



LEADING THE WAY
KHALĪFAH • AMĀNAH • IQRA' • RAHMATAN LIL-ĀLĀMĪN
LEADING THE WORLD



AN INTERNATIONAL AWARD-WINNING INSTITUTION FOR SUSTAINABILITY

DEPARTMENT OF BASIC MEDICAL SCIENCES
KULLIYAH OF MEDICINE
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

ANATOMY STUDY GUIDE

Academic Session 2022/2023

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Any absence due to sickness or any unforeseen circumstances must be notified to the course coordinators as soon as possible and must be supported by suitable documentation e.g. sick certification

ANATOMY

Directory of Course Instructors

No.	Name	Email	Department
1.	Assoc. Prof. Dr. Zunariah Buyong	drzuna@iium.edu.my	Basic Medical Sciences, KOM
2.	Asst. Prof. Dr. Yusoff Sharizal bin Yusoff Azmi Merican	ysharizal@iium.edu.my	Basic Medical Sciences, KOM
3.	Asst. Prof. Dr. Hazulin Mohd. Radzuan	hazulin@iium.edu.my	Basic Medical Sciences, KOM
4.	Asst. Prof. Dr Shahida Saharudin	shahida@iium.edu.my	Basic Medical Sciences, KOM
5.	Asst. Prof. Dr Wan Muhamad Salahudin Wan Salleh	drsolah@iium.edu.my	Basic Medical Sciences, KOM

List of Courses

	Course Title	Course Code	Course Classification	Credit Hours
1.	Introduction to Anatomy	ANAT 7210	Special Req	2
2.	Gross Anatomy	ANAT 7311	Core	3
3.	Neuroanatomy	ANAT 7312	Core	3
4.	Developmental Anatomy	ANAT 7313	Core	3
5.	Microscopic Anatomy	ANAT 7314	Core	3
6.	Applied Anatomy	ANAT 7315	Elective	3

ANAT 7210: Introduction to Anatomy

Course Coordinator: Asst. Prof. Dr. Hazulin Mohd Radzuan

Section 1: Course Synopsis

This course offers a broad knowledge of the basic structures of the human body. It provides a basic introduction to important aspects of human anatomy, human tissue functional histology and embryology. The main aim is to prepare students for the advanced courses in anatomy.

Section 2: Learning Outcome

1. To explain and distinguish different anatomical terms.
2. To compare and differentiate the gross anatomy of basic structures of the major human organs and systems.
3. To summarize the stages of development in general embryology.
4. To compare and classify the microscopic appearance and structure of cells, epithelia, connective tissue, nervous tissue and muscles.

Section 3: Teaching Format and Guidelines

1. Class participations
2. Lecture
3. Tutorial
4. Assignment
5. Viva
6. Self-directed learning

Section 4: Course Assessment

Assignment	30%
Viva	60%
Participation/Attendance	10%

Section 5: Course Content

No.	Topic
1.	Introduction to Gross Anatomy
2.	Introduction to Systemic Anatomy I (musculoskeletal and central nervous systems)
3.	Introduction to Systemic Anatomy II (respiratory and cardiovascular systems)
4.	Introduction to Systemic Anatomy III (gastrointestinal, urinary and reproductive systems)
5.	Introduction to General Developmental Anatomy
6.	Introduction to Systemic Developmental Anatomy
7.	Introduction to Histology I <ul style="list-style-type: none">• Microscopy• Cell structure and function• Epithelium• Skin
8.	Introduction to Histology II <ul style="list-style-type: none">• Muscular tissue• Nervous tissue• Connective tissue• Specialized connective tissue

Section 6: Learning Resources

Required Textbook

Gross Anatomy

1. Moore, K. L., Dalley, A. F., Agur, A.M.R. (2018). Clinically oriented anatomy (8th ed.). Wolters Kluwer.
2. Wineski, L. E. (2019). Snell's clinical anatomy by regions (10th ed.). Wolters Kluwer.

Histology

1. Mescher, A. L. (2018). **Junqueira's** basic histology: Text and atlas (15th ed.). McGraw-Hill Education.
2. Young, B., Woodford, P., O'Dowd, G. (2014). Wheater's functional histology. A text and colour atlas (6th ed.). Elsevier, Churchill Livingstone.
3. Brown, M. J., Sharma, P., Mir, F., & Bennett, P. N. (2018). Clinical Pharmacology (12th ed.). Elsevier Ltd.

1. Embryology

1. Moore, K. L., Persaud, T. V. N., Torchia, M. G. (2016). The developing human: Clinically oriented embryology (10th ed.). Elsevier Inc.

Recommended Textbook

Gross Anatomy

1. Agur, A.M.R., & Dalley, A.F. (2017). Grant's atlas of anatomy (14th ed.). Wolters Kluwer.
2. Ellis, H., & Mahadevan, V. (2019). Clinical anatomy: Applied anatomy for students and junior doctors (14th ed.). Wiley Blackwell.
3. Young, P. A., Young, P. H., & Tolbert, D. L. (2015). Basic clinical neuroscience (3rd ed.). Wolters Kluwer.
4. Netter, F. H. (2019). Atlas of human anatomy (7th ed.). Elsevier Inc.
5. Standring, S. (2015). Gray's anatomy: The anatomical basis of clinical practice (41st ed.). Elsevier Churchill Livingstone.
6. Splittgerber, R. (2018). Snell's clinical neuroanatomy (8th ed.). Wolters Kluwer.

2.

Histology

1. Eroshenko, V. P. (2017). DiFiore's atlas of histology with functional correlations
2. (13th ed.). Wolters Kluwer.
3. Suvarna, S. K., Layton, C., Bancroft, J. D. (2018). Bancroft's theory & practice of histological techniques (8th ed.). Churchill Livingstone.

Embryology

1. Schoenwolf, G. C., Bleyl, S. B., Brauer, P. R., Francis-West, P. H. (2015). Larsen's human embryology (5th ed.). Elsevier, Churchill Livingstone.
2. Sadler, T. W. (2019). Langman's medical embryology (14th ed.). Wolters Kluwer.

ANAT 7311: Gross Anatomy

Course Coordinator: Asst. Prof. Dr. Wan Muhamad Salahudin Wan Salleh

Section 1: Course Synopsis

This course provides a broad knowledge of the basic structures of the human body with a strong emphasis on clinical anatomy that is important in general practice, diagnostic imaging, emergency medicine and surgery.

Section 2: Learning Outcome

1. To **compare and differentiate** the gross human anatomical structures.
2. Evaluate the importance of the structures and functions of the various parts of the human body in relation to common clinical pathology
3. **Appraise and apply** the principles learnt in research works.

Section 3: Teaching Format and Guidelines

1. Class participations
2. Lecture
3. Tutorial
4. Assignment
5. Final examination
6. Self directed learning

Section 4: Course Assessment

Assignment	30%
Final Examination	60%
Participation/Attendance	10%

Section 5: Course Content

No.	Topic
1.	General anatomy
2.	Thorax I
3.	Thorax II
4.	Abdomen I
5.	Abdomen II
6.	Pelvis I
7.	Pelvis II
8.	Upper limb I
9.	Upper limb II
10.	Lower limb I
11.	Lower limb II
12.	Head & Neck I
13.	Head & Neck II
14.	Head & Neck III

Section 6: Learning Resources

Required Textbook

1. Moore, K. L., Dalley, A. F., Agur, A.M.R. (2018). Clinically oriented anatomy (8th ed.). Wolters Kluwer.
2. Wineski, L. E. (2019). Snell's clinical anatomy by regions (10th ed.). Wolters Kluwer.

Recommended

1. Agur, A.M.R., & Dalley, A.F. (2017). Grant's atlas of anatomy (14th ed.). Wolters Kluwer.
2. Ellis, H., & Mahadevan, V. (2019). Clinical anatomy: Applied anatomy for students and junior doctors (14th ed.). Wiley Blackwell.
3. Netter, F. H. (2019). Atlas of human anatomy (7th ed.). Elsevier Inc.
4. Standring, S. (2015). Gray's anatomy: The anatomical basis of clinical practice (41st ed.). Elsevier Churchill Livingstone.

ANAT 7312: Neuroanatomy

Course Coordinator: Asst. Prof. Dr. Yusoff Sharizal bin Yusoff Azmi Merican

Section 1: Course Synopsis

This course provides a broad knowledge of the structures and functions of the central nervous system (neuroanatomy) and their clinical importance in medicine.

Section 2: Learning Outcome

1. **Compare and contrast** the different neuroanatomical structures, pathways and functions of the central nervous system.
2. Relate the importance of neuroanatomical structures and pathways in clinical medicine.
3. **Appraise and apply** the knowledge acquired in research work.

Section 3: Teaching Format and Guidelines

1. Class participations
2. Lecture
3. Tutorial
4. Assignment
5. Final examination
6. Self-directed learning

Section 4: Course Assessment

Assignment	30%
Final Examination	60%
Participation/Attendance	10%

Section 5: Course Content

No.	Topic
1.	Introduction to Nervous Tissue
2.	Meninges & Dural Venous Sinuses
3.	Cerebral Hemisphere & White Matter
4.	Basal Ganglia
5.	Thalamus & Hypothalamus
6.	Ventricular System
7.	Cerebellum
8.	Brainstem
9.	Spinal Cord
10.	Blood Supply to CNS
11.	Cranial Nerves I
12.	Cranial Nerves II
13.	Visual and Auditory Pathway
14.	Ascending and Descending Pathway

Section 6: Learning Resources

Required Textbook

1. Splittgerber, R. (2018). Snell's clinical neuroanatomy(8th ed.). Wolters Kluwer.

Recommended Textbook

1. Blumenfeld, H. (2010). Neuroanatomy through clinical cases(2nd ed.). Oxford University Press.
2. Young, P. A., Young, P. H., Tolbert, D. L. (2015). Basic clinical neuroscience (3rd ed.). Wolters Kluwer.

ANAT 7313: Developmental Anatomy

Course Coordinator: Asst. Prof. Dr. Hazulin Mohd. Radzuan

Section 1: Course Synopsis

This course will provide a description of the developing human being from the gametogenesis through the embryonic period. These include the placental and fetal developments. Special clinical correlation, which is essential in the diagnosis and prevention of birth defects, will be emphasized as well.

Section 2: Learning Outcome

1. **Compare and contrast** the different stages of developmental anatomy.
2. Relate birth defects and other relevant clinical entities to developmental anatomy.
3. **Appraise and apply** principles learnt to research works.

Section 3: Teaching Format and Guidelines

1. Class participations
2. Lecture
3. Tutorial
4. Practical
5. Assignment
6. Final examination
7. Self-directed learning

Section 4: Course Assessment

Assignment	30%
Final Examination	60%
Participation/Attendance	10%

Section 5: Course Content

No.	Topic
1.	Gametogenesis, Ovulation and Implantation
2.	Bilaminar Germ Disc, Trilaminar Germ Disc, Embryonic Period
3.	Foetus and Placenta, Birth Defects
4.	Skeletal System, Muscular System, Body Cavities.
5.	Cardiovascular System I
6.	Cardiovascular System II
7.	Respiratory System
8.	Digestive System I
9.	Digestive System I
10.	Urogenital System I
11.	Urogenital System II
12.	Head and Neck I
13.	Head and Neck II
14.	Ear, Eye, Integumentary
1. CNS	CNS

Section 6: Learning Resources

Required Textbook

1. Moore, K. L., Persaud, T. V. N., Torchia, M. G. (2016). The developing human: Clinically oriented embryology (10th ed.). Elsevier, Inc.

Recommended Textbook

1. Sadler, T. W. (2019). Langman's medical embryology (14th ed.). Wolters Kluwer.
2. Schoenwolf, G. C., Bleyl, S. B., Brauer, P. R., Francis-West, P. H. (2015). Larsen's human embryology (5th ed.). Elsevier, Churchill Livingstone.
- 3.

ANAT 7314: Microscopic Anatomy

Course Coordinator: Assoc. Prof. Dr. Zunariah Buyong

Section 1: Course Synopsis

This course provides a broad knowledge of microanatomy of the structures and functions of the tissues, organs and systems of the whole body in relation to the principles of physiology, biochemistry and molecular biology.

Section 2: Learning Outcome

1. Distinguish the microscopic appearances and structures of cells, epithelia, connective tissue, nervous tissue and muscle in each system.
2. Relate the importance of microscopic structures to the fields of pathology and clinical medicine.
3. **Appraise and apply** the knowledge acquired in research works.

Section 3: Teaching Format and Guidelines

1. Class participations
2. Lecture
3. Tutorial
4. Practical
5. Assignment
6. Final examination
7. Self directed learning

Section 4: Course Assessment

Assignment	30%
Final Examination	60%
Participation/Attendance	10%

Section 5: Course Content

No.	Topic
1.	<ul style="list-style-type: none">• Managing the lab• Study of histological techniques
2.	<ul style="list-style-type: none">• Cell structure & function• Microscopes• Ultrastructure of the cell
3.	Epithelium & skin
4.	Muscular & nervous tissues
5.	Connective tissue & specialized connective tissue
6.	Lymphatic tissue & lymphoid organs
7.	Circulatory system
8.	Respiratory system
9.	Digestive tract & associated glands
10.	Urinary system
11.	Endocrine system
12.	Male reproductive system
13.	Female reproductive system
14.	Central nervous system & special sense organs

Section 6: Learning Resources

Required Textbook

1. Developing human: Clinically oriented embryology (10th ed.). Elsevier, Inc. Mescher, A. L. (2018). Junquiera's basic histology: Text and atlas (15th ed.). McGraw-Hill Education.
2. Young, B., Woodford, P., O'Dowd, G. (2014). Wheater's functional histology. A text and colour atlas (6th ed.). Elsevier, Churchill Livingstone.
3. Suvarna, S. K., Layton, C., Bancroft, J. D. (2018). Bancroft's theory & practice of histological techniques (8th ed.). Churchill Livingstone.

Recommended Textbook

1. Eroshenko, V.P. (2017). DiFiore's atlas of histology with functional correlations (13th ed.). Wolters Kluwer.

ANAT 7315: Applied Anatomy

Course Coordinator: Asst. Prof. Dr. Shahida Saharudin

Section 1: Course Synopsis

This course provides clinically relevant anatomical information and discusses the subject in the context of medical problems and the acquisition of clinical skills. It focuses on issues clinically relevant to head and neck, thorax, abdomen, pelvis and perineum, upper limb, lower limb, back and neuroanatomy. The emphases are on surface anatomy, radiological anatomy, the anatomy of common medical procedures including their related complications and clinical problem solving.

Section 2: Learning Outcome

1. Relate human surface anatomy and surface projections as the basis of clinical examination.
2. Evaluate the knowledge of anatomy in various clinical disciplines.
3. Compare the clinical significance of anatomical variations.

Section 3: Teaching Format and Guidelines

1. Class participations
2. Lecture
3. Tutorial
4. Practical
5. Assignment
6. Final examination
7. Self-directed learning

Section 4: Course Assessment

Assignment	30%
Final Examination	60%
Participation/Attendance	10%