal & soft tissue disorders.

b3. Interpret data acquired to understand path physiology of orthopedic diseases

b4. Interpret in a professional manner a pathology report.

c- Professional and Practical Skills:

By the end of the course the student should have the ability to:

c1. Identify the macroscopic and microscopic criteria of the altered structure (pathology) of the body and its major organs and systems that are seen in orthopedic diseases.

c2. Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, and degenerative) and mechanisms of diseases and the way through which they operate in the body (pathogenesis).

c3. Write a report commenting on a pathological specimen

d- General and Transferable Skills:

By the end of the course the student should have the ability to:

d1. Teach others the surgical pathology of orthopedic disease

d2. Effectively utilize various computer based instruction tools and E-learning of Pathology and utilize a variety of computer-based self assessment tools.

3. Course contents:

Topic	No. of Hours	Lectures	Practical
Inflammation & repair.	2	2	
Fractures.	2	1	1
Bacterial infection.	2	2	
Tuberculosis & Pott's disease.	2	1	1
Osteoporosis, rickets, osteomalacia.	3	2	1
Disturbances of cellular growth.	1	1	

General pathology of tumors.		1	
Genetic diseases.		1	1

Osteomyelitis.	2	1	1
Tumor like lesions of bone & soft tissue.	2	1	1
Tumors of bones and joints.	2	1	1
Soft tissue tumors.	2	1	1
Osteodystrophies.	2	1	1
Arthritis & synovitis	2	1	1
Plasma cell dyscrasis & multiple myeloma.	2	2	
Bone lymphoma	1	1	
Total	30	20	10

4. Teaching and Learning Methods

4.1. Lectures.

4.2. Practical lessons (Jars & slides).

5. Student Assessment Methods

5.1. Written examination to assess knowledge

5.3. Oral examination to assess knowledge

Assessment Schedule

Assessment 1. Written examination Assessment 2. Oral examination **Weighting of Assessments**

Final-term written examination 50 %

Oral Examination 50 %

Total 100 %

6. List of References

6.1- Essential Books (Text Books): 1- Muir’s text book of pathology.

2- Robbins pathologic basis of diseases. 3- Campbell's operative orthopedics.

6.3- Recommended Books:

1. Rosi &Ackerman text book of pathology.

2. Sternberg text book of pathology.

6.4- Periodicals, American journal of pathology Human pathology

Web Sites: http://www.ncbi.nlm.nih.gov/pubmed/

7. Facilities Required for Teaching and Learning:

a. Library & textbooks.

b. Computer & data show.

c. Internet connection.

Course Coordinators:

➢ **Coordinators:**

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

ةعماج/ةيميداكأ : ....اينملا...................

ةيلك / دهعم: ....بطلا يرشبلا.................

مسق:جحراماظعلاو تاباصلاا......

Post-Graduate Course Specifications of Surgical Pathology in MD degree in Orthopedic Surgery and Traumatology	ررقملا مسا
OT 100	ررقملا دوك

. Matrix of Coverage of Course ILOs By Content

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A.Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Inflammation & repair.		1,2,3	1,2,3,4	1,2,3	1,2
Fractures.		1,2,3	1,2,3	1,2,3	1,2
Bacterial infection.		1,2,3	1,2,3	1,2,3	1,2
Tuberculosis & Pott's disease.		1,2,3	1,2,3,4	1,2,3	1,2
Osteoporosis, rickets, osteomalacia.		1,2,3	1,2,3,4	1,2,3	1,2
Disturbances of cellular growth.		1,2,3	1,2,3	1,2,3	1,2
General pathology		1,2,3	1,2,3	1,2,3	1,2

of tumors.					
Genetic diseases.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Osteomyelitis.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Tumor like lesions of bone & soft tissue.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Tumors of bones and joints.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Soft tissue tumors.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Osteodystrophies.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Arthritis & synovitis		**1,2,3**	**1,2,4**	**1,2,3**	**1,2**
Plasma cell dyscrasis & multiple myeloma.		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**
Bone lymphoma		**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**

B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lecture	**1,2,3**	**1,2,3,4**		

Practical		**1,2,3,4**	**1,2,3**	**1,2**
Assignment	**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**

C.Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Written exam	**1,2,3**	**1,2,3,4**		
Practical exam		**1,2,3,4**	**1,2,3**	**1,2**
Oral Exam	**1,2,3**	**1,2,3,4**	**1,2,3**	**1,2**

- **Course Coordinators:**

➢ **Coordinators:**

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

Test blueprint for Surgical Pathology course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (Percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Inflammation & repair.	2	5%	2	**3**	**4**	5%	5%
Fractures.	2	15%	3	**3**	**3**	15%	20%
Bacterial infection.	2	5%	2	**3**	**3**	5%	5%
Tuberculosis & Pott's disease.	2	5%	2	**3**	**4**	5%	5%
Osteoporosis, rickets, osteomalacia.	3	5%	3	**3**	**4**	5%	5%
Disturbances of cellular growth.	1	5%	2	**3**	**3**	5%	5%
General pathology of tumors.	1	5%	2	**3**	**3**	5%	5%
Genetic diseases.	2	5%	2	**3**	**4**	5%	5%
Osteomyelitis.	2	10%	4	**3**	**4**	10%	5%
Tumor like lesions of bone & soft tissue.	2	5%	3	**3**	**4**	5%	5%
Tumors of bones and joints.	2	10%	4	**3**	**4**	10%	5%
Soft tissue tumors.	2	5%	2	**3**	**4**	5%	5%
Osteodystrophy.	2	5%	2	**3**	**4**	5%	5%
Arthritis & synovitis	2	5%	3	**3**	**3**	5%	10%
Plasma cell dyscrasis & multiple myeloma.	2	5%	2	**3**	**4**	5%	5%
Bone lymphoma	1	5%	2	**3**	**4**	5%	5%
Total	30	100%	40			100%	100%

- **Course Coordinators:**

Coordinators:

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

Course Specification of Biomechanics in MD degree in Orthopaedic

Surgery and Traumatology

El Minia University-Faculty of Medicine

1. Program on which the course is given: MD degree in Orthopedic Surgery and Traumatology
2. Major or minor element of program: Minor
3. Department offering the course: Orthopedic Surgery and Traumatology Department
4. Department offering the program: Orthopedic Surgery and Traumatology Department
5. Academic year / Level: 1st part.
6. Date of specification approval: Faculty Council dated: ----6/4/2020

A. Basic Information

Title: Biomechanics

Credit Hours:

Lecture: 1hs.

Tutorial: 1hs

Practical: 1 hs.

B. Professional Information

1. Overall Aims of Course

By the end of the course the post graduate students should be able to have the professional knowledge of the biomechanics of orthopedic diseases.

2. Intended Learning Outcomes of Course (ILOs):

According to the intended goals of the faculty:

a- Knowledge and Understanding:

By the end of the course the student should be able to:

a1. Mention the recent advances in the normal function of the human musculoskeletal system from the mechanical point of view

a2. Relate the biomechanics of the musculoskeletal system to the basics of internal fixation and arthroplasty.

a3. Relate the biomechanical basics to the causation of the orthopedic diseases and their management.

ب- Intellectual Skills:

By the end of the course the student should have the ability to:

b1. Interpret data acquired to understand biomechanics of orthopedicdiseases.

c- Professional and Practical Skills:

By the end of the course the student should have the ability to:

c1. Design new methods and tools to evaluate biomechanics of orthopedic disease.

d- General and Transferable Skills:

By the end of the course the student should have the ability to:

d1. Teach others the basics of biomechanics of orthopedic diseases.

D2. Judge and make the right decision to each disease or trauma from a biomechanical point of view.

3. Course contents:

Biomechanical bases for orthopedic diseases and traumatology in addition to the basis for the different types of management.

4. Teaching and Learning Methods

1. Lectures.
2. Practical lessons.

5. Student Assessment Methods

1. Written examination to assess knowledge

5.3. Oral examination to assess knowledge.

Assessment Schedule

Assessment 1. Written examination…..24 Week

Assessment 2. Oral examination……24 Week

Weighting of Assessments

Final-term written examination 50 %

Oral Examination 50 %

Total 100 %

6. List of References:

Campbell's operative orthopedics

Rockwood's text book for fractures Jupiter's text book

7. Facilities Required for Teaching and Learning:

a. Library & textbooks.

b. Computer & data show.

c. Internet access.

Post-Graduate Course Specifications of **Biomechanics** in MD degree in Orthopedic Surgery and Traumatology	بمسم ررقملا
OT 100	دوك ررقملا

ةعماج/ةيميداكأ : .....اينملا.....

ةيلك / دهعم: .....بطلا يوشبلا.....

مسق: جةحرماظعلاو تاباصلاا.....

Matrix of Coverage of Course ILOs By Content

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Introduction		**1,2,3**	**1**	**1**	**1,2**
Biomechanics of Shoulder joint		**1,2,3**	**1**	**1**	**1,2**
Biomechanics of elbow joint		**1,2,3**	**1**	**1**	**1,2**
Biomechanics of wrist & hand joints		**1,2,3**	**1**	**1**	**1,2**
Biomechanics of hip joint		**1,2,3**	**1**	**1**	**1,2**
Biomechanics of knee joint		**1,2,3**	**1**	**1**	**1,2**
Biomechanics of the ankle & foot		**1,2,3**	**1**	**1**	**1,2**

Biomechanics of Vertebral column		**1,2,3**	**1**	**1**	**1,2**

B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lecture	**1,2,3**	**1**		
Practical		**1**	**1**	**1,2**
Assignment	**1,2,3**	**1**	**1**	**1,2**

C.Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	1,2,3	1		
Practical exam		1	1	1,2
Oral Exam	1,2,3	1	1	1,2

- **Course Coordinators:**

Coordinators:

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023

Test blueprint for Biomechanics course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (Percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Introduction	1	5%	2	**3**	**1**	5%	5%
Biomechanics of Shoulder joint	2	15%	4	**3**	**1**	10%	10%
Biomechanics of elbow joint	2	10%	3	**3**	**1**	5%	5%
Biomechanics of wrist & hand joints	2	10%	3	**3**	**1**	10%	10%
Biomechanics of hip joint	4	15%	4	**3**	**1**	20%	20%
Biomechanics of knee joint	3	15%	4	**3**	**1**	20%	15%
Biomechanics of the ankle & foot	2	15%	4	**3**	**1**	20%	15%
Biomechanics of Vertebral column	4	15%	3	**3**	**1**	10%	20%
Total	20	100%	20			100%	100%

- **Course Coordinators:**

Coordinators:

Lecturers: Prof. Dr / Ahmed Fathy Sadek, Dr Ahmed Mortada Ahmed Assistant

Coordinator: Assis .lecturer Mahmoud Genidy

Head of Department:

Professor Dr. Ahmed Omar Yousef

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 7 / 3 / 2023