University of Benghazi Faculty of Medicine

Program Specifications
(Academic year: 2019/2020)

1. Basic Information:

1. Program title: **Master Degree of Anatomy and Embryology**
2. Program Award/Degree: **Master degree.**
3. Department (s) offering the program; **Anatomy and Embryology**
4. Program Coordinator:
5. External evaluator(s) :
6. Type of the program: **Single.**
7. Date of program specifications approval:

B. Professional Information:

1- Program aims:

This program aims at preparing participants for an academic career in the discipline of anatomy and embryology developing their skills to become competent teachers and skilled researchers.

2- Academic reference standards (ARS) & ILOs

Academic reference standards Master Degree in Anatomy and Embryology, Department of Anatomy & embryology Faculty of Medicine Benghazi University.

Domain	Academic Reference Standards	ILOs
A. Knowledge and understanding	• Be knowledgeable of fundamentals in anatomy and embryology	A1- Describe basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body A2 - Describe the gross anatomy

	• Set up a basic knowledge about the research methods used in these fields. • Develop a basic knowledge about relevant new fields of research (e.g., stem cell therapy and nano medicine)	and embryology of the human body organs A3 - Describe the anatomical features of various organs and systems. A4 - Discuss the basis of human anatomy and embryology A5- Identify different techniques of dissection and tissue preservation. A6- Describe general steps in research methods A7- Recognize basics in new fields of research and the facilities needed for that
B. Intellectual skills	• Correlate between the structural organization of human organs and systems and their function. • Correlate between the development of different body cells, tissues, organs and systems and their functions • Correlate between embryology of body organs and many diseases especially congenital anomalies and syndromes.	B1- Correlate the main functions of human organs of research and the facilities needed for that to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs B4- Relate basic knowledge to clinical application in different

		medical themes
C. Professional skills	• Develop their research skills including: choosing appropriate methods, conducting scientific research, competently present their research findings both orally and in writing. • Carry out their future roles and responsibilities as academic staff of anatomy and embryology.	C1- Manipulate different organs and tissues. C2- Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3- Interpret the gross anatomy with different clinical sciences C4- Formulate a research question, conduct a thorough literature review, prepare and conduct seminars. C5-Train students in the art of preparing scientific papers/presentations for publication and conferences C6- Develop technical and manual research skills. C7- Engage students in research activities.
D. General and transferrable skills	• Carry out their future job as assistant lecturers of anatomy and embryology as in sharing in seminars, workshops, conferences, and others	D1- Use different sources of information to collect, analyze the data D2- Interact with students, junior staff and colleagues within this issue D3- Communicate effectively using all methods D4- Use information technology to improve his/her professional practice

		D5- Practice self appraisal and determines his learning needs D6- Share in determination of standards for evaluation of others (e.g.: subordinates/ trainees etc.) D7- Manage time effectively D8- Work as team leader in situations comparable to his work level D9- Learn independently and seek continuous learning
E. Attitudes and ethical behavior	• To maintain the highest standards of academic and scientific ethics	E1. Adopt ethical principles when dealing with human and animal specimens

Program courses ILOs Matrix

ILOs / Course title	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	C7
Basic anatomy	X			X	X				X	X		X	X	X				
Seminar (special topic)							X			X	X			X	X	X		X
Upper limb	X	X		X				X	X			X		X				
Thorax	X	X	X					X	X	X	X	X	X	X	X	X	X	X
General embryology				X				X	X		X					X		
Abdomen	X	X	X	X				X	X	X	X	X	X	X	X			
Pelvis	X	X	X					X	X	X	X	X	X	X	X	X	X	
Systemic embryology		X		X				X	X		X		X		X	X		
Head and neck	X	X	X					X	X				X	X	X	X		
Neuroanatomy	X	X	X	X				X	X		X	X		X	X			
Lower limb	X	X		X	X			X	X	X	X	X		X				
Simplified histology and cell biology for others	X								X			X						
Biostatistics and computer						X					X					X	X	

ILOs / Course title	D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8	D 9	E 1
Basic anatomy	X							X		X
Seminar (special topic)	X		X	X	X			X		
Upper limb	X		X			X	X			X
Thorax	X									X
General embryology		X							X	X
Abdomen	X	X								X
Pelvis	X									X
Systemic embryology	X			X						X
Head and neck	X	X								X
Neuroanatomy	X			X		X				X
Lower limb	X		X			X				X
Simplified histology and cell biology for others	X									X
Biostatistics and computer		X								

3- Curriculum Structure and Contents:

Programme duration: is to be completed in period of minimum 2 years and maximum of 5 years

Students should fulfill a total of 43 Credit Hours:

1. Obligatory subjects: 34 Credit Hours.
2. Thesis: 9 Credit Hours.

- Program Content

Obligatory Core courses:

	Code	Course	Credit hours	Contact hours		
				Lectures	Practical	Others
1	012-01	Basic Anatomy	2	1	1	
2	021	Seminar (special topics)	1	1		
3	021-05	General Embryology	2	2		
4	021-13	Systemic Embryology	2	2		
5	021-10	Neuro-anatomy	2.5	1.5	1	
6	021-09	Head & Neck	5	3	2	
7	021-02	Upper Limb	3	2	1	
8	021-04	Thorax	2.5	1.5	1	
9	021-11	Abdomen	5	3	2	
10	021-12	Pelvis	3	2	1	
11	021-03	Lower Limb	3	2	1	
12	021-15	Simplified Histology and Cell Biology for others	1	0.5	0.5	
13	021-07	Biostatistics & Computer	1	0.5	0.5	

4- Program Admission Requirements:

According to the regulations of the credit hour by laws of the Faculty of Medicine Benghazi University .

5- Regulations for Progression and Program Completion:

According to the regulations of the credit hour bylaws of the Faculty of Medicine Benghazi University.

6- Methods of student assessment:

Methods	Intended Learning outcomes to be assessed
1.Written Exam	1. Knowledge and understading 2. General and transeferable skills 3. Intellectual skills
2.Practical Exam	1. Professional skills
3. Oral Exam	
4. Thesis	1. Knowledge and understading 2. Intellectual skills 3. Professional skills 4. Ethical skills

Course description

1	Code	Credit hours (2)		Course	Prerequisites
	021-01	Lectures	Practical	Basic Anatomy	
		1	1		
	This course is divided into one hour lectures and one credit hour practical. The lectures include all the human skeleton (axial & appendicular); regarding the general features, structures attached and related, ossification, fractures and possible abnormalities. The lectures also incude all the joints of the body, regarding types, articular surfaces, capsule and ligaments, extra-articular structures, synovial membrane and fluid, bursae, movements and responsible muscles, blood and nerve supply, relations and approach. The practical sessions include visualization of all the bones and joints of the body with special dissection of some joints.				

2	Code	Credit hours (1)		Course	Prerequisites
		Lectures	Practical	Seminar (Special Topics)	
		1	-		
	This course includes special topics current to the field of anatomy. Topics and format for the course may vary. Study presentation is done by each student under supervision of a staff member.				

3	Code	Credit hours (2)		Course	Prerequisites
		Lectures	Practical	General Embryology	
		2	-		
	This course involves 2 credit hours theory that covers male and female reproductive organs**,** gametogenesis**,** fertilization, implantation and decidua formation, cleavage, bilaminar and trilaminar discs, derivatives of the 3 germ layers, fetal membranes, twinning and causes of congenital malformations.				

4	Code	Credit hours (2)		Course	Prerequisites
		Lectures	Practical	Systemic Embryology	
		2	-		
	This course involves 2 credit hours theory that covers development of the cardiovascular, respiratory, digestive, uro-genital, nervous, endocrine glands, sense organs, bones, muscles and integumentary system.				

5	Code	Credit hours (4)		Course	Prerequisites
		Lectures	Practical	Upper Limb	
		2	2		
	This course is divided into two credit hours lectures and two credit hours practical. The upper limb is studied systematically i.e. muscles, vessels (arteries, veins & lymphatics), nerves, regions, joints and applied anatomy.				

6	Code	Credit hours (2.5)		Course	Prerequisites
		Lectures	Practical	Thorax	
		1.5	1		
	This course is divided into one credit hour lectures and one credit hour practical. The anatomy of the thorax includes skeleton of the thoracic cage**,** thoracic walls, plura**,** lungs**,** pericardium**,** heart, mediastinum**,** azygos system of veins, nerves, lymphatic drainage and radiological anatomy.				

7	Code	Credit hours (5)		Course	Prerequisites
		Lectures	Practical	Abdomen	
		3	2		
	This course is divided into three credit hours lectuers and two credit hours practical. The anatomy of the abdomen includes anterior abdominal wall, male external genitalia, abdominal cavity, digestive tract, arterial supply of the gut, Spleen, Liver, pancreas, biliary system, portal vein and porto-systemic anastomosis, suprarenal glands, kidneys, abdominal ureter, posterior abdominal wall, radiological pictures				

8	Code	Credit hours (2.5)		Course	Prerequisites
		Lectures	Practical	Pelvis	
		2	0.5		
	This course is divided into two credit hours lectures and one credit hour practical. The anatomy of the pelvis includes bony pelvis, muscles, vessels, nerves, peritoneum, Pelvic viscera (urinary bladder, pelvic ureter, urethra, internal male and female genitals, rectum, pelvic lymph nodes. Perineum (anal and urogenital triangles, radiological pictures and applied.				

9	Code	Credit hours (5)		Course	Prerequisites
		Lectures	Practical	Head & Neck	
		3	2		
	This course involves 3 credit hours theory and 2 credit hours practical. The course includes Skull, Mandible, Cervical vertebrae, hyoid bone**,** scalp**,** face**,** parotid gland, temporal and infra-temporal regions**,** cranial cavity**,** orbit & eyeball, anterior and posterior triangles of the neck, sub-mandibular region, thyroid gland, trachea, esophagus vessels & nerves in the neck, pre-vertebral region, fasciae of the neck, nasal cavity, palate mouth cavity, pharynx, larynx, ear.				

10	Code	Credit hours (3)		Course	Prerequisites
		Lectures	Practical	Neuro-Anatomy	
		2	1		
	This course involves 2 credit hours theory and one credit hour practical. The course includes introduction to the nervous system, spinal cord, brain stem, cerebellum, diencephalons, cerebral cortex, basal nuclei, internal capsule, ventricles, C.S.F. and brain barriers, white matter, limbic system tractology, applied anatomy.				

11	Code	Credit hours (3)		Course	Prerequisites
		Lectures	Practical	Lower Limb	
		2	1		
	This course involves 2 credit hours theory and one credit hour practical. The The lower limb is studied systematically i.e. muscles, vessels (arteries, veins & lymphatics), nerves, regions, joints and applied anatomy.				

12	Code	Credit hours (1)		Course	Prerequisites
		Lectures	Practical	Histology & Cell Biology for basic sciences	
		0.5	0.5		
	The lectures include cell membrane, its molecular composition, transport across it, cell signaling and cell surface receptors, cell-cell interaction. cell adhesion proteins, the nucleus, its envelope and traffic between the nucleus and cytoplasm, lysosomes, phagocytosis and pinocytosis, mitochondrial structure, form, growth, division and genetic system, protein import and mitochondrial assembly, peroxisomes, cytoskeleton and cell movements, cytoplasmic inclusions and storage products, all about the cell cycle and cell development, differentiation and programd cell death.				

13	Code	Credit hours (1)		Course	Prerequisites
		Lectures	Practical	Biostatistics & Computer	
		0.5	0.5		
	The Computer and Biostatistics course is given in 1 credit hour theoretical and 1 credit hour practical sessions. The Biostatistics theoretical part includes: Biostatistical methods and concepts used in the public health practices and research. Classical statistical approaches for using data to describe the health of populations. Summaries and display of data in tables and graphs. Basic definition usage of rates, ratios and proportions. Interpretation of results. Basic concepts of statistical inference, including hypothesis testing, p- values and confidence intervals. Topics include comparisons of means and proportions, the normal distribution, regression and correlation, concepts of study design. Sample size, usage of statistical package through classroom demonstration. The computer part includes usage of different programs (Windows, Word, Excel, SPSS, Internet usage, E – Mail) and applications on the statistical analysis. The practical hours include solving of different problems and practical sessions on computer usage.			

Program Director:

Program Coordinator:

Course Specifications

Benghazi university

Faculty of Medicine

Department: **Anatomy and Embryology**

Course Information					
Course Code:		Course Name: **Abdomen**			
Program in which the Course is Given: **Master Degree of Anatomy and Embryology**					
Number of Credit Hours 5	Theoretical	2 1/2	Clinical/Practical	1 1/2	

Course Aims

1. Have a basic knowledge about the basic anatomy of abdomen (walls, organs, vessels, nerves and lymphatics)
2. Correlate the basic anatomy with the embryology of these structures
3. Correlate the anatomy and embryology of the region with different pathological changes
4. Conduct the gross anatomy as basic for different applied sciences

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body	1. Obtain the basis of cadaveric dissection 2. Acquire knowledge about the gross anatomy of the abdominal walls. 3. Discus the anatomy of the blood vessels of the abdomen
	A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs	4. Develop knowledge about the gross anatomy of the different abdominal organs including the gastrointestinal tracts, its derivatives and upper part of the urinary system 5. Illustrate the embryology of the

	A3 - Describe the anatomical features of various organs and systems. A4 - Discuss the basis of human anatomy and embryology	abdominal organs. 6. Describe the detailed anatomy of various organs and systems of the abdomen; regarding shape, size, position, relations blood supply, lymph drainage and innervation 7. Discuss the basis of the anatomy of gastrointestinal tract and urinary system 8. Discuss the basic embryology of the abdomen.
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs B4- find the relation between basic knowledge and clinical application in different medical themes	1. Correlate the main functions of abdominal organs to their anatomical structure 2. Correlate the embryological origin with abdominal organs with their functional anatomy 3. Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. 4. Determine the most appropriate anatomical and embryological tools & techniques for the examination of abdominal organs (e.g., plastination and cast formation) 5. Start up the study of cross-sectional anatomy of the abdomen as a basic for CT study 6. Correlate between basic knowledge and clinical application in relevant specialties (internal medicine and GIT surgery,…etc)
C.Professional and Practical Skills	C1. Manipulate different organs and tissues.	1. Anatomical examination of different abdominal organs

	C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems.	2. Conduct simplified declaration about the anatomy and embryology of abdominal organs and systems (gastrointestinal, urinary)
	C3. Interpret the gross anatomy with different clinical sciences	3. Interpret the gross anatomy of the GIT with internal medicine. 4. Correlate between the anatomy of the liver and biliary system with radiology, liver surgery with special emphasis on segmentation and other related points 5. Correlate the anatomy of urinary system with renal surgery and other related clinical sciences.
	C4 Formulate a research question, conduct a thorough literature review, prepare and conduct seminars.	6. Formulate a research question, 7. conduct a thorough literature review 8. Assist in seminar and lecture preparation
D. General Skills	D1 Use different sources of information to collect, analyze the data.	1. Training of the students to use different sources of information in collection, analysis of the data 2. Special emphasis is taken on self learing
	D2- Interact with students, junior staff and colleagues within this issue.	3. Interact with students, junior staff and colleagues within this issue.

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
anterior abdominal wall male external genitalia	✓	✓	✓		
abdominal cavity digestive tract	✓		✓	✓	

arterial supply of the gut, Spleen, Liver, pancreas Liver and biliary system.					
portal vein and porto-systemic anastomosis,	✓	✓	✓	✓	
suprarenal glands, kidneys, abdominal ureter, posterior abdominal wall, radiological pictures	✓	✓	✓		

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	✓
	Case		OSCE/OSPE	✓
	Assignment	✓	Logbook fulfillment	
	Others			
Schedule of Assessment	Mid-term	%		
	End of term	100 %		
Distribution of Marks	Written Exam	60 %		
	Practical/Clinical Exam	30 %		
	Oral Exam	10 %		

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray's Anatomy Last's Anatomy Snell's Clincal and applied Anatomy Cunningham for Dissection
Suggested Extra Reading	
Journals and Periodicals, others	American Journal of Gastroentrology Cell, Tissue and Organs

Course Instructor

Name: **Signature:**

Program Coordinator

Name: **Signature:**

Program Director (Head of Department)

Name: **Signature:**

Course Specifications

Benghazi university

Faculty of Medicine

Department: **Anatomy and Embryology**

Course Information					
Course Code:		Course Name: **Neuro-anatomy**			
Program in which the Course is Given: **Master Degree of Anatomy and Embryology**					
Number of Credit Hours:3	Theoretica	2	Clinical/Practic	1	

Course Aims

1. Have basic knowledge about organization of nervous system
2. Correlate between the functional anatomy of the nervous system and pathological changes
3. Develop a future career as assistant lecturers and researchers in the field of anatomy

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs A3 - Describe the anatomical features of various organs and systems. A4 - Discuss the basis of human	1. Develop basic knowledge in different methods of dissection of the brain and spinal cord 2. Obtain the basic of gross anatomy of nervous system 3. Acquire a sound knowledge of the gross anatomy of the brain and spinal cord 4. Develop knowledge about the development of nervous system 5. Describe the anatomical features of different parts of central nervous system 6. Illustrate the blood supply of the nervous system 7. Discuss the basis of anatomy of the

	anatomy and embryology	nervous system
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B4- find the relation between basic knowledge and clinical application in different medical themes	1. Correlate the main functions of brain to their anatomical structure and embryological origin 2. Link between the anatomy and embryology of spinal cord and its function 3. Apply the knowledge learned regarding the structural & Functional characteristics of the brain to explain the related disease e.g. vascular malformations, hydrocephalus and others 4. Apply the anatomy of spinal cord to disc heniation at multiple levels 5. Explain the relation between basic knowledge and clinical application in neurology and neurosurgery
C.Professional and Practical Skills	C1. Manipulate different organs and tissues. C3. Interpret the gross anatomy with different clinical sciences C4 Formulate a research question, conduct a thorough literature review, prepare and conduct seminars.	1. Anatomical examination of different parts of the brain 2. Manipulation of sections of spinal cord at different leels. 3. Match the gross anatomy of the nervous system with clinical neurological sciences 4. Correlate the gross anatomy of the bone cavities containing the brain and spinal cord with different surgical techniques 5. Formulate a research question, conduct a thorough literature review, prepare and conduct seminars.
D. General	D1 Use different sources of	1. Use textbooks to collect, analyze the

Skills	information to collect, analyze the data D4- Use information technology to improve his/her professional practice D6- Share in determination of standards for evaluation of others (e.g.: subordinates/ trainees etc.)	data 2. Use the web as a source fro recent data 3. Use information technology to improve his/her professional practice 4. Share in determination of standards for evaluation of others through involvement of the student in help and assessment of the undergraduates

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
Anatomy of the spinal cord: • Gross anatomy of the spinal cord and its dura • Blood supply of the cord • Grey and white mater of the cord	✓	✓	✓		
Anatomy of the brain: • Anatomy of cerebral cortex • Ventricular system • White matter of the brain • Diencephalons • Pathways and tracts • Blood supply of the brain • Coverings of the brain • CSF formation and circulation • Limbic system	✓	✓	✓		

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	
	Case		OSCE/OSPE	✓
	Assignment	✓	Logbook fulfillment	

	Others
Schedule of Assessment	Mid-term % End of term 100 %
Distribution of Marks	Written Exam 60 % Practical/Clinical Exam 30 % Oral Exam 10 %

List of Textbooks and References	
Lecture Notes	
Course Text Books	Snell Neuroanatomy Gray's Anatomy
Suggested Extra Reading	AJNR (American Journal of NeuroRadiology)
Journals and Periodicals, others	

Course Instructor
Name: **Signature:**

Program Coordinator
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature:**

Course Specifications

Benghazi university

Faculty of Medicine

Department**: Anatomy and Embryology**

Course Information					
Course Code: **05140806**			Course Name: **Thorax**		
Program in which the Course is Given: **Master Degree of Anatomy and Embryology**					
Number of Credit Hours 2	Theoretical	1	Clinical/Practical	1	

Course Aims

This course aims at preparing students to be assistant lecturers of anatomy and embryology. By the end of the course they should have a basic knowledge about the anatomy of thorax, correlate that with the applied basic sciences and have the ability to conduct seminars in this field.

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body	1. Obtain basic information about the gross dissection of the thorax. 2. Discuss the different techniques of anatomical dissection of the heart 3. Develop knowledge about cast preparation
	A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs	4. Acquire a sound knowledge of the anatomy and embryology of the thoracic wall (bones, skin and muscles), organs and structures 5. Be knowledgeable about basic of anatomy of heart and respiratory system
	A3 - Describe the anatomical features of various organs and systems.	6. Describe the anatomical features of various thoracic organs and structures.
B. Intellectual		1. Correlate the main functions of the heart

skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs B4- find the relation between basic knowledge and clinical application in different medical themes	and related vessels to their anatomical structure and embryological origin. 2. Correlate the main functions of the lungs and lower respiratory tracts to their anatomical structure and embryological origin. 3. Apply the knowledge learned regarding the structural & Functional characteristics of the thoracic wall and organs to explain the different pathological changes. 4. Train the students to prepare specimens for teaching 5. Relate between basic knowledge and clinical application in the thoracic region.
C.Professional and Practical Skills	C1. Manipulate different organs and tissues. C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3. Interpret the gross anatomy with different clinical sciences C4 Formulate a research question, conduct a thorough literature review, prepare and conduct seminars. C5.Train students in the art of preparing scientific papers/presentations for publication and conferences C6. Develop technical and manual research skills.	1. Manipulate thoracic organs and structures. 2. Detailed examination of the heart 3. Conduct simplified declaration about the anatomy and embryology of the thoracic organs and structures. 4. Interpret the gross anatomy of respiratory and cardiovascular systems with relevant clinical sciences 5. Discuss the anatomy of the thorax from the surgical view of relevant fields 6. Formulate a research question, conduct a thorough literature review, prepare and conduct seminars. 7. Train students in the art of preparing scientific papers/presentations for publication and conferences 8. Develop the skill of injection technique

	C7. Engage students in research activities.	of the artery. 9. Engage students in research activities.
D. General Skills	D1 Use different sources of information to collect, analyze the data D2- Interact with students, junior staff and colleagues within this issue D3- Communicate effectively using all methods D4- Use information technology to improve his/her professional practice D5- Practice self appraisal and determines his learning needs D6- Share in determination of standards for evaluation of others (e.g.: subordinates/ trainees etc.) D7- Manage time effectively D8- Work as team leader in situations comparable to his work level D9- Learn independently and seek continuous learning	1. Use different sources of information (literatures, books and others) to collect, analyze the data 2. Interact with students, junior staff and colleagues within this issue 3. Communicate effectively using all methods 4. Use information technology to improve his/her professional practice 5. Practice self appraisal and determines his learning needs 6. Share in determination of standards for evaluation of others (e.g.: subordinates/ trainees etc.) 7. Manage time effectively 8. Work as team leader in situations comparable to his work level 9. Learn independently and seek continuous learning

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
Thoracic wall: ribs, sternum, vertebrae intercostal muscles intercostal vessels and nerves movements of the thoracic wall mechanism of respiration (functional anatomy) **Thoracic cavity**: lung & pleura (anatomy and applied) mediastinum & structures inside	✓ ✓ ✓ ✓ ✓	 ✓	✓ ✓ ✓ ✓ ✓ ✓		

Heart External and internal features Coronary artery anatomy, applied importance	✓ ✓		✓ ✓		
Great vessels in the different mediastinum				✓	
Lymphatics of the thoracic wall and organs				✓	
Nerves of the thoracic wall and organs	✓				

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	✓
	Case		OSCE/OSPE	✓
	Assignment	✓	Logbook fulfillment	
	Others			
Schedule of Assessment	Mid-term	%		
	End of term	100 %		
Distribution of Marks	Written Exam	60 %		
	Practical/Clinical Exam	30 %		
	Oral Exam	10 %		

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray anatomy Snell anatomy
Suggested Extra Reading	
Journals and Periodicals, others	Surgical and radiological anatomy

Course Instructor:

Name: **Signature:**

Program Coordinator
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature:**

Course Specifications

Benghazi university

Faculty of Medicine

Department:

Course Information					
Course Code:		Course Name: **Basic Anatomy**			
Program in which the Course is Given: **Master Degree of Anatomy and Embryology**					
Number of Credit Hours: 1	Theoretical	1/2	Clinical/Practical	1/2	

Course Aims Have a basic knowledge about general anatomy of the human body		
Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body A4 - Discuss the basis of human anatomy and embryology A5- Identify different techniques of dissection and tissue preservation.	Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body including different anatomical positions, different plans, movements, … etc Discuss the basis of human anatomy and embryology Identify different techniques of dissection and tissue preservation.
B. Intellectual skills	B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most	Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. Determine the most appropriate anatomical

	appropriate anatomical and embryological tools & techniques for the examination of different	and embryological tools & techniques for the examination of different
C.Professional and Practical Skills	C1. Manipulate different organs and tissues. C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3. Interpret the gross anatomy with different clinical sciences	Manipulate different organs and tissues. Conduct simplified declaration about the anatomy and embryology of different organs and systems. Interpret the gross anatomy with different clinical sciences
D. General Skills	D1 Use different sources of information to collect, analyze the data	Use different sources of information to collect, analyze the data

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
General anatomy: • Different anatomical plans and positions	✓	✓	✓		
General anatomy of body systems: • Bone and joints • Ligaments and Fascia • Lymphatic system • Endocrine system • Cardiovascular system • Respiratory system • Nervous system • Genitor-urinary system	✓	✓	✓		

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	
	Case		OSCE/OSPE	✓

	Assignment	Logbook fulfillment
	Others	
Schedule of Assessment	Mid-term	%
	End of term	100 %
Distribution of Marks	Written Exam	100 %
	Practical/Clinical Exam	%
	Others	%

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray's anatomy
Suggested Extra Reading	
Journals and Periodicals, others	

Course Instructor
Name: **Signature:**

Program Coordinator
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature:**

Course Specifications

Benghazi university

Faculty of Medicine

Department: **Anatomy and Embryology**

Course Information					
Course Code:		Course Name: **General embryology**			
Program in which the Course is Given: **Master degree of anatomy and embryology**					
Number of Credit Hours	Theoretical	1 1/2	Clinical/Practical	1/2	

Course Aims: This course aims to preparing the students with basic knowledge in the field of human embryology. By the end of the course the students should be able to discuss the steps of human development and organogenesis		
Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A4 - Discuss the basis of human anatomy and embryology	1. Illustrate the steps of oogenesis, spermatogenesis and fertilization. 2. Describe fertilization as regard its site, timing, consequences and abnormalities. 3. Follow the formation of morula and blastocyst. 4. Describe implantation as regard its site, timing, consequences and abnormalities. 5. Describe the formation of bilaminarembryonic disc and extra-embryonic coelom. 6. Identify the chorion and differentiate between 1ry ,2ry and 3ry villi. 7. Illustrate the formation of intra-

		embryonic mesoderm and intra-embryonic coelom. 8. Outline the causes of folding of the embryo. 9. List the main derivatives of each germ layer. 10. Follow the development of foetal membranes, list their derivatives and discuss their importance. 11. Follow the development of the umbilical cord, describe it at full term and mention its anomalies. 12. Follow the development of placenta and mention the structure of its barrier at different gestational ages. 13. Describe the mature placenta and mention its function and anomalies. 14. Outline the factors responsible for the production of congenital anomalies.
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B4- find the relation between basic knowledge and clinical application in different medical themes	1. Correlate the functions of the gonads (testis and ovaries) with their anatomy. 2. correlate the function of the placenta with is development 3. Apply the knowledge learned regarding the structural & Functional characteristics of the placenta to explain the different pathological conditions including placenta abnormalities and reasons behind infertility. 4. find the relation between basic knowledge of human development and clinical application in the field of gynecology and obstetrics
C.Professional and Practical Skills	C5.Train students in the art of preparing scientific papers/presentations for publication and conferences	1. Make seminars about new hypothesis about human development

D. General Skills	D2- Interact with students, junior staff and colleagues within this issue D9- Learn independently and seek continuous learning	1. Interact with students, junior staff and colleagues within this issue 2. Learn independently and seek continuous learning

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
1. Gametogenesis : - Stages of spermatogenesis and oogenesis and comparison between them.	✓				
2. Fertilization: - Deinition - Site - Results	✓				
3. Cleavage: - Phases of cleavage - Blastula formation	✓				
4. Implantaion: - Definition - Decidua - Normal and abnormal sites of implantation	✓		✓		
5. Gastrulation: - Formation of three germ layers - Formation of notochord and its importance - Folding of the embryo	✓				
6. Placenta: - Origin, gross anatomy and microscopic picture - Placental circulation(maternal and foetal) - Placental barrier - Abnormalities of the placenta	✓		✓		

7. Amnion: - Development - Functions - Abnormalities	✓				
8. Yolk sac: - Development of yolk sac and allantois - Function of yolk sac - Abnormalities	✓				
9. Umbilical cord: - Structure - Origin - Fate - Abnormalities	✓				
10. Congenital anomalis: - Factors causing congenital anomalies (teratogenes). - Effect of teratogenes in the different gestational periods.		✓			

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay		Objective questions	✓
	Case		OSCE/OSPE	
	Assignment	✓	Logbook fulfillment	
	Others			
Schedule of Assessment	Mid-term	%		

	End of term	100 %
Distribution of Marks	Written Exam Practical/Clinical Exam Oral Exam	60% 30% 10%

List of Textbooks and References	
Lecture Notes	
Course Text Books	Langman's medical Embryology by T.W.Sadler The Developing Human: Clinically Oriented Embryology by Keith L. Moore
Suggested Extra Reading	
Journals and Periodicals, others	Journal of Anatomy

Course Instructor
Name: **Signature:**

Program Coordinator
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature**

Course specifications

Benghazi university

Faculty of Medicine

Department: **Anatomy and Embryology**

Course Information				
Course Code: 021-09		Course Name: **Head and neck anatomy**		
Program in which the Course is Given **Master degree of anatomy and embryology**				
Number of Credit Hours 4	Theoretical 2	Clinical/Practical	2	

Course Aims

This course aims to:

1. develop basic knowledge about the anatomy and embryology of the region of the head and neck
2. Training the students to start their future role as competent researchers in this field
3. Prepare the students to an assistant lecturers of anatomy

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs	1. Obtain basic information about the gross dissection of the head and neck 2. Acquire the basic techniques of dissection of head and neck 3. Discuss the gross anatomy of bony skeleton of head and neck 4. Describe the anatomy of structures, muscles, nerves and vessels of the head and neck 5. Obtain an idea about the branchial apparatus and development of head and neck.

	A3 - Describe the anatomical features of various organs and systems.	6. Describe the anatomical features of the skull and mandible 7. Describe the anatomy of the muscles of the head and neck 8. Relate the organs of the head and neck with their relevant blood supply, innovation and lymph drainage.
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes.	1. Correlate the main functions of the skull and related joints to their anatomical structure and embryological origin (eg, sutures and fontanelles). 2. Correlate the main functions of the structures inside the head and neck (including salivary glands, thyroid gland, tongue, eye and others) to their anatomical structure and embryologic origin 3. Match between the basic knowledge learned and many pathological changes with special emphasis on skull anomalies 4. Apply the study of the branchial apparatus on understanding the different congenital anomalies of head and neck specially anomalies of the face, tongue and thyroid gland
C.Professional and Practical Skills	C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3. Interpret the gross anatomy with different clinical sciences C4 Formulate a research question, conduct a thorough literature	1. Conduct the basic anatomy of the head and neck in a simple way 2. Express the essentials of anatomy and anomalies of the head and neck 3. Interpret the anatomy of face with maxillofacial surgery 4. Interpret the basics of head and neck anatomy with those of head and neck surgery 5. Translate the learned material into basic surgical techniques 6. Formulate a research question, conduct a

	review, prepare and conduct seminars. C5.Train students in the art of preparing scientific papers/presentations for publication and conferences	thorough literature review, prepare and conduct seminars. 7. Train students in the art of preparing scientific papers 8. Train students in preparation of ppt. presentations for publication and conferences
D. General Skills	D1 Use different sources of information to collect, analyze the data D2- Interact with students, junior staff and colleagues within this issue	1. Use different sources of information (literatures, books and others) to collect data 2. Prepare students for the art of analysis of data 3. Interact with students, junior staff and colleagues within this issue

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
Bones of the head and neck	✓	✓	✓		
Face	✓	✓	✓		
Scalp	✓	✓	✓		
Posterior triangle	✓	✓	✓		
Parotid region	✓	✓	✓		
Cranial cavity	✓	✓	✓		
Anterior triangle	✓	✓	✓		
Submandibular region	✓	✓	✓		
Thyroid gland	✓	✓	✓		
Arteries and veins of head and neck	✓	✓	✓		
Scalene muscles, cervical plexus, and sympathetic trunk	✓	✓	✓		
Last four cranial nerves	✓	✓	✓		
Joints of the head and neck	✓	✓	✓		
	✓	✓	✓		

and	✓	✓	✓		
Tempromandibul	✓	✓	✓		
ar joint	✓	✓	✓		
Mouth cavity	✓	✓	✓		
Palate	✓	✓	✓		
Pharynx	✓	✓	✓		
Nasal cavity	✓	✓	✓		
Larynx	✓	✓	✓		
Eyeball	✓	✓	✓		
Ear	✓	✓	✓		

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	✓
	Case		OSCE/OSPE	✓
	Assignment	✓	Logbook fulfillment	
	Others			
Schedule of Assessment	Mid-term	%		
	End of term	100 %		
Distribution of Marks	Written Exam	60 %		
	Practical/Clinical Exam	30 %		
	Others	10%		

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray's Anatomy Last's Anatomy
Suggested Extra Reading	
Journals and Periodicals, others	American Journal of Radiology

Course Instructor
Name:

Signature:

Program Coordinator Dr
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature**

Course Specifications

Benghazi university

Faculty of Medicine

Department: **Anatomy and Embryology**

Course Information					
Course Code:021-02			Course Name: **Upper Limb**		
Number of Credit Hours 2	Theoretical	1	Clinical/Practical	1	

1- **Course Aims**: The aim of this program is to:

1. Have a sound knowledge about the anatomy of upper limb
2. Study the detailed anatomy of bones, muscles, fascia of upper limb and their blood supply and innervation
3- Correlate the anatomy of upper limb and relevant surgical specialties
4- prepare students to carry out their future job as assistant lectures

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs A4 - Discuss the basis of human anatomy and embryology	1. Obtain basic knowledge and facts in relevant subjects such as dissection and gross anatomy of upper limb 2. Acquire a sound knowledge of the gross anatomy of the lower limb bones, muscles and fascia 3. Discuss about the fascial compartments of the hand 4. Discuss the basis of human anatomy and embryology of the different

		structures of the upper limb
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs B4- find the relation between basic knowledge and clinical application in different medical themes	1. Correlate between the main actions of upper limb muscles and its movements 2. Correlate the structure of joints and ligaments to their movement 3. Apply the knowledge learned regarding the structural & Functional characteristics of the upper limb nerves to explain the relevant pathological changes (e.g. carpal tunnel syndrome and others). 4. Guide students to understand the basis of relevant surgical sciences and techniques 5. Determine the most appropriate anatomical and embryological tools & techniques for the examination of different structures of the upper limb mainly muscles and vessels 6. Relate the basic knowledge of anatomy of upper limb bones (and their related nerves and vessels) with clinical application in the field of orthopedic surgery. 7. Correlate between basic knowledge of anatomy of upper limb joints (and their related ligaments) and clinical application in the field of orthopedic surgery
C.Professional and Practical Skills	C1. Manipulate different organs and tissues. C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3. Interpret the gross anatomy with different clinical sciences C4 Formulate a research question,	1. Study upper limb; muscles and bones, 2. anatomical study of joints, blood vessels and nerves 3. Conduct simplified declaration about the anatomy and embryology of these structures. 4. Interpret the gross anatomy of upper limb with orthopedic and vascular surgeries. 5. Formulate a research question, conduct a

	conduct a thorough literature review, prepare and conduct seminars. C5.Train students in the art of preparing scientific papers/presentations for publication and conferences C6. Develop technical and manual research skills. C7. Engage students in research activities.	thorough literature review, prepare and conduct seminars relevant to different structures of the upper limb especially fascial spaces. 6. Train students in the art of preparing scientific papers/presentations for publication and conferences 7. Develop technical and manual research skills as in preparing upper limb specimens for the museum. 8. Engage students in research activities.
D. General Skills	D1 Use different sources of information to collect, analyze the data D3- Communicate effectively using all methods D5- Practice self appraisal and determines his learning needs D6- Share in determination of standards for evaluation of others (e.g.: subordinates/ trainees etc.) D7- Manage time effectively	1. training in data collection from different sources in preparing seminars 2. practice simple data analysis 3. training of the students to use effectively the computer and internet tools in preparing seminars 4. Practice self appraisal and determines his learning needs 5. encourage students to share in undergraduate assessment 6. training in conduct time limited seminars

Course content (Units/Topics	**Teaching/Learning**				
	Lectures	**Self learning**	**Practical/ Clinical**	**Small group discussion**	**Others**
Regions & Muscles					
- Pectoral region	✓		✓		
- Axilla	✓		✓		

- Scapular region and intermuscular spaces	✓		✓		
- Arm	✓		✓		
- Cubital fossa	✓		✓		
- Forearm	✓		✓		
- Hand	✓		✓	✓	
- Joints	✓		✓	✓	
Nerves of U.L					
- Brachial plexus	✓		✓		
- Median nerve	✓			✓	
- Ulnar nerve	✓			✓	
- Radial nerve	✓		✓		
- Axiallary nerve	✓			✓	
- Musculocutaneous nerve	✓			✓	
Arteries of U.L					
- Axillary artery	✓			✓	
- Brachial artery	✓		✓		
- Radial artery	✓		✓		
- Ulnar artery	✓			✓	
- Arterial arches in the hand	✓			✓	
Veins of U.L	✓			✓	
Lymph nodes of U.L	✓			✓	

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	✓
	Case		OSCE/OSPE	✓
	Assignment	✓	Logbook fulfillment	
	Others			
Schedule of Assessment	Mid-term End of term 100%			

Distribution of Marks	Written Exam Practical/Clinical Exam Oral Exam	60% 30 % 10 %

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray´s Anatomy Last´s Applied anatomy
Suggested Extra Reading	Cuningham anatomy
Journals and Periodicals, others	Cell, tissues and organs American Journal of Radiological Anatomy

Course Instructor
Name: **Signature:**

Program Coordinator:
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature:**

Course Specifications

Benghazi university

Faculty of Medicine

Department: **Anatomy and Embryology**

Course Information					
Course Code:		Course Name: **Lower Limb**			
Number of Credit Hours 2	Theoretical	**1**	Clinical/Practical	**1**	

1- **Course Aims**: The aim of this program is to:

1. Set up a basic knowledge about the anatomy of lower limb
2. Study the detailed anatomy of bones, muscles, fascia of lower limb and their blood supply and innervation
3. Have a basic knowledge about fascia and fascial compartments of lower limb
4. Correlate the basic knowledge with the clinical application in different fields
5. Develop the capacities of juniors to be competent teachers and skilled researchers able to conduct an independent successful scientific research and professional service in these areas.

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs	1. Obtain basic knowledge and facts in relevant subjects such as dissection and gross anatomy of lower limb 2. Study the different techniques of dissection of lower limb 3. Acquire a sound knowledge of the gross anatomy of the lower limb bones, muscles and fascia

	A4 - Discuss the basis of human anatomy and embryology A5- Identify different techniques of dissection and tissue preservation.	4. Describe the fascial compartments of the foot 5. Discuss the basis of human anatomy and embryology of the different structures of the lower limb 6. Identify different techniques of dissection and tissue preservation of the regions of the lower limb
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs B4- find the relation between basic knowledge and clinical application in different medical themes	1. Correlate between the main actions of lower limb muscles and complex lower limb movement 2. Correlate between the complex movement of lower limb extensors and normal gait and posture. 3. Apply the knowledge learned regarding the structural & Functional characteristics of the lower limb veins to explain the relevant pathological changes (e.g. DVT and varicose veins). 4. Apply the knowledge learned regarding the structural & Functional characteristics of the lower limb arteries to explain the relevant pathological changes (e.g. lower limb ischemia). 5. Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs 6. Relate the basic knowledge of anatomy of lower limb bones (and their related nerves and vessels) with clinical application in the field of orthopedic surgery. 7. Correlate between basic knowledge of anatomy of lower limb joints (and their related ligaments) and clinical

		application in the field of orthopedic surgery
C.Professional and Practical Skills	C1. Manipulate different organs and tissues. C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3. Interpret the gross anatomy with different clinical sciences C4 Formulate a research question, conduct a thorough literature review, prepare and conduct seminars. C5.Train students in the art of preparing scientific papers/presentations for publication and conferences C6. Develop technical and manual research skills. C7. Engage students in research activities.	1. Manipulate lower limb; muscles, bones, joints, blood vessels and nerves 2. Careful practical examination of lower limb bones and joints 3. Conduct simplified declaration about the anatomy and embryology of these structures. 4. Interpret the gross anatomy of lower limb with orthopedic and vascular surgeries. 5. Formulate a research question, conduct a thorough literature review, prepare and conduct seminars relevant to different structures of the lower limb especially fascial spaces. 6. Train students in the art of preparing scientific papers/presentations for publication and conferences 7. Develop technical and manual research skills as in preparing lower limb specimens for the museum, and knowing the basis for injection and dissection of vasculature of lower limb 8. Engage students in research activities.
D. General Skills	D1 Use different sources of information to collect, analyze the data D3- Communicate effectively using all methods D5- Practice self appraisal and determines his learning needs D6- Share in determination of	1. training in data collection from textbooks 2. encourage students to use web-based information sources in preparation of seminars 3. training of the students to use effectively the computer and internet tools in preparing seminars 4. Practice self appraisal and determines his learning needs 5. encourage students to share in

	standards for evaluation of others (e.g.: subordinates/ trainees etc.) D7- Manage time effectivelly	undergraduate assessment in pratical classes 6. train students to asses undergraduates in presentations 7. training in conduct time limited seminars

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
Regions and muscles			✓		
Gluteal region	✓				
Femoral triangle			✓	✓	
Thigh	✓				
Leg			✓		
Foot	✓				
Joints			✓		
Fascia of lower limb	✓				
Fascial compartments of lower limb			✓		
	✓				
Nerves of L.L	✓		✓		
Femoral					
Obturator	✓		✓	✓	
Sciatic					
Nerves of the foot	✓		✓	✓	
Vasclature of L.L			✓	✓	
Arteries					
Femoral	✓		✓		
Popliteal					
Veines of L.L	✓		✓		
Lymphatic drainage of L.L					
	✓				

Student Assessment				
Methods of Assessment	Essay	✓	Objective questions	✓
	Case		OSCE/OSPE	✓

	Assignment ✓	Logbook fulfillment
	Others	
Schedule of Assessment	Mid-term End of term 100%	
Distribution of Marks	Written Exam Practical/Clinical Exam Oral Exam	60% 30 % 10 %

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray´s Anatomy Last ´sApplied anatomy
Suggested Extra Reading	Cuningham anatomy
Journals and Periodicals, others	Journal of anatomy

Course Instructor
Name: **Signature:**

Program Coordinator:
Signature:

Program Director (Head of Department)
Name: **Signature:**

Course Specifications

Benghazi university

Faculty of Medicine

Department of Anatomy

Course Information				
Course Code**:**	Course Name: **Pelvis**			
Program in which the Course is Given: **Master degree of anatomy**				
Number of Credit Hours: **3 hours** Theoretical	2	Practical	1	

Course Aims

1. Have a general knowledge about anatomy of the pelvis and perineum.
2. Study the anatomy of the pelvic wall including bony skeleton, and muscles
3. Study of the blood supply and innervation of the region of the pelvis.
4. Have a detailed knowledge about pelvic and perineal organs and fascia with special emphasis of its clinical application.
5. Obtain a good practice in dissection of the region of pelvis and perineum

Intended Learning Outcomes (ILOs)		
	Program ILO (refer to program matrix)	**Course ILOs**
A. Knowledge and Understanding	A1- Acquire basic knowledge and facts in relevant subjects such as dissection and gross anatomy of human body	1. Develop basic knowledge and facts dissection of the pelvis and pelvic organs 2. Obtain the basic knowledge in sound dissection of the perineum 3. Acquire a basic knowledge about gross anatomy of lower urinary tracts 4. Understand the basis of anatomy of genital systems
	A2 - Acquire a sound knowledge of the gross anatomy and embryology of the human body organs	5. Acquire a sound knowledge of the gross anatomy of pelvic and perineal organs
	A3 - Describe the anatomical features	6. Describe the anatomical features of

	of various organs and systems	female and male genital systems, and anal canal. 7. Describe the anatomical features of pelvic and perineal fascia. 8. Describe the anatomy of perineal fascial spaces and their contents and
B. Intellectual skills	B1- Correlate the main functions of human organs to their anatomical structure and embryological origin B2- Apply the knowledge learned regarding the structural & Functional characteristics of the organs to explain the different pathological changes. B3- Determine the most appropriate anatomical and embryological tools & techniques for the examination of different organs B4- find the relation between basic knowledge and clinical application in different medical themes	1. Correlate the main functions of genital organs and anal canal to their anatomical structure and embryological origin and congenital anomalies 2. Apply the knowledge learned regarding the structural & Functional characteristics of these organs to explain the common congenital anomalies like imperforate anus, ectopia vesica 3. Apply the knowledge learned regarding the structural & Functional characteristics of these organs to explain the different pathological lesions and the best surgical access for these from the anatomical point of view 4. Determine the most appropriate anatomical and embryological tools & techniques for the examination of genital organs and anal canal 5. Determine the most appropriate anatomical and embryological tools & techniques for the examination of pelvic and perineal fascial spaces 6. Correlate between basic knowledge of pelvic and perineal organs and compartments and its clinical application in relevant medical themes e.g. relevant surgical specialties.
C.Professional and Practical	C1. Manipulate different organs and	1. Study pelvic and perineal organs and

Skills	tissues. C2 Conduct simplified declaration about the anatomy and embryology of different organs and systems. C3. Interpret the gross anatomy with different clinical sciences C4 Formulate a research question, conduct a thorough literature review, prepare and conduct seminars. C5.Train students in the art of preparing scientific papers/presentations for publication and conferences C6. Develop technical and manual research skills.	tissues. 2. Practice examination of pelvic bones and muscles 3. Conduct simplified declaration about the anatomy and embryology of pelvic and perineal organs, tissue spaces and fascia. 4. Interpret the gross anatomy of genital organs and relevant fascial spaces with gynecology and obstetrics 5. Interpret the gross anatomy of anal canal and relevant fascial spaces with anal surgery 6. Formulate a research question, conduct a thorough literature review, prepare and conduct seminar s relevant to organs and fascia of pelvis and perineum. 7. Train students in the art of preparing scientific papers/presentations for publication and conferences 8. Develop technical and manual research skills.
D. General Skills	D1 Use different sources of information to collect, analyze the data.	1. Use different sources of information to collect, analyze the data like searching on websites, use of e-libraries and others.

Course Content (Units/Topics)	Teaching/Learning Methods				
	Lectures	self learning	Practical/ Clinical	Small group discussion	Others
1. Anatomy of pelvic bony skeleton		✓	✓	✓	

2. Anatomy of pelvic wall muscles 3. Anatomy of pelvic fascia 4. anatomy of pelvic fascial spaces 5. Anatomy of nerve of the pelvis 6. Anatomy of the blood vessels of the pelvis 7. Anatomy of pelvis lymph drainage 8. Anatomy of female genital system 9. Applied anatomy of female genital system 10. Anatomy of male genital system 11. Applied anatomy of male genital system 12. Anatomy of anal canal	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	 ✓	

Please check (✓) the appropriate method.

Student Assessment				
Methods of Assessment	Essay		Objective questions	✓
	Case		OSCE/OSPE	✓
	Assignment	✓	Logbook fulfillment	
	Others			
Schedule of Assessment	Mid-term	%		
	End of term	100 %		
Distribution of Marks	Written Exam	60 %		
	Practical/Clinical Exam	30 %		
	Oral Exam	10%		

List of Textbooks and References	
Lecture Notes	
Course Text Books	Gray's Anatomy Last's Anatomy

Suggested Extra Reading	
Journals and Periodicals, others	Cell, Tissue and Organs Surgical Anatomy

Course Instructor
Name: **Signature:**

Program Coordinator
Name: **Signature:**

Program Director (Head of Department)
Name: **Signature:**