

## Course Specification

University: Menoufiya

Faculty: Science

Course Specifications:

Programme (s) on Which the Course is Given: M.Sc. Zoology (protozoa and invertebrates)

Major or Minor Element of Programmes: Minor

Department offering the Program: Zoology

Department offering the Course: Zoology

Academic Year/ Level: postgraduate

Date of Specification Approval: 2012

### **A- Basic Information**

Title: Microtechnique

Code: Z624

Credit Hours: 3

Lecture: 2

Tutorial: 0

Practical: 2

Total: 3

### **B- Professional Information**

#### **1- Overall Aims of the Course:**

\* The course aims to prepare biological specimens for electron microscopy.

#### **2- Intended Learning Outcomes of the Course (ILOs):**

##### **a- Knowledge and Understanding:**

\*To know the steps of preparing specimens for light microscope ,including types of preparations , fixatives, fixation, unstained preparations, paraffin method, sectioning , affixation, stains & staining

##### **b-Intellectual Skills:**

\*Building the student capability to identify the points of strength and weakness in each slide.

**c- Professional and Practical Skills:**

c1-The student should set a program to prepare the biological specimens for EM.

c2- To know the times for each step.

**d- General and Transferable Skills:**

\*Building the student's capability to prepare specimens to be examined by the EM.

**3- Contents:**

Topic	No. of Hours	Lecture	Tutorial/ Practical
1-types of preparations	2	1	1
2- fixatives	1	1	1
3-fixation	1	1	1
4-unstained preparations	2	1	1
5-paraffin method	1	1	1
6-sectioning	1	1	1
7-affixation	1	1	1
8-stains & staining	2	1	1

**4- Teaching and Learning Methods:**

4.1-Lectures.

4.2-Research assignment.

4.3-Oral presentation.

4.4- Exams.

**5- Student Assessment Methods:**

5.1-Reports to assess collection of course material.

5.2- Report oral defense to assess understanding the report.

5.3-Mid term exam to assess Mid term performance.

5.4-Final term exam to assess end of course performance.

**Assessment Schedule:**

Assessment1 reports Week 1 report every 3 weeks.

Assessment2 report defense Week every 3 weeks.

Assessment3 Mid term Week mid term.

Assessment4 final term exam Week final term.

### **Weighting of Assessment**

Mid-Term Examination	20 %
Final-Term Examination	40%
Oral Examination	10%
Practical Examination	20%
Semester Work	10%
Other Types of Assessment	0%
Total	100%
Any Formative only Assessment	

### **6- List of References:**

#### **6.1- Essential Books( Text Books):**

\*Electron microscopic techniques.

#### **6.2- Recommended Books**

\* Histological techniques.

#### **6.3- Periodicals, Web Sites, ...etc**

\* Journal of Histology and Histochemistry.

### **7- Facilities Required for Teaching and Learning:**

\* Dark room equipped with overhead and LCD projectors.

**Course coordinator:** Prof. Dr. Hoda Abd-El-Hafez Mahran

**Head of Department:** Prof. Dr. Saber Sakr