Zagazig University - Faculty of Medicine

Department of (histology)

Course specifications

(Course title: Histology and Cell Biology)

(Course Code: (HCUGO1)

*( 2nd) year of Undergraduate program*

Academic year ( 2018 / 2019 )

Approved ( 2018 )

Allocated marks: 150 marks

Course duration: One academic year

Total teaching hours:150 hours

|  |  |  |
| --- | --- | --- |
| Lectures (hrs) | Practical  (hrs) | Total |
| 90 | 60 | 150 |

Course director: Chairman Prof.: AZZA SAAD SHEHATA

Course co ordinator:

Prof. Eman abd.razek

Dr. RANIA ZIDAN

TEACHING STAFF

* 10 professors

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| --- | --- |
| **أستاذ بالقسم رئيس القسم** | **أ.د عزة سعد شحاته** |
| **أستاذ بالقسم** | **ا.د/ خالد حامد المسلمى** |
| **أستاذ بالقسم** | **أ.د/ إيمان عبد الرازق عبدالفتاح** |
| **أستاذ بالقسم** | **ا.د /عبير محمد عزمي** |
| **أستاذ بالقسم** | **أ.د/ مها أمين خطاب** |
| **أستاذ بالقسم** | **ا.د/ أسامة ياسين إبراهيم** |
| **أستاذ بالقسم** | **ا.م/ فايزة السيد أحمد عز العرب** |
| **أستاذ بالقسم** | **ا.م/ رانيا احمد زيدان** |
| **أستاذ بالقسم** | **أ.م/ عصماء عثمان سليم** |
| **أستاذ بالقسم** | **ا.م/ هالة علوي هاشم** |
| **أستاذ بالقسم** | **ا.م/ محمد السيد خليفة** |

* 6 assistant professors

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| **أستـاذ مسـاعـد بالقـسم** | **ا.م/ ماهر إسماعيل العطار** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/ حكمت محمد سعيد** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/ سحر فرج شعبان سليمان** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/زينب عبد الله جودة** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/سالي أحمد سليم عليوة** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/ نهاد فهمى احمد ابراهيم** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/ زينب منصور العزونى** |
| **أستـاذ مسـاعـد متفرغ بالقـسم** | **ا.م/ . جمال عبد الله عطية** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/محمد عبدالرحمن شاهين** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/أسماء الحسينى احمد** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/سامية عادل عبد الباسط** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/سماح محمد احمد** |
| **أستـاذ مسـاعـد بالقـسم** | **ا.م/شيماء علي عبدالرحمن** |

* 14 lecturers

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| **مـــدرس** | **د. سامح جرجس ميخائيل** |
| **مـــدرس** | **د. ابراهيم عبد المنعم الشربينى** |
| **مـــدرس** | **د. مها زايد محمد حسني** |
| **مـــدرس** | **د. ابتهال زيد حسني صالح** |
| **مـــدرس** | **د. عبيرعبدالعظيم محمود** |
| **مـــدرس** | **د. سارة محمد محمود** |
| **مـــدرس** | **د. مي أمين محمد** |
| **مــدرس** | **د. نهلة السيد إبراهيم** |
| **مــدرس** | **د. سمر محمد رضا** |
| **مــدرس** | **د. غادة عبد العزيز السماك** |
| **مــدرس** | **د. كريمة فوزي عبد الفضل** |
| **مدرس** | **د. نادية محسن العقباوى** |
| **مــدرس** | **د.هناء سعيد موسى** |

* 11 asses. Lecturers

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| **مــدرس مـسـاعـد** | **د. منار محمد على** |
| **مــدرس مـسـاعـد** | **د. إيناس جمال عبد الله عمرو** |
| **مــدرس مـسـاعـد** | **د. سماء محمد حسن** |
| **مــدرس مـسـاعـد** | **د. سمر رمزي محمد عيد** |
| **مــدرس مـسـاعـد** | **د.سارة علي السيد قنديل** |
| **مــدرس مـسـاعـد** | **د. سمر حسن عبد الحميد سلامة** |
| **مــدرس مـسـاعـد** | **ط. إيمان سامي عبد الكريم** |
| **مــدرس مـسـاعـد** | **ط. سمر عبد العزيز مصطفى** |
| **مــدرس مـسـاعـد** | **ط. علياء احمد عبد الستار** |
| **مــدرس مـسـاعـد** | **د. أميرة محمد صابر** |
| **مــدرس مـسـاعـد** | **ط.بسنت ثروت عبد الباقي** |

* 10 Demonstrators

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| **مـــعـيـده** | **ط. مي عيد** |
| **مـــعـيـده** | **ط. هايدي جرجس سلامة** |
| **مـــعـيـده** | **ط. سلمى سامى على شلبى** |
| **مـــعـيـده** | **ط. فاطمة موسى الحسينى موسى** |
| **مـــعـيـده** | **ط.اية علاءالدين محمود الصادق** |
| **مـــعـيـده** | **ط.سمر محمود اسامة لطفى محمود** |
| **مـــعـيـده** | **ط ماريان سلامه يوسف سلامه** |
| **مـــعـيـده** | **ط.مريم احمد على عبدالمقصود** |

Date of Authorization: Signature:

I. GOALS OF THE COURSE:

The main goal of the course of histology and cell biology is to:

* Inform the students about the different tissues forming organs and body systems.
* Build the basic knowledge about the normal structure and molecular biology of the cells and fine structure of some organs and systems of the body.
* Correlate the function of each system to its structure to satisfy building student knowledge and provide scientific thinking.
* Learning some clinical notes to correlate the theoretical basis with its applications.
* Establish a basis to medical knowledge, skills and attitude regarding Histology and Cell Biology science that well benefit medical students during their future, study and practical life.

II. INTENDED LEARNING OUTCOMES:

By the end of this course the student must be able to:

1. Knowledge and Understanding

**By graduation, our students will be able to:**

**KU.1** **Describe** Normal Human Body including:

1. Describe the methods used for differentiation between different organs eg. Liver, kidney,…..etc.
2. Identify the histological structure of:

* Digestive system.
* Respiratory system.
* Endocrine system.
* Male genital system.
* Female genital system.
* Special sense and central nervous systems.

1. Correlate the function and structure of different component of all studied systems.

**KU.2 Identify** the student safety and safety procedures during practical lessons.

**KU.3** understand the basis of hygiene **.**

**KU.**4 to know his responsibilities and how to cooperate other colleagues

**KU.**5 to tell his the professional standards and lows governing the practice and abide by the national code of ethics issued by the Egyptian medical syndicates .

**KU.6** to recognize basis of medical aspects of practice .

**KU.7** to know skill of writing health record electronic medical record .

KU.8 identify principle of scientific research including its ethical and scholarly inquiry.

KU.9 recognize the research studies and scientific research in terms of integrity reality and applicability .

KU.10 identify and use memorial date including the use of basic statistical methods

**KU.11** Maintain honesty and integrity in all interactions with teachers, colleagues and assistants during presence in the lab.

**2. Practical and Clinical Skills**

**PC1**. use efficiently light and electron microscopes in examination of tissues

**PC2**. identify the histological slides of different organs us**ing the light microscope.**

**PC3**. Differentiate between different tissues and organs in histological slides.

**PC4. Perform vaginal smear and semen analysis**

**PC5.** Apply the safety measures during the practical session in Histology lab

**3. Professional Attitude and Behavioral Skills**

**PA1**. Maintain honesty and integrity in all interactions with teachers, colleagues and assistants during presence in the lab.

**PA2**. Follow instructions in dealing with microscopes and slides and follow safety measures inside the lab.

**PA3**. Respect the different cultural beliefs and values in the community they serve.

**PA4**. Show Ability to seek help when help is needed

**PA5.** Recognize the scope and limits of their role as students as well as necessity and apply collaboration with other workers.

**PA6**. Appreciate the importance of life long learning by choosing a subject during the course not given in the lectures as self learning and assessing them.

**PA7**. Maintain a professional image concerning behavior, dress and speech.

**PA8**. Respect the hygiene measures as regard white coat microscopes environment aeration of labs .

**PA9**. To respect the low covering the practice .

**PA10**. Respect the basics of medico legal aspects of practice Hal practice the skill of communities.

**PA11**. Recognize using of health record .

**PA12**. To apply methods of research in scientific writing .

**PA13**. Analyze medical data including uses of basic statistical methods

**4. Communication Skills**

**CS1**. Communicate clearly, sensitively and effectively with colleagues (each group of students act together to prepare a section and sharing the same microscope)

**CS2**. Honor and respect colleagues, superiors and any other member inside the lab.

**CS3.** Demonstrate good organizational skills with respect to:

3a: Time management.

3b: Completion of records and paperwork in a timely manner.

3c: Effective setting and reassessment of priorities.

3d: The ability to handle multiple responsibilities simultaneously.

**CS4**. Work effectively within a team.

**5. Intellectual Skills**

**IS1**. Interpret the result of semen analysis or vaginal smear with normal values in our course eg. Number and shape of sperm.

**IS2**. Differentiate between the different parts of digestive system.

**IS3**. Diagnose the different structure of each system on the slide

**IS4.** Diagnose structure on the slide differ in its shape from the ordinary studied during the course.

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**6. General and Transferable Skills**

1. Able to use computer and internet to extract information and knowledge in writing research project and presenting it clearly in written, electronic and oral forms.
2. Use electronic means to get, and manage information.
3. Present information clearly in written, electronic and oral forms.
4. Communicate ideas and arguments effectively.
5. Analyze and use numerical data including the use of simple statistical methods)
6. Strengthen one's own medical education in areas of special interest

COURSE CONTENTS:

III-A) THEORETICAL TOPICS:

1. Integumentary system.
2. Digestive system.
3. Respiratory system.
4. Endocrine system.
5. Urinary system.
6. Male reproductive system.
7. Female reproductive system.
8. The eye.
9. The ear.
10. Central nervous system

III-B) PRACTICAL TOPICS:

- Basic medical ethics and safety measures.

1- Examination and identification of slides showing the different tissues and organs of the body:

* Thick skin.
* Thin skin.
* The lip.
* Tongue.
* Different lingual papillae.
* Taste buds.
* Esophagus.
* Fundus of stomach.
* Pylorus of stomach.
* Gastro-esophageal junction.
* Duodenum.
* Jejunum.
* Ileum.
* Appendix.
* Large intestine.
* Pyloro-duodenal junction.
* Parotid gland.
* Submandibular gland.
* Pancreas.
* Liver.
* Gall bladder.
* Trachea.
* Adult lung.
* Fetal lung.
* Kidney.
* Ureter.
* Urinary bladder.
* Testis.
* Epididymis.
* Prostate gland.
* Penis.
* Spermatic cord.
* Vas deferens.
* Ovary.
* Fallopian tube.
* Uterus.
* Vagina.
* Placenta.
* Mammary gland (resting)
* Mammary gland (lactating).
* Cornea of the eye.
* Eye ball.
* Eye lid.
* Retina.
* Cochlea.
* Spinal cord (cervical region)
* Spinal cord (thoracic).
* Spinal cord (lumber)
* Medulla (motor decussation).
* Medulla (sensory decussation)
* Open medulla.
* Pons (3 levels).
* Midbrain (inferior level)
* Midbrain (superior level)
* Cerebellum.
* Cerebrum.

\* Contents of each theoretical topic:

1- Integumentary system:

- Thick skin.

- Thin skin.

- Appendages of skin.

- Glands of skin.

- Hair and hair follicles.

- Nail.

**2- Digestive system:**

* Tongue.
* Pharynx.
* Teeth.
* Esophagus.
* Stomach.
* Small intestine.
* Large intestine.
* Salivary glands.
* Pancreas.
* Liver and gall bladder.

**3- Respiratory system:**

* Nasal cavity and nasopharynx.
* Larynx.
* Trachea.
* Bronchi.
* Bronchioles.
* Alveolar ducts and sacs.
* Alveoli.
* Pleura.

**4 - Endocrine system:**

* Will be studied in integrated course.

**5- Urinary system:**

* The kidney.
* Ureter.
* Urinary bladder.
* Urethra.

**6-- Male reproductive system:**

* The testis.
* Sperms.
* Genital ducts.
* Ducts epididymis.
* Seminal vesicle.
* Prostate gland.
* External genitalia.

**7- Female reproductive system:**

* Ovary.
* Ovarian follicles.
* Corpus luteum.
* Fallopian tube.
* Uterus.
* Menstrual cycle.
* Vagina.
* External genitalia.
* Placenta.
* Mammary gland.

**8- The eye:**

* Sclera.
* Cornea.
* Choroids.
* Ciliary body.
* Iris.
* Compartments of the eye.
* Lens.
* Retina.
* Conjunctiva.
* Eyelids.

**9- The ear:**

* External ear.
* Middle ear.
* Inner ear.
* Organ of Corti.

**10- Central nervous system:**

* Spinal cord.
* Long tracts of spinal cord.
* Short tracts of spinal cord.
* Proprioceptive pathway.
* Simple touch pathway.
* Medulla oblongata.
* Olivary nuclei.
* Pons.
* Levels of the pons.
* Vestibular pathway.
* Auditory pathway.
* Midbrain.
* Red nucleus.
* Visual and olfactory pathways.
* Cranial nerves and their origins.
* Cerebellum.
* Cerebrum.

V. TEACHING AND LEARNING FACILITIES:

SPACES

* 1. Two laboratories at the histology department equipped with lab equipments.
  2. One lecture hall in the histology department.
  3. Light microscope lab
  4. Electron microscope lab

EQUIPMENTS:

1. 100 microscopes for students (50 are valid and 50 need fixation).
2. Three whiteboards.
3. Two closed T V circuits in practical labs.
4. One over head projector.
5. Two slide projector.
6. One data show.
7. Scientific Posters.
8. Practical notebook.

VI.STUDENT ASSESSMENT:

VI-A) ATTENDANCE CRITERIA:

Every student must attend at 75% of practical lessons and students should trained and evaluated through extended direct observation in log book and student notebook.

VI-B) ASSESSMENT METHODS:

|  |  |
| --- | --- |
| METHOD | Targeted (ILOs) |
| Objective questions (MCQ, Matching, and fill in the space, put labels on diagram). | K, PS, IS |
| Short essay (short account, enumerate, give reason). | K, PS, IS |
| Practical examination (OSPE)   * spotting examination which assess adjusting the microscope, doing some staining steps, identifying some instruments, diagnosing the structure and identifying the pointed structure on the slide * Drawing a labeled diagram. | PS, GS & A |
| Oral examination: how to represent the information in oral ways. | K, PS, CS, GS & A |
| Extended direct observation through the student log books and notebooks. | PS and attitude |
| Research and presentation | GS, A |

VI-C) ASSESSMENT SCHEDULE:

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Exam | Date | Marks |
| 1 | Mid-term1 | November | 4 |
| 2 | Mid-YEAR | January | 18 |
| 3 | Final Exam   * Written * Oral * practical | June | 75  15  30 |
| 4 | Research project |  | 3 |
| 5 | * Log book * Note book | EDO during small group teaching | 2  3 |

VI-D) FORMATIVE ASSESSMENTS:

* Continuous evaluation during practical lessons using open discussion, giving shock quiz (true or false questions).

VI-E) EXAMINATION DESCRIPTION:

|  |  |  |
| --- | --- | --- |
| Examination | Description | Marks |
| Final Exam  Written  Oral  practical | Essay questions  Short essay  MCQ+ fill in space + give reason + write labels on diagram  Oral questions  OSPE:Identification of 20 slides  drawing two diagrams | 45  30  15  25  5 |
| Mid term exam  Mid year | Enumerate – short account- problem solving- drawing diagrams | 4  18 |
| Continuous evaluation | * practical notebooks * evaluation during the year including attendance and behavior through log book * research project | 2  3  3 |
| TOTAL |  | 150 |

VII. LEARNING AND REFERENCE MATERIALS:

VII-A) BASIC MATERIALS:

* 1. Department text book by histology staff members, 1st edition ,2009 and Department atlas by staff members, first edition
  2. Guidelines by MCQs book organized by staff members.
  3. Department CDs of practical slides.
  4. VII-B) SUGGESTED MATERIALS:
  5. Recommended text books:

1. Basic histology by Junequeira (2003) 10th edition.
2. Text book of histology by Gartner and Hiatt (2001) 2nd edition
3. Wheater's Functional Histology (2006) 5th edition.
4. Cells (2007) 1st adition.

VII-C) ELECTRONIC MATERIALS

1. Internet web sites:

<http://www.med-ed-online.org>

http://www.blue histology.com

**For horizontal integration:**

* Endocrine system structure and function with the relevant course in physiology.

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| --- | --- | --- | --- |
| ILOs | Method | Assessment | Marks |
| Knowledge and Understanding (KU) | Interactive Lectures  Interactive learning  Brain Storming  Self directed learning | Written Exam  Oral Exam  Mid year exam | 75  15  18 |
| Practical Skills (PS) | Practical Sessions  Interactive Tutorials  Extended Direct Observation (EDO) | OSPE | 30 |
| Communication Skills (CS) | EDO  Teaching ethics  Self directed learning  Interactive learning  Group work | EDO  OSPE  Presentations -Assignments | 2  3 |
| Intellectual Skills (IS) | Self directed learning  Problem solving | Assignments | 3 |
| Professional Skills (PS) | Group Assignments  Self directed learning | EDO  Presentations | 3 |
| Professional attitude (PA) | Teaching ethics classes  Extended direct observation  Self directed learning | EDO  OSPE  Assignments | 5 |

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| **Topics actually taught** | No. of hours |
| All topics | 90 |
| Introduction and sanitary measures | 2 |
| Research study | 2 |
| **Skin** | **6** |
| **Digestive system** | **15** |
| **Respiratory system** | **6** |
| **Endocrine** | **6** |
| **Urinary system** | **8** |
| **Male genital system** | **6** |
| **Female genital system** | **12** |
| **Eye** | **5** |
| **Ear** | **5** |
| **CNS** | **8** |
| **REVISION** | **7** |

* Time for theoretical topics :