



A- COURSE TITLE, CODE, ACADEMIC YEAR:

Histological Techniques (MLT 234) 1437-1438H

B- COURSE INFORMATION:

COURSE CODE	COURSE TITLE	CREDIT UNITS			STUDY LEVEL	PRE-REQUISITES
		TOTAL	THEORY	PRACTICAL		
MLT 234	HISTOLOGICAL TECHNIQUES	2	1	1	4 TH	MLT 233
COURSE COORDINATOR		EXTENSION		EMAIL ADDRESS		
Dr. Emad Al-Ahmady				eahmde@taibahu.edu.sa		

C- COURSE DESCRIPTION:

The course gives the theoretical and practical basics of histological techniques. An introduction on the different types of microscope will be given. Preparation of a stained histological section will be thoroughly discussed both theoretically and practically including fixation, tissue processing, microtomy and staining. The course will also include cytological histochemical, immuno-histochemical and electron microscopic procedures. Training of the students on the different available techniques will be carried out.

D- COURSE OBJECTIVES:

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

- 1- Deal professionally with the microscopes and other instrument in the lab of histo-techniques.
- 2- Handle tissue specimens and choose the demanded parts to be examined.
- 3- Describe and carry out processing of tissue for routine paraffin sections.
- 4- Perform sectioning of tissue using microtome and cryostat.
- 5- Perform staining of tissue by routine and some special stains.
- 6- Correlate between the requested analysis and the technique to be used.
- 7- Differentiate between histological, histochemical, immunological and electron microscopic techniques.
- 8- Carry out staining of cytological smears.

E- THEORY TOPICS:

Week	Theory Topic	Contact Hours
1	Introduction	1
2	Light Microscopy	1
3&4	Tissue processing	2
5&6	Microtomy	2
7,8&9	Staining	3
10	Artifacts	1
11	Frozen and related sections	1



12	Cytological procedures	1
13	Immuno-histochemistry	1
14	Enzyme histochemistry	1
15	Electron microscopy	1

F- PRACTICAL SESSIONS:

Week	Practical Session	Contact Hours
1&2	Light microscopy	4
3&4	Tissue processing	4
5,6&7	Microtomy and paraffin sections	6
8&9	Frozen and related sections	4
10&11	Haematoxylin and eosin stain	4
12	Special stains	2
13	Exfoliative cytology	2
14&15	Histochemistry + Electron microscopy	4

G- ASSESSMENT TASKS:

#	Type of assessment task	Week	Total Grades
1	Continuous assessment	Weeks 1-16	10%
2	Midterm examination (written)	Week 8	15%
3	Assignment submission	Week 10	5%
4	Final practical exam	Week 17	30%
5	Final written examination	Week 18-19	40%

H- LEARNING RESOURCES:

1- Required textbook:

- Bancroft's Theory and Practice of Histological Techniques: 7e Hardcover – November 9, 2012 by Kim S Suvarna MBBS BSc FRCP FRCPath (Author), Christopher Layton PhD (Author), John D. Bancroft (Author).

2- Essential references:

- Color Textbook of Histology: Gartner, P.I. and Hiatt, J.L. W.B. Saunders Company, Philadelphia, London, Toronto, Montreal, Sydney, Tokyo, The latest edition.



Notes:

- Assignments topics and requirements shall be announced by the end of Week-1, the deadline for submission is 12pm Thursday of Week-10 (each semester).
- Assignments and written assessment tasks must be verified against plagiarism, the maximum acceptable percentage is determined by the department (according to each level).
- Continuous assessments may include quizzes, internet searches, home-works, exercises, class activity, scratch cards, presentations, group work, etc.
- Practical exams may contain hands-on experiments, laboratory work, simulations, or demonstrations.
- Written exams will include multiple-choice questions (MCQ), short essay questions, and long essay questions.