**Kfrelsheikh University**

**Faculty of Medicine**

**Department of Histology**

 Course Specifications

**Course title:** **Histology for second year students**

**Code :**

* **Department offering the course Histology Department**
* academic year of M.B.& B.Ch. program second year **MBBCh. Program**
* **Date of specification approval**
	1. **BASIC INFORMATION:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Allocated marks:** | 150 |  | marks |
|  | **Course duration:** | 30 | weeks of teaching |

 **Teaching hours 60hours theoretical**

**60 hours tutorial & practical**

**120 Total teaching hours**

**B) PROFESSIONAL INFORMATION:**

**1- Overall Aim of the Course:**

* To enable the students to know theoretically and practically the normal organs of various body systems.
* To enable students to correlate between structure and functions of various tissues and organs.
* To make the students aware of the subculture structure and their function (functional ultra structure).
* To enable the students to interpret the color and electron photomicrographs to know the clear details of normal cell & tissue organization.
* To make the students oriented with the special sensory organs and their central connections.
* To enable the students to correlate between the histology and physiology of the endocrine tissue and the mechanism of hormone control.
* To enable the students to be familiar with the various parts of the CNS regarding levels of various sections in the brain stem as ascenders sensory tracts & descending motor tracts.
* To recognize some clinical application in relation to histological structure.
* To prepare students for studying histology pathology in second year.

**2- Intended Learning Outcomes (ILOs):**

**A- Knowledge and understanding:**

***By the end of the course, students should be able to:***

**1-** Describe normal histological structure of various organs of: respiratory,digestive, endocrine, urinary, male and female genital systems, eye and ear.(a1,2 and 3)

**2-** Describe the ultra structure of the cells of different organs.(a1,2 and 3) **3-** Correlate between histological structure and function.(a1,2 and 3)

**4-** Correlate the prevalence of some sub cellular structure & predict. cell functions( Functional ultra structure).(a1,2 and 3)

**5-** Describe various levels in the spinal cord and brain stem.(a1,2 and 3) **6-** Descending & ascending tracts.(a1,2 and 3)

**7-** Describe various types of lemnisci and medial longitudinal bundle.(a1,2 and 3) **8-** Define the different parts of cerebrum and cerebellar connections.(a1,2 and 3) **9-** Recognize some clinical applications in relation to histological structure.(a1,2,3

and e.1)

**10-** Recognize basics of ethics (a.14)

**B- Practical skills:**

***By the end of the course, students should be able to:***

**11-** Differentiate between different organs in histological slides seen under themicroscope. (a.1, 2, 3 and b.1)

**12-** Identify various types of special stains for various tissues.(b.1)

**13-** Recognize ultra structure of different cells studied various organs. (a.1,2and 3)

**14-** Identify & describe photomicrographs and diagrams of different cells. (a.1,2 and 3)

**15-** label diagrams of different levels in spinal cord and brain stem.(a.1,2 and 3)

**C-Professional attitude and behavioral skills:**

***By the end of the course, students should be able to:***

**16-** Respect and follow the institutional code of conduct.(c.6)

**17-** Maintain professional image in manner, dress speech and interpersonalrelationships that is consistent with the medical profession's accepted contemporary standards in the community. (c.6 and d.5)

**D. Communication skills:**

***By the end of the course, students should be able to:***

**18-** Communicate effectively with individuals regardless of their social, cultural,ethnic backgrounds, or their disabilities.(d.2)

**19-** Express themselves freely and adequately by improving their descriptivecapabilities and enhancing their communication skills.(d2)

**20-** Honor and respect, superiors, colleagues and any other member of the healthprofession.(d.5)

**E. Intellectual skills:**

***By the end of the course, students should be able to:***

**21-** Correlate between histological structure and function of different organs of allsystems.(a.1,2 and 3)

**22-** Diagnose slides different from those during his course but of the same organspreviously studied.(a.1,2,3 and b.1)

**23-** Identify the different levels of spinal cord and brain stem, cerebellum andcerebrum. (a.1,2 and 3)

**F. General and transferable skills:**

***By the end of the course, students should be able to:***

**24-** Use the sources of biomedical information to remain current with advancesin knowledge and practice.(f.2)

**25-** Present information clearly in written, electronic and verbal forms. (f.3 and f.8)

**26-** Frame a question, search and literature, collect, analyze, critically appraiseand utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine.(a.8 and f.5)

***27-*** Appreciate the importance of life long learning and show a strong

commitment to it. (f.2)

**3- COURSE CONTENTS:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject** |  | **Lectures** | **Tutorial** | **Total** | **% of Total** |
|  |  | **(hrs)** | **&Practical** | **(hrs)** |  |
|  |  |  | **(hrs)** |  |  |
| 1-Respiratory | 4 | 6 | 10 | 8.3% |
| system |  |  |  |  |  |
|  |  |  |  |  |
| 2- Digestive tract | 8 | 15 | 23 | 19.2% |
|  |  |  |  |  |
| 3-Digestive glands | 5 | 6 | 11 | 9.2% |
|  |  |  |  |  |
| 4-Endocrine glands | 4 | 6 | 10 | 8.3% |
|  |  |  |  |  |
| 5-Urinary system | 4 | 6 | 10 | 8.3% |
|  |  |  |  |  |  |
| 6-Male | genital | 4 | 6 | 10 | 8.3% |
| system |  |  |  |  |  |
|  |  |  |  |  |  |
| 7- Female | genital | 6 | 9 | 15 | 12.5% |
| system |  |  |  |  |  |
|  |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8- Eye | 3 | 3 | 6 | 5% |
|  |  |  |  |  |
| 9- Ear | 2 | 3 | 5 | 4.2% |
|  |  |  |  |  |
| 10- CNS | 8 | 12 | 20 | 16.7% |
|  |  |  |  |  |
| **Total (120 )** | **48** | **72** | 120 | 100% |
|  |  |  |  |  |

**III-A) TOPICS:**

* Respiratory system

Conduction portion (nasal cavity – nasopharynx – larynx -Trachea – bronchi - terminal bronchi)

Respiratory portion (Respiratory bronchioles – alveolar ducts - Alveoli)

* + - Digestive tract
1. Oral Cavity: ( Lips – Cheeks – Tongue – Palate - Pharynx – Teeth )
	1. Gastrointestinal Tract (GIT): (Esophagus - Stomach – Small intestine -Large intestine- Appendix - Anal canal)
		* Digestive glands

a) Salivary Glands: ( major salivary glands e.g.: the parotid, the submandibular and the sublingual gland, and the minor salivary glands)

1. Pancreas
2. Liver
* Endocrine system

a) Pituitary b) Suprarenal Glands c) Thyroid and Parathyroid Glands d) Pineal Body e) APUD Cells

* Urinary system

kidney and urinary passages.

* Female genital system

Ovary , fallopian tube, uterus and vagina Mammary gland and placenta

* Male genital system

Testis, testicular ducts, epididymis, vas deference male urethra Prostate and seminal vesicles

* Eye

Outer fibrous, middle vascular coats and retina

Eye lid

* Ear

Inner, middle and outer ear

* Central nervous system

Spinal cord, mid brain, Pons and medulla (tracts and pathways) Cerebrum and cerebellum

**III-B) TUTORIAL / SMALL GROUP DISCUSSIONS**

* Respiratory system
* Digestive tract
* Digestive glands
* Endocrine system
* Urinary system
* Female genital system
* Male genital system
* Eye
* Ear
* Central nervous system

**III-C) PRACTICAL CLASSES:**

**І-List of slides**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | Trachea | 33. | Testis and epididymis |  |
| 2. | Lung | 34. | Vas deference |  |
| 3. | Lip | 35. | Spermatic cord |  |
| 4. | Tongue human | 36. | Penis |  |
| 5. | Tongue rabbit | 37. | Prostate |  |
| 6. | Oesophagus cat | 38. | Eye lid |  |
| 7. | Oesophagus dog | 39. | Cornea |  |
| 8. | Gastroesophageal junction | 40. | Retina |  |
| 9. | Fundus | 41. | Organ of Corti |  |
| 10. | Pylorus | 42. | Cervical spinal cord |  |
| 11. | Pyloroduodenal junction | 43. | Thoracic spinal cord |  |
| 12. | Duodenum and pancreas | 44. | Lumbar spinal cord |  |
| 13. | Ileum | 45. | Closed medulla sensory |  |
| 14. | Large intestine | 46. | Closed medulla motor |  |
| 15. | Appendix rabbit | 47. | Open medulla |  |
| 16. | Liver pig | 48. | Pons |  |
| 17. | Liver and gall bladder | 49. | Mid brain superior colliculus |  |
| 18. | Pancreas | 50. | Mid brain inferior colliculus |  |
| 19. | Parotid | 51. | Cerebrum |  |
| 20. | Submandibular | 52. | Cerebellum |  |
| 21. | Kidney |  | High power slides |  |
| 22. | Ureter | 53. | Taste buds |  |
| 23. | Urinary bladder | 54. | Malpighian renal corpuscle |  |
| 24. | Ovary | 55. | Classic hepatic lobule |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 25. | Fallopian tube | 56. | Islets of langerhans |
| 26. | Uterus | 57. | Seminephrous tubule |
| 27. | Vagina | 58. | Mature graffian follicle |
| 28. | Mammary gland | 59. | Retina |
| 29. | Placenta | 60. | Cornea |
| 30. | Pituitary gland | 61. | Thyroid follicle |
| 31. | Thyroid gland |  |  |
| 32. | Suprarenal gland |  |  |

**П-Data show photos of sections previously studied in slides but from different sources**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | Trachea | 27. | Vagina |
| 2. | Lung | 28. | Mammary gland |
| 3. | Lip | 29. | Placenta |
| 4. | Tongue human | 30. | Testis and epididymis |
| 5. | Tongue rabbit | 31. | Vas deference |
| 6. | Oesophagus cat | 32. | Eye lid |
| 7. | Oesophagus dog | 33. | Cornea |
| 8. | Gastroesophageal junction | 34. | Retina |
| 9. | Fundus | 35. | Organ of corti |
| 10. | Pylorus |  |  |
| 11. | Pyloroduodenal junction |  |  |
| 12. Duodenum |  |  |
| 13. | Ileum |  |  |
| 14. | Large intestine |  |  |
| 15. | Appendix rabbit |  |  |
| 16. | Liver pig |  |  |
| 17. | Liver and gall bladder |  |  |
| 18. | Pancreas |  |  |
| 19. | Parotid |  |  |
| 20. | Submandibular |  |  |
| 21. | Kidney |  |  |
| 22. | Ureter |  |  |
| 23. | Urinary bladder |  |  |
| 24. | Ovary |  |  |
| 25. | Fallopian tube |  |  |
| 26. | Uterus |  |  |

**4- TEACHING AND LEARNING METHODS:**

**METHODS USED:**

1. Lectures
2. Tutorials
3. Practical classes

|  |  |  |
| --- | --- | --- |
| **TEACHING PLAN:** |  |  |
| ***Lectures: Division of students into*** | ***5*** | ***groups 2 hours/week*** |
| ***Tutorials &Practical classes 3 hours / week*** |  |

The practical training includes 2hours in the labs every week. The students will be organized by dividing them into 5 big groups, one group each day, and then each group is divided into 4 smaller sub- groups in 4 labs. These Subgroups of students allow interaction, presentations and feedback. The plan for practical training is attached in instructional units section. Each lab includes presentation of the scheduled topic by one of the staff, and explanation of the slides. Then the students examine the slides themselves helped by joiner staff aided with microscopes, projector slides, data show photos. Each 3 students share a microscope. The tutorial data show photos of sections of tissues and organs similar to those studied in practical lab but of different and variable sources for training and Quizzes. This is carried by senior staff members.

**TIME PLAN:**

|  |  |  |
| --- | --- | --- |
| **Item** | **Time schedule** | **Total hours** |
| Lectures | 2 hours / week X 24 weeks | 48 |
| Tutorial | ½ hour /week X 24 weeks | 12 |
| Tutorial &Practical | 2 ½ hours / week X 24 weeks | 60 |
| Revision | 2 weeks /semester |  |
|  | (A week for theoretical + A week |  |
|  | for practical revisions) |  |
| Mid-year exam | 2weeks |  |
| **Total** | **Total 30 weeks** | **120 hours** |

**5- STUDENTS ASSESSMENT METHODS:**

**5-A) ATTENDANCE CRITERIA**: Faculty bylaws

The minimum acceptable attendance is 75%, Students who fail to meet their attendance requirements are deprived of their final practical exams.

**5-B) ASSESSMENT TOOLS:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tool** |  | **Purpose (ILOs)** |  |
| Written examination |  | To assess knowledge and understanding and skills |  |
| Mid year exam : | short |  |
|  |  |
| questions MCQ, true &false & |  |  |
| matching |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| End of year: short& long |  |  |  |  |  |  |  |  |
| questions , drawings, |  |  |  |  |  |  |  |  |
| MCQ, true and false, |  |  |  |  |  |  |  |  |
| matching |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Oral examination end of |  | To assess of knowledge & understanding, general and |  |
| year |  | transferable skills (communication), professional |  |
|  |  | attitudes/skills & intellectual skills |  |
| Practical |  | To assess descriptive & diagnostic abilities (intellectual |  |
| examination(OSPE) |  | skills) and practical skills |  |  |  |
| practical book plus |  | To assess practical skills and to assess attendance. |  |
|  |  |  |  |  |  |  |  |
| problem solving |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Group assignments |  |  | To assess of communication skills |  |
|  |  |  |  |
|  |  |  | To assess of ability to use computer to reach biomedical |  |
|  |  |  | information. |  |  |  |
| **5-C) TIME SCHEDULE**: Faculty bylaws |  |  |  |
|  |  |  |  |  |  |  |  |
| Exam |  |  |  |  | Week |  |
| 1- First half of the academic year |  | November fourth week in the department |  |
|  |  |  |  |  | labs |  |  |  |
| 2- Mid-year exam |  |  |  | January second week in the faculty halls |  |
| 3- Second half of the academic year |  | March fourth week in the department labs |  |
| 4- Practical exam |  |  |  | May first week in the department labs |  |
| 5- Final exam |  |  |  | June fourth week in the faculty halls |  |
| **5-D) GRADING SYSTEM:** |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Examination** |  |  | **Marks allocated** |  | **% of Total Marks** |  |
| 1- First mid term |  | 5 |  |  |  | 3.3% |  |
| 2- Mid-year |  | 20 |  |  |  | 13.3% |  |
| 3- Second mid term |  | 5 |  |  |  | 3.3% |  |
| 4- Final exam: |  |  |  |  |  |  |  |
| Written |  | 75 |  |  |  | 50% |  |
| Practical |  | 25 |  |  |  | 16.7% |  |
| c- Oral |  | 15 |  |  |  | 10% |  |
| 5- Assignments & other |  | 5 |  |  |  | 3.3% |  |
| activities |  |  |  |  |  |  |  |
| **Total** |  |  | **150** |  | **100%** |  |

* The minimum passing score is 60% provided at least 40% are obtained in the final written exam. Passing grades :

Excellent ≥ 85% Very good ≥75%

|  |  |
| --- | --- |
| Good | ≥ 65 % |
| Fair | 60– 65 |

**FORMATIVE ASSESSMENT:**

Student knows his marks after the Formative exams.

**5-E) EXAMINASSIONS DESCRIPTION:**

|  |  |  |
| --- | --- | --- |
| **Examination** | **Description** |  |
| 1- First half | Short questions |  |
| 2- Mid-year | Matching, true& false, MCQ, case studies and problem |  |
|  |  |
|  | solving |  |
|  |  |  |
| 3- Second half | OSPE identification of tissues and organs in data show photos |  |
| 4- Final exam: | Long question, short questions, matching, true& false, |  |
| a- Written |  |
| MCQ, case studies and problem solving |  |
|  |  |
| b- Practical | OSPE identification of tissues and organs in slides using |  |
|  | microscopes. |  |
|  | OSPE identification of tissues and organs in data show |  |
|  | photos. |  |
| c- Oral | Uses viva cards each student selects three cards 5 marks |  |
|  |  |
|  | each. |  |
|  |  |  |
| 5- Assignments & | Assignments and practical book |  |
| other activities |  |  |
| **Total** |  |  |

**6- LIST OF REFERENCES:**

6.1- Basic materials:

* Department book: constructed by staff members.
* Department’s atlas book
* Department’s practical book

6.2- Essential books (text books): Basic histology text and atlas

6.3- Recommended books:

Wheater’s functional histology

**7- FACILITIES REQUIRED FOR TEACHING AND LEARNING:**

Facilities used for teaching this course include:

* Lecture halls: five grand lectures halls allocated daily for teaching central lecture halls).
* Small 4 well equipped labs available within the department.
* Two small lecture rooms available within the department.
* Six data show equipments and computers for slide and photo presentation.
* Microscopes.
* Writing boards are available in all rooms; overhead aids and slide projectors.

**Course coordinator:**

Associate Prof. **Dr Maha Abo Gazia**

**Head of Department:**

**Date:** 1**/8** **/**2016