

<http://fdjpkc.fudan.edu.cn/d201404/main.htm>



Histology & Embryology

Prof. Hong CHEN, MD, PhD

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Education/Training

- **Postdoctoral Fellow**, University of Delaware, USA
- **Ph.D.** The University of Hong Kong, China
- **Mrs. Ivy Fellow**, The University of Hong Kong, China
- **M. Med.**, Shanghai Medical University, China
- **B. Med.**, Shanghai Medical University, China

Research Interests

- **Germ cell** development & its **epigenetics**
- Sperm **mitochondria** development & its mechanisms
- Sperm **DNA damage & repair**

Awards/Honors

- **Shanghai Model Course of Histology & Embryology (English)** for Overseas Students as Course Leader (2014)
- **Shanghai Teaching Achievement Award (The 2nd Prize)** in Course Construction of Histology & Embryology (English) as Course Leader (2014)
- **Shanghai Excellent Graduate Thesis Award** as supervisor (2014)
- **Fudan University Teaching Contest Award (The 3rd Prize)** as **Young Teachers** (2011)
- **Fudan University Teaching Achievement Award (The 1st Prize)** in Course Construction of Histology & Embryology (English) as Course Leader (2010)



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Faculty 2019 Fall



Prof. H. CHEN



**Associate Prof.
Q. LIU**



**Associate Prof.
LH ZHANG**



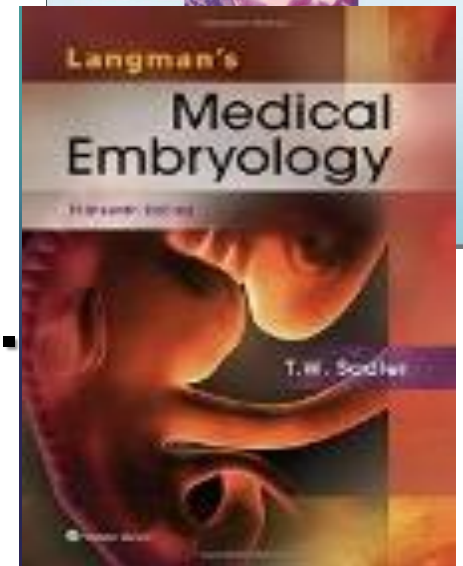
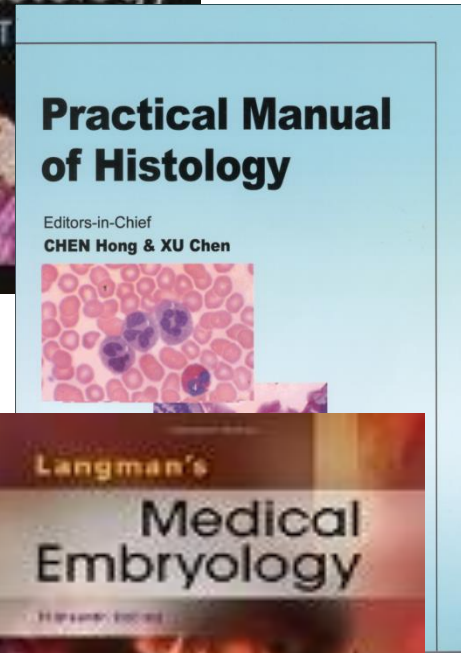
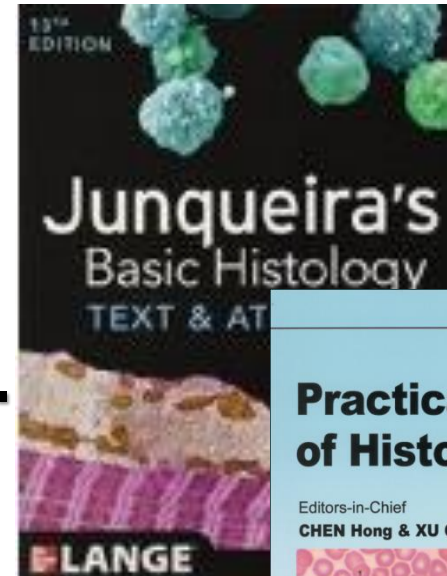
Dr. LY YOU



Prof. CM LIANG

References

1. **JUNQUEIRA'S Basic Histology. 13th Edition.** McGraw Hill. 2013
2. **Practical Manual of Histology.** CHEN Hong, 2012
3. **LANGMAN'S Medical Embryology. 12th Edition.** Lippincott Williams & Wilkins. 2015



Histology



- **Definition:**

- **Tissue biology:** The study of the tissues of the body and how these tissues are arranged to constitute organs.
- **The focus on how cells' structure and arrangement optimize functions specific to each organ.**

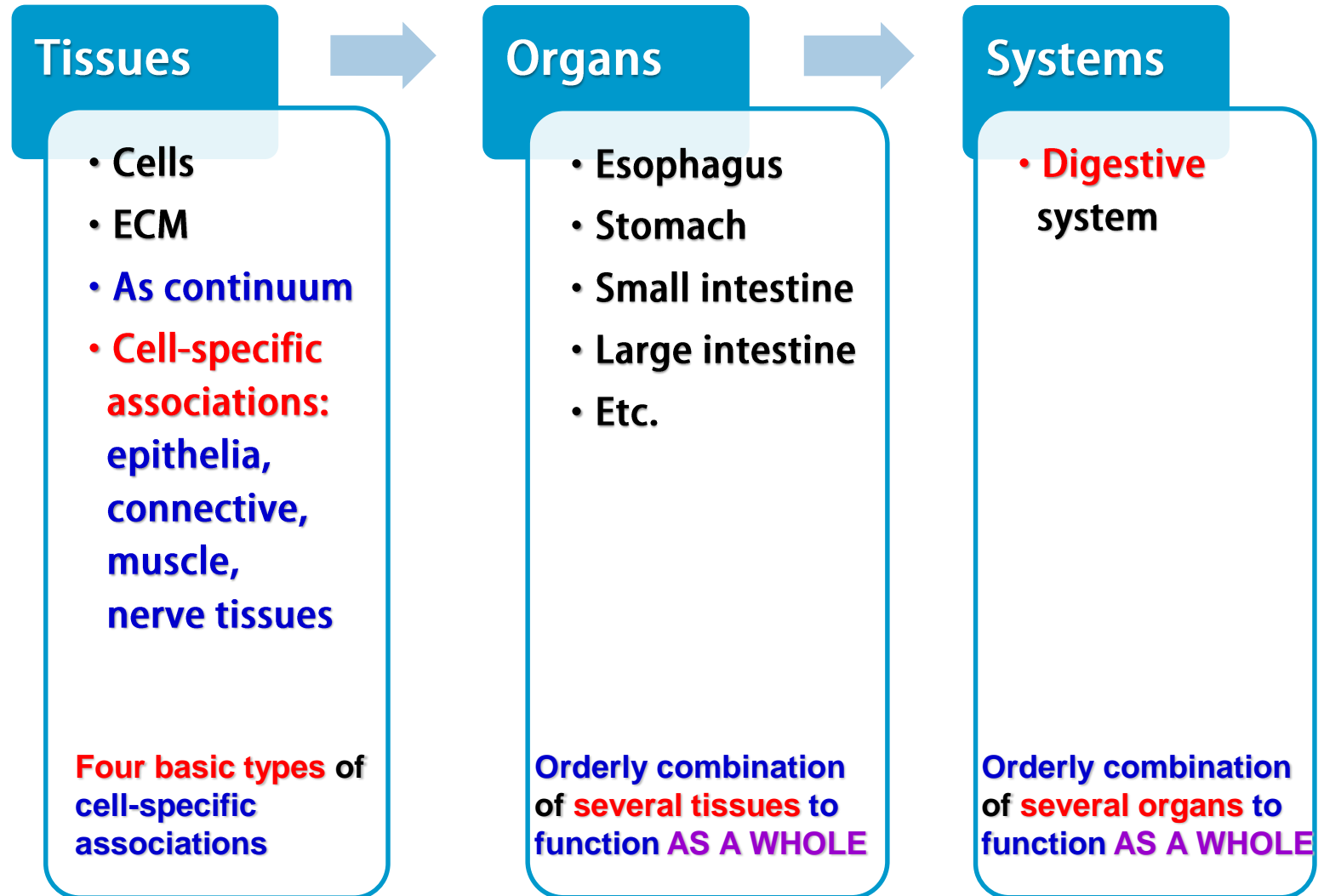
- **Contents:**

- **Tissues:** four basic types of **cell-specific associations**
 - **Cells**
 - **Extracellular Matrix (ECM)**

CONTINUUM

 - ☞ Functions together
 - ☞ Reacts to stimuli and inhibitors together.
- **Organs:** orderly combination of **several tissues** to function **AS A WHOLE**
- **Systems:** orderly combination of **several organs** to function **AS A WHOLE**

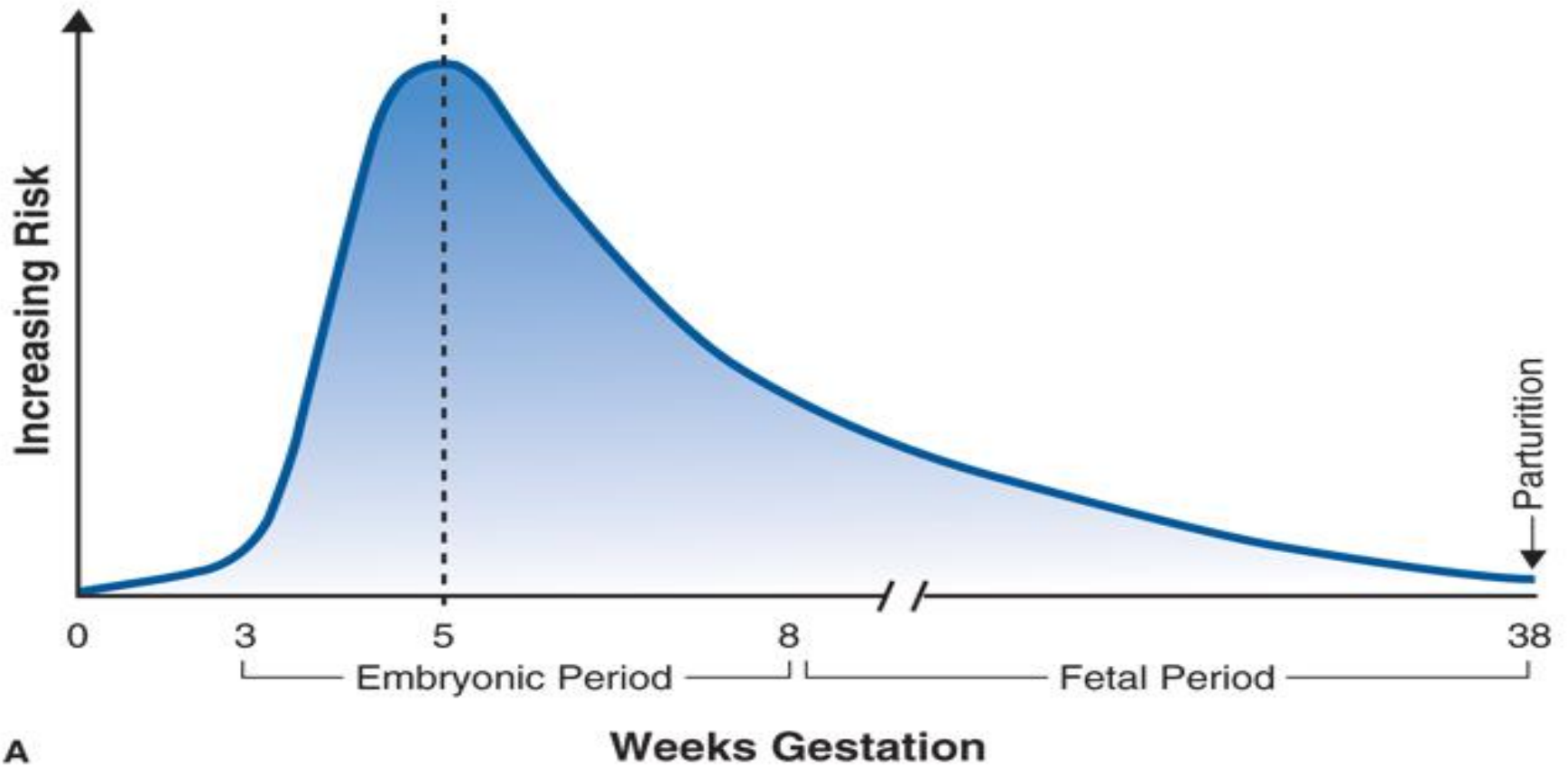
Histology - Digestive system



Why Embryology?

- **Birth defects** are the **leading cause** of infant mortality.
- **Birth defects** are a **major contributor** to morbidity, including physical and mental handicaps.
- All women of childbearing age are at risk of having an infant with a birth defect. The incidence rate is **6/100 births**.
- Each of you will have contact with women of childbearing age; either as a friend, as a companion, or as a patient. Or you are one yourself.
- **MANY BIRTH DEFECTS CAN BE PREVENTED!**

Risk of Birth Defects Being Induced



A

11-5A Risk of birth defects graph

Copyright © 2005 Lippincott Williams & Wilkins.

Human Development

- **Gamete production**
 - Spermatogenesis
 - Oogenesis

General Embryology

- **Fertilization**
- **Pre-embryonic period development (D1-D14)**

- **Embryonic period development (D15-D56)**

- **Fetal period development (9th week to birth)**

System-based Embryology

Teaching Schedule of Course <Histology and Embryology>

Fall Semester of 2019 Academic Year from September 2019 to January 2020

Week	Date	Day	Class	Contents	Professors/ MED130206.01	Venue/ MED130206.01	Professors/ MED130206.02	Venue/ MED130206.02
1	2019/9/10	二	6-7	1. Introduction of the Course	陈红 (主讲) 刘琼	Building5 E. @Lab3	陈红 (主讲) 刘琼	Building5 E. @Lab3
1	2019/9/10	二	8	2. Introduction of the Motic Digital Lab	陈红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
1	2019/9/10	二	9	3. Visit the Human Body Museum	刘琼 (主讲) 陈红	Building9 E. @Floor4	刘琼 (主讲) 陈红	Building9 E. @Floor4
1	2019/9/11	三	3-4	1.Introduction of Histology; 2. Epithelial Tissue	陈红	F2405	陈红	F2405
2	2019/9/17	二	6-9	Epithelial Tissue: Slides Observation and Drawing: 1,6,2,3,4,5,6,7	陈红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
2	2019/9/18	三	3-4	Connective Tissue Proper	陈红	F2405	陈红	F2405
3	2019/9/24	二	6-9	Connective Tissue Proper: Slides Observation and Drawing: 8,4,9,10,11,44	陈红	Building5 E. @Lab3	张丽红	Building5 E. @Lab2
3	2019/9/25	三	3-4	Cartilage and Bone and Blood	张丽红	F2405	张丽红	F2405
5	2019/10/8	二	6-9	1. Cartilage and Bone and Blood: Slides Observation and Drawing: 5,13,14,15,16,17 2. Quiz	张丽红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
5	2019/10/9	三	3-4	Nerve Tissue	尤琳雅	F2405	尤琳雅	F2405
6	2019/10/15	二	6-9	Nerve Tissue: Slides Observation and Drawing: 21,22,23,24,25,26,27,30,31	尤琳雅	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
6	2019/10/16	三	3-4	Muscle Tissue and Circulatory System	张丽红	F2405	张丽红	F2405
7	2019/10/22	二	6-9	1. Muscle Tissue and Circulatory System: Slides Observation: 18,19,20,33,34,35,25,36 2. Quiz	张丽红	Building5 E. @Lab3	陈红	Building5 E. @Lab2
7	2019/10/23	三	3-4	Immune System	梁春敏	F2405	梁春敏	F2405

8	2019/10/29	二	6	Midterm Practical Exam of Tissues	张丽红, 陈红	Building5 E. @Lab3	梁春敏, 尤琳雅	Building5 E. @Lab2
8	2019/10/29	二	7-9	Immune System: Slides Observation and Drawing: 37,38,39,40	张丽红	Building5 E. @Lab3	梁春敏	Building5 E. @Lab2
8	2019/10/30	三	3-4	Endocrine System	陈红	F2405	陈红	F2405
9	2019/11/5	二	6-9	Endocrine System: Slides Observation and Drawing: 3,41,42,43.	张丽红	Building5 E. @Lab3	陈红	Building5 E. @Lab2
9	2019/11/6	三	3-4	Eye and Ear and Skin	刘琼	F2405	刘琼	F2405
10	2019/11/12	二	6-9	1. Eye and Ear and Skin: Slides Observation and Drawing: 46,47,48,12,44,45 2. Quiz	张丽红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
10	2019/11/13	三	3-4	Respiratory System	刘琼	F2405	刘琼	F2405
11	2019/11/19	二	6-9	Respiratory System: Slides Observation and Drawing: 60,5,61	张丽红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
11	2019/11/20	三	3-4	Urinary System	刘琼	F2405	刘琼	F2405
12	2019/11/26	二	6-9	1. Urinary System: Slides Observation and Drawing: 62,63,7 2. Quiz	张丽红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
12	2019/11/27	三	3-4	Digestive Tract	梁春敏	F2405	梁春敏	F2405
13	2019/12/3	二	6-9	Digestive Tract: Slides Observation and Drawing: 49,50,6,51,52,53,4,54,55,2,56	张丽红	Building5 E. @Lab3	陈红	Building5 E. @Lab2
13	2019/12/4	三	3-4	Digestive Glands	梁春敏	F2405	梁春敏	F2405
14	2019/12/10	二	6-9	1. Digestive Glands: Slides Observation and Drawing: 57,58,59 2. Quiz	张丽红	Building5 E. @Lab3	陈红	Building5 E. @Lab2
14	2019/12/11	三	3-4	Male & Female Reproductive System	陈红	F2405	陈红	F2405
15	2019/12/17	二	6-9	Male & Female Reproductive System: Slides Observation: 64 65 66 67 68 69 70 71 72,73	陈红	Building5 E. @Lab3	刘琼	Building5 E. @Lab2
15	2019/12/18	三	3-4	General Embryology	张丽红	F2405	张丽红	F2405
16	2019/12/24	二	6-7	System-based Embryology: Digestive and Respiratory System; Urogenital System	张丽红	F2405	张丽红	F2405
16	2019/12/24	二	8-9	Final Practical Exam of Systems	陈红, 张丽红	Building5 E. @Lab3	刘琼, 梁春敏	Building5 E. @Lab2
16	2019/12/25	三	3-4	System-based Embryology: Cardiovascular system	张丽红	F2405	张丽红	F2405
17	2020/1/3	五	1:00-3:00pm	Final paper exam				

Formative Grading



- Completion of **Drawing** Assignments: **6 %**
- **Quiz** Focused on Key Point: **4 %**
- **Oral Presentation** for Topic Discussion: **5 %**
- **Midterm Practical Exam: 10 %** ← **Oct. 29, 2019**
- **Final Practical Exam: 15 %** ← **Dec. 24, 2019**
- **Final Paper Exam: 60 %** ← **Jan. 3, 2020**

Histology and Embryology (MBBS)



EN

Keypoint Presentation

Performances

- >> Keypoint Elaboration
- >> Topic Discussion
- >> Class Drawing Work

Faculty

- >> Prof. Hong CHEN
- >> Advisory Prof. YC WONG
- >> Advisory Prof. WS O
- >> Associate Prof. Lihong ZHANG
- >> Associate Prof. Chunmin LIANG
- >> Associate Prof. Qiong LIU

 MORE

Introduction

- >> Course Descriptions
- >> Textbooks & References
- >> Formative Grading Criteria
- >> Teaching Schedule
- >> Syllabus of Human Histology
- >> Syllabus of Human Embryology

Resources

- >> Lecture Notes
- >> Lecture Videos
- >> Homework
- >> Quiz
- >> The Human Body Museum
- >> Recommended Links

Evaluation

- >> Hon. Prof. YC WONG (HKU)
- >> Prof. C XU (SH Jiaotong Univ.)
- >> Prof. YQ YANG (Tong Ji Univ.)
- >> MBBS Students

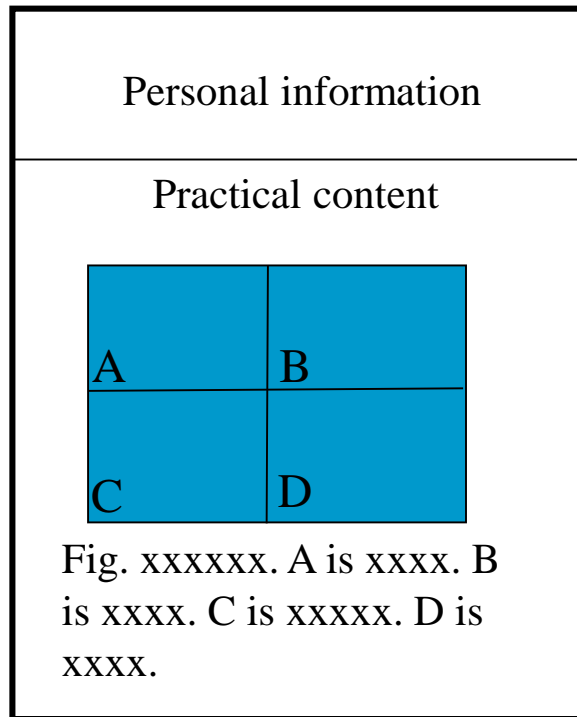
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Formative Grading



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- **Quiz** Focused on Key Point: **4 %**
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- **Midterm Practical Exam: 10 %** ← **Oct. 29, 2019**
- **Final Practical Exam: 15 %** ← **Dec. 24, 2019**
- **Final Paper Exam: 60 %** ← **Jan. 3, 2020**

Model of Drawing



- Contents of figure legend:
1. **Title** of the figure.
 2. Describe **what the markers stand for**.
 3. **Magnification**: i.e. 10×40
 4. **Section type**: i.e. smear section
 5. **Staining method**: i.e. HE
 6. **Material origin**: i.e. rat ovary

复 旦 大 学

上皮组织 实验报告

姓名 _____ 上海医学院 系 临床八年专业 06 年级 2 班

实验日期 2008.9.18 交报告日期 2008.9.18 指导教师 陈红

实验名称: Epithelial Tissue

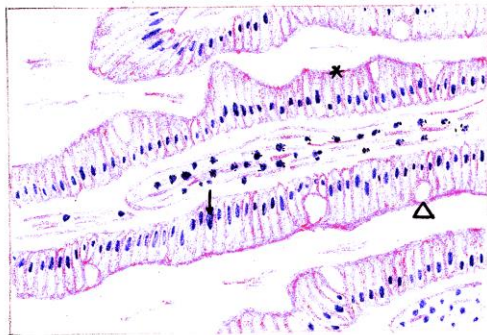


Fig. simple columnar epithelium

↓ 细胞核 nuclear Δ 杯状细胞 goblet cell

* 纹状缘 striated border

10×40

paraffin section

H.E. staining

Human jejunum

The height of the cells may vary from low to tall columnar depending on the site. The nuclei are elongated and ^{are} usually basal located on the base of the cells.

The functions of this epithelial type ^{is} are primarily associated with absorption and secretion.

陈红
Sept. 20, 2008.



REGULATIONS 1



1. Have a seat **according to the number** assigned by teacher.
2. Fill in your seat number, slide box number and personal information in the **registration form of slide box during your first practical class.**
3. Please **check the status of all slides** when you get them for **the first time**. If damage or redundancy occurs, report to your instructor for replacement. If everything is **in order**, write **YOUR NAME** on the registration form of slide box.



REGULATIONS 2



1. When opening a slide box in your class, each student should check if every slide is in a good condition. **Report to your instructor if it is damaged.** It is *honest and trustworthy personnel* that record every damaged event in the registration book of slide damage.
2. If a slide is damaged during your use, **report instantly** to your instructor and record precisely in the registration book of slide damage.

Replacement of an ordinary slide costs **20 RMB** while a scarce slide costs **40 RMB.** **HOWEVER, IF NO REPORTS OR NO RECORDS**

PRECISELY, *the formative score making up 40% would be ZERO* because of your un-honest and un-trustworthy behaviors.

Histology & Embryology
Fall 2019 Record Form of Slide Box for MBBS
Digital Morphology Lab 3 Instructors: CHEN H, You LY, Zhang LH

Seat No.	Box No.	Student No.	Name	Mobile	First Confirmed Signature	Last Confirmed Signature	Notes
1		18301056023	王本				
2		18301056024	BILAL HUSSAIN				
3		18301056025	CAELAN SHEN WEE				
4		18301056028	黄焕烨				
5		18301056030	郑景阳				
6		18301056031	李联诚				
7		18301056035	杰瑞				
8		18301056038	ADIYAT NASHRAH				
9		18301056042	FELICIANA				
10		18301056043	黄枫怡				
11		18301056044	郑全颐				
12		18301056045	汪美惠子				
13		18301056051	张佩嘉				
14		18301056053	朱丽亚娜				
15		18301056054	林佳恩				
16		18301056058	沈瑞缘				
17		18301056059	SHEIKHA JEEHAN KAUSAR				
18		18301056061	杨思敏				
19		18301056062	尹昭晶				
20		18301056063	SUSHMA SENTHILKUMAR				
21		18301056064	林文玲				
22		18301056066	黄义涵				
23		18301056067	钟殷绮				
24		18301056068	郑育文				
25		18301056069	饭岛由佳				

Take Home Messages

- **Two textbooks** borrowed after signature
- **Lab seat** fixed
- The **slide box** fixed after check in
- Desk **drawer key** owned after deposit for Rmb 5 yuan.
- **Two color pencils** gifted for your drawing work in the lab
- **To borrow the practical textbook** <Practical Manual of Histology> from your senior MBBS students
- **Take** your **lab coat**, drawer key, color pencils, **drawing paper**, and practical manual of Histology **every lab course**.

Example for the Label of Your Textbook-borrowed

