CERTIFICATE OF UNIVERSITY SCIENCE TEACHING PORTFOLIO

CONTENT LIST

- List of when certificate required courses were completed (Sem & yr) and grade earned
- Include other teaching workshops or course (if any)
- Course and director of the Teaching practicum with evaluation included
- Teaching and education philosophy
- Statement of career goals
- Independent Educational Immersion for Teaching Scholars (BIOM 543):
  - Students
  - Syllabus
  - Assignments & discussion
  - Assessments and grading tools
  - Sample lectures
  - Evaluations

- LIST OF WHEN CERTIFICATE REQUIRED COURSES WERE COMPLETED (SEM & YR) AND GRADE EARNED

S/N	Semester & Year	Course Code	Course Name	Credit	Grade
1	Fall 2015	BIOM 525	CMBD Journal Club	2	A-
2	Spring 2015	BIOM 525	CMBD Journal Club	2	A
3	Fall 2016	BIOM 555	Problem Based Research Bioethics	1	A
4	Spring 2017	BIOM 540	University Teacher Training	2	A
5	Fall 2019	BIOM 542	Teaching Assistant Practicum	2	A
6	Fall 2019	BIOM 543	Independent Education Immersion for Teaching Scholars	3	A
7	Spring 2019	OILS 583	Graduate Teaching I	1	A
8	Spring 2020	BIOM 505	ST: Teaching Methods Workshop	2	A

- INCLUDE OTHER TEACHING WORKSHOPS OR COURSE (IF ANY)

Academic Science Education and Research Training (ASERT), Professional Development Program.
Theme: Leadership and Communication Skills for Science Careers and Beyond. Dates: August 10, 17, 24, 2018. Venue: Anderson School of Management, UNM

- COURSE AND DIRECTOR OF THE TEACHING PRACTICUM WITH EVALUATION INCLUDED

- TEACHING AND EDUCATION PHILOSOPHY

"Cogito, ergo sum" to wit, I think, therefore I am, by René Descartes, underpins my teaching philosophy. As a neuroscientist (PhD) the function of the brain is my focus. The ability of the brain to generate information from the external environment, and coordinate effective response of various other organs thriving of the organism, can inspire learners to acquire new information to address multidimensional problems by thinking. I have switched multiple fields such as BSc in

Botany and MPhil in Human Anatomy. My prior fields have served as stepping stones to later ones e.g. I drew on my prior skill of microscopy from botany was indispensable to micro- and ultra-structural study of the body. Subsequently, my histology background aided exploration the cytology of nervous tissue. Throughout my degree programs, study group discussions have reinforced my knowledge and enhanced recall and application. This diverse background enables me to move from the big picture to the minute detail while exploring linkages. The learning approach I have acquired makes apparent the basis of anomalies/disorders, consequences and remedies. Thus, incorporating prior knowledge can enhance further learning of new field.

Teaching and learning are lifelong endeavors. Teaching must be pleasurable for both students and instructors. The first Anatomy class in which students are taught anatomical terminology such that they can describe the relationship between body structures which is applied throughout the medical career is an ever-delightful experience. Students have had a minimum prior exposure to any field including newly emerging ones that must be evoked. I endeavor to use shared experiences, humor, characters from fairy tales, celebrities and trending information to convey concepts. It is my responsibility, as a teacher, to hook up students by utilizing their prior knowledge/experience as stepping stones to acquire or develop new knowledge, experience and/or attitude for life. My teaching format will incorporate prior knowledge, exploring new knowledge, and summarizing the new knowledge with future or possible implications. I consider my students as younger colleagues who should attain and exceed my proficiency, and effectively apply their acquired knowledge. Achieving this goal, will require that, learning scenarios will be situated in the professional context e.g. “patient comes to your hospital with a condition…, “a prominent journalist requests an interview on your interesting field with the following issues…, “your research has discovered that X will advance your field by…” I operate an open-door policy with my students and my interest is not limited to their academic pursuits, but when non-academic issues impinge their studies, I will direct them to the appropriate sources of support.

No person is an island. I will use questionnaires to determine the learning preference of my students, from which they will form dynamic groups. Problem- or team-based learning strategies will be incorporated to consolidate confidence and enhance learner’s leadership potential. Introverted students will be given opportunities to express themselves while extroverted ones will be helped to be reflective in allowing others to express themselves. I will encourage my students to form study groups of ideal sizes as vehicles for effective learning. Microscopic sciences require having a mental picture of any image before trying to identify it under the microscope. Students will acquire the skill of not squinting and avoid glare when using the microscope from the class onset. Students with learning difficulties will be identified and given the appropriate support and where necessary directed to the suitable instructor or colleague support.

I will utilize the backward design for my syllabus by using the intended learning outcomes to determine learning content. Information overload will be prevented by clearly labeling extra information as “extra reading”. My teaching will incorporate VARK learning styles in an active learning environment to maximize the student learning such as projecting periodic questions to gauge comprehension. When necessary, students will be allowed to demonstrate their knowledge to inspire other students. My learning objectives will be clearly stated precede each class and will be the basis of assessment. Sample questions will be discussed and analyzed in class for students to have an early appreciation of their expectations. Examination will consolidate knowledge by blending formative and summative assessments across Bloom’s taxonomy levels. Ultimately, learners will be able to think using the lens of their knowledge in creative ways.

- STATEMENT OF CAREER GOALS

My career goal is to be a career scientist involved in the training of biomedical and clinical scientists through teaching of biomedical disciplines. My career goal is to balance active research with fascinating teaching that engages learners to harnesses potential of learners to ultimately utilize their knowledge in creative ways. My background encompasses neuroscience and anatomic disciplines and my expectation will be to enable students to explore the big picture to the minute details while establishing appropriate structural-functional linkages. My teaching philosophy requires employing active learning strategies that encourages maximum participation of all learners within and outside the classroom. My expectation of education is to train learners to retain their knowledge beyond the semester and effectively apply such knowledge to real life situations. My teaching goals are to equip learners to have skills that enables them to readily access relevant information from appropriate sources. My success of teaching will be measured by learner's ability to attain mastery of the course, by creatively applying that knowledge and being encouraged imbibe a lifelong learning attitude.

- INDEPENDENT EDUCATIONAL IMMERSION FOR TEACHING SCHOLARS (BIOM 543):

BIOM 531: NEUROPHYSIOLOGY
CLASS LIST

S/N	Name
1	REDACTED
2	REDACTED
3	REDACTED
4	REDACTED
5	REDACTED
6	REDACTED
7	REDACTED
8	REDACTED

BIOM 531, Neurophysiology, 1 Credit hour

Course Directors: Dr. Russell Morton & Dr. Bill Shuttleworth

Teaching Assistant: REDACTED

Class Schedule: Tuesdays and Thursday 2:00 – 3:30 PM in Fitz 243
Nov 5 – Dec 12 (no classes the week of Nov 25)
*Thursday Nov 7 class is 1:30 – 3:00 PM
*Thursday Nov 21 class is 3:30 – 5:00 PM

Course description:

The course will cover the fundamental properties of neurophysiology that include ion channels, synaptic transmission, and synaptic plasticity. This course will also cover aspects of astrocyte physiology, neurovascular coupling, autonomic physiology, and higher order cortical physiology while awake and sleeping.

Course goals:

Understand how structure can determine properties of ion channels.
Understand the basic mechanisms underlying synaptic transmission.

Understand the basic physiology of astrocytes and neurovasculature.
Understand the principles that underlie autonomic physiology.
Understand the basic cortical activity and how that is modulated during sleep.

Learning outcomes:

Students should be able to describe the fundamental mechanisms of that underlie function of the nervous system, from the molecular cell level through to integrated activity of neuronal circuits.

Textbooks/Supplies/Materials:

Lectures will be based on
-Hille, B (2001) *Ion Channels of Excitable Membranes, 3rd ed.* Sinauer Associates Sunderland MA.
-Kandel E.R., Schwartz J.H., and Jessell T.M. *Principles of Neuronal Science.* McGraw-Hill Medical.

*Neither book is required

Small spiral sketchbook ~ 4" x 6" and colored writing utensils (pens, markers, colored pencils, etc…)

Course Requirements:

Prerequisite: BIOM 509, Principles of Neurobiology

Grading:

CLASS PARTICIPATION: 10 class periods, 5 points each, 45% of final grade

QUIZ: 2 quizzes each worth 20 points, each will be 18% of final grade
FINAL PROJECT: worth 20 points, 18% of final grade

FINAL GRADE:

97.5 – 100%	A+
92.5 – 97.4%	A
90 – 92.4%	A-
87.5 – 89.9%	B+
82.5 – 87.4%	B
80 – 82.4%	B-

*Students whose grade is below 80% will receive an F.

Week 1	Tuesday Nov 5th	Excitable membranes and ion channels
	Thursday Nov 7th	Ion channel structure and function
Week 2	Tuesday Nov 12th	Synaptic physiology
	Thursday Nov 14th	Synaptic plasticity
Week 3	Tuesday Nov 19th	Astrocyte physiology
	Thursday Nov 21st	Neurovascular physiology
Week 4	Tuesday Dec 3rd	Peripheral nervous system

	Thursday Dec 5th	Autonomic nervous system
Week 5	Tuesday Dec 10th	Higher order cortical activity
	Thursday Dec 12th	Brain waves and sleep

Accommodation Statement:
Accessibility Services (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner. If you need local assistance in contacting Accessibility Services, see the Bachelor and Graduate Programs office.

Title IX Statement
A Note About Sexual Violence and Sexual Misconduct: As a UNM faculty member, I am required to inform the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu) of any report I receive of gender discrimination which includes sexual harassment, sexual misconduct, and/or sexual violence. You can read the full campus policy regarding sexual misconduct at https://policy.unm.edu/university-policies/2000/2740.html. If you have experienced sexual violence or sexual misconduct, please ask a faculty or staff member for help or contact the LoboRESPECT Advocacy Center.

Academic Integrity
The University of New Mexico believes that academic honesty is a foundational principle for personal and academic development. All University policies regarding academic honesty apply to this course. Academic dishonesty includes, but is not limited to, cheating or copying, plagiarism (claiming credit for the words or works of another from any type of source such as print, Internet or electronic database, or failing to cite the source), fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. The University's full statement on academic honesty and the consequences for failure to comply is available in the University Catalog and in the Pathfinder.

Cell Phones and Technology
As a matter of courtesy, please turn off cell phones, pagers, and other communication and entertainment devices prior to the beginning of class. Notify me in advance if you are monitoring an emergency, for which cell phone ringers should be switched to vibrate.

- ❖ Assignments & discussion

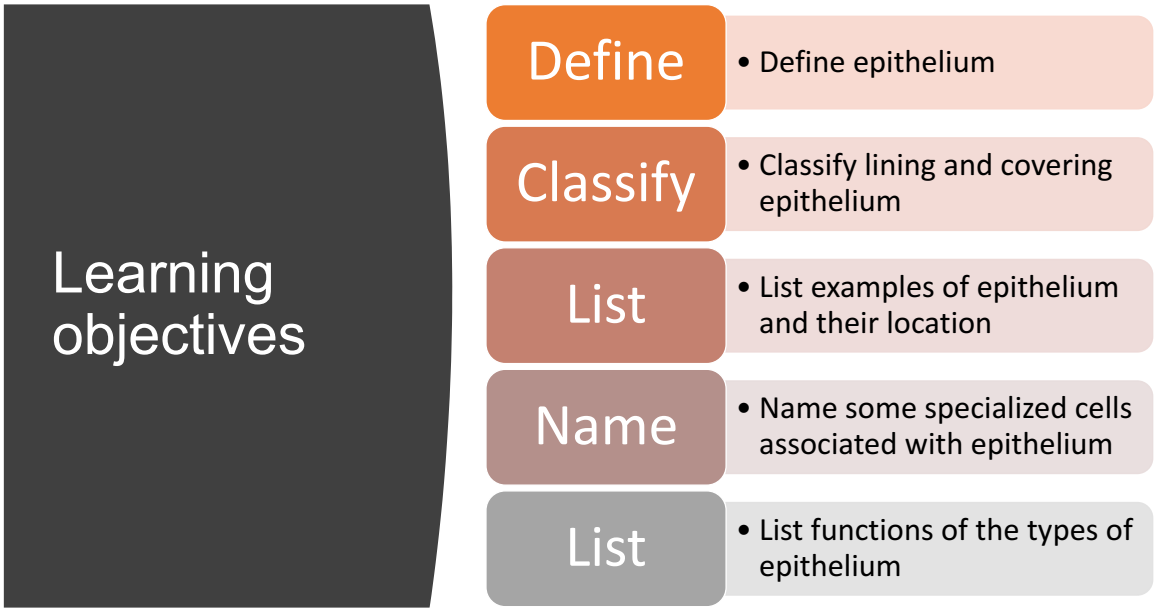
BIOM 531 Neurophysiology
Excitable membranes, Electrophysiology, and Ion Channel Structure Function

Take Home Quiz

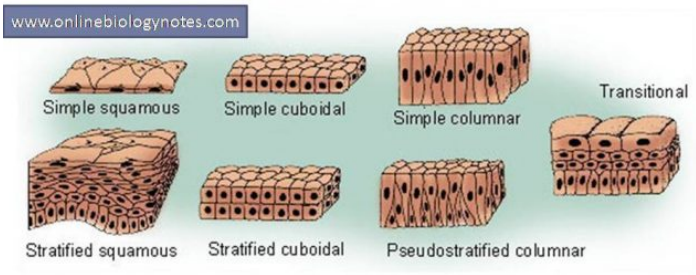
Answer Key

REDACTED

SAMPLE LECTURE AND ASSESSMENT TOOL



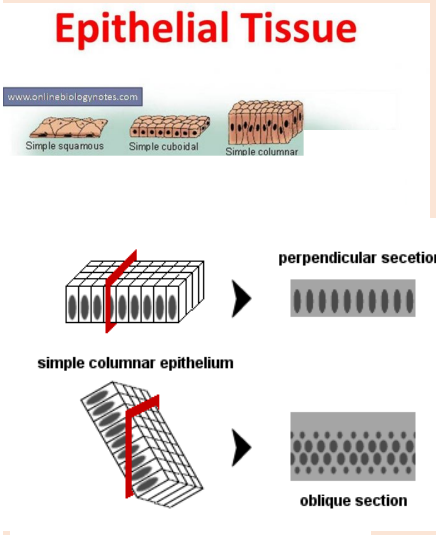
Epithelial Tissue



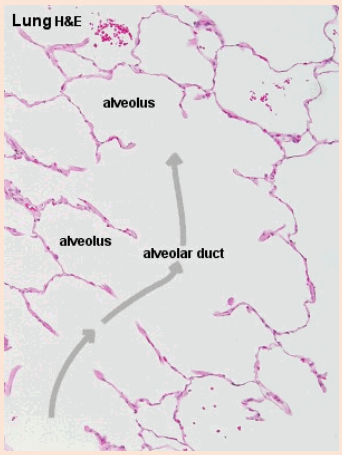
EPITHELIUM

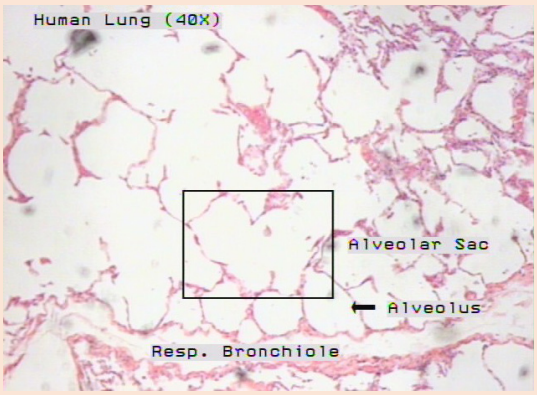
- Lines outer surfaces of organs and lumen of hollow structures
- FEATURES
- High density of cells
- Avascular
- Highly innervated
- Basement membrane (basal lamina)
- Polarity
- Junctional complexes (tight, adhering, gap)
- Surface modifications

Classification criteria of epithelium



- Criteria is based on number of layers
  - Simple
  - Stratified
  - Pseudostratified
- Morphology (shape)
  - Squamous
  - Cuboidal
  - Columnar
  - Transitional
- Surface modification
- Specialized cells





Concept check

- The following are true about classification of epithelium, with reference to basement membrane, EXCEPT

A. Apical cell morphology determines nomenclature of epithelium
B. Cuboidal epithelium have equivalent length and width
C. Pseudostrafied epithelium have all cells reaching apical surface
D. Squamous epithelium appear flat perpendicularly

Concept check

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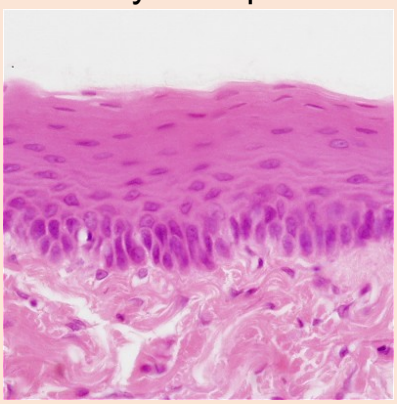
Concept check

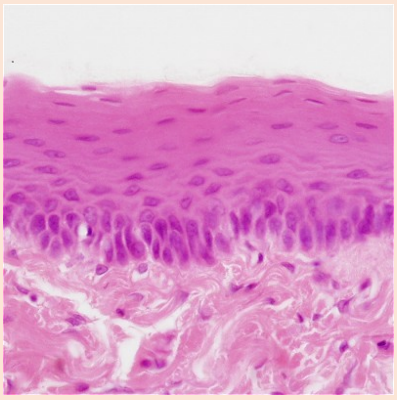
- Classify this epithelium



A. Pseudostratified columnar epithelium
B. Simple columnar epithelium
C. Stratified columnar epithelium
D. Stratified squamous epithelium

Concept check

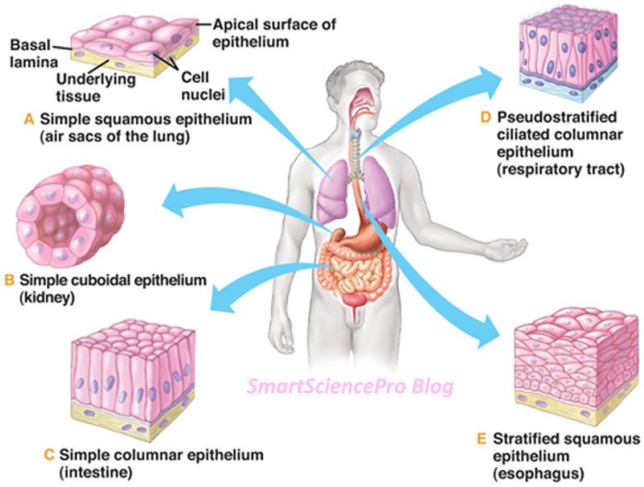
- Classify this epithelium



A. Pseudostratified columnar epithelium
B. Simple columnar epithelium
C. Stratified columnar epithelium
D. Stratified squamous epithelium

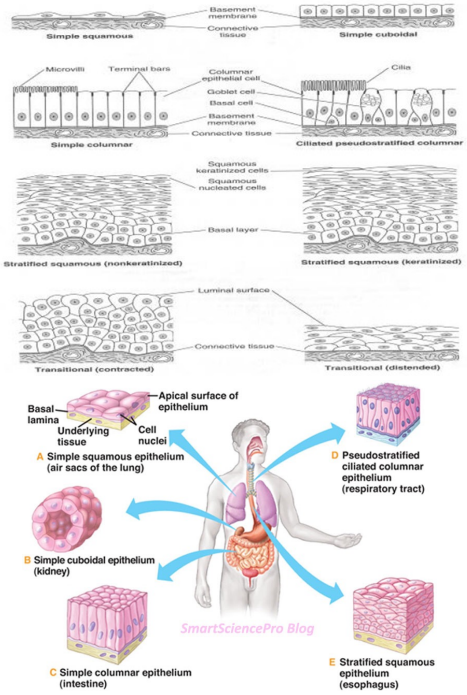
Simple or stratified? Function

- Simple – exchange of material (internal or external environment)
- Stratified – protection from abrasion
- Pseudostratified – secretion, respiratory epithelium, reproductive ducts



Morphology – Function

- Squamous – diffusion, covering/lining viscera,
- Cuboidal – secretory, absorptive, excretory
- Columnar – secretory, absorptive, excretory
- Transitional – changes from cuboidal to squamous



Locations and functions

Cells	Location	Function
Simple squamous epithelium		
Simple cuboidal epithelium		
Simple columnar epithelium		
Pseudostratified columnar epithelium		

Cells	Location	Function
Stratified squamous epithelium		
Stratified cuboidal epithelium		
Stratified columnar epithelium		
Transitional epithelium		

Concept check

- Pseudostratified columnar ciliated epithelium is found in the following EXCEPT

A. Trachea
B. Uterine tubes
C. Epididymis
D. Urinary bladder

Concept check

- Pseudostratified ciliated epithelium is found in the following EXCEPT

A. Trachea
B. Uterine tubes
C. Epididymis
D. Urinary bladder

Concept check

- The following constitute epithelium lining the lumen of the following organs EXCEPT

A. Pseudostratified columnar: stomach and trachea
B. Simple cuboidal: nephron, sweat gland
C. Simple squamous: blood vessels and lung alveoli
D. Stratified squamous keratinizing: back and palm

Concept check

- The following epithelium lines the lumen of the following organs EXCEPT

A. Pseudostratified columnar: stomach and trachea
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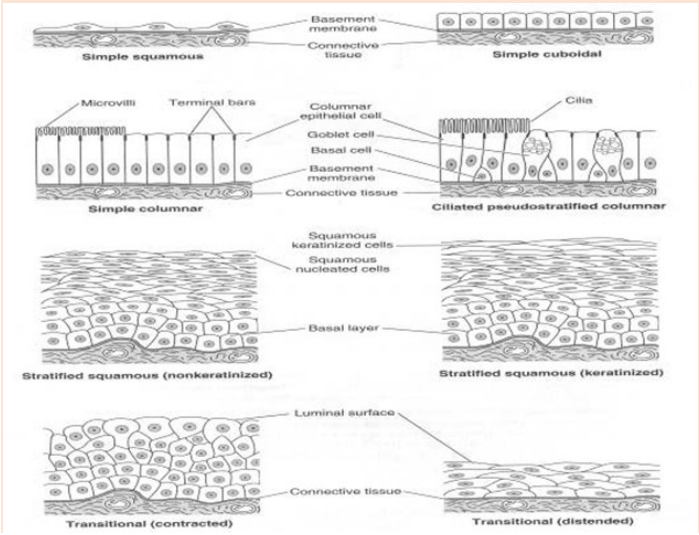
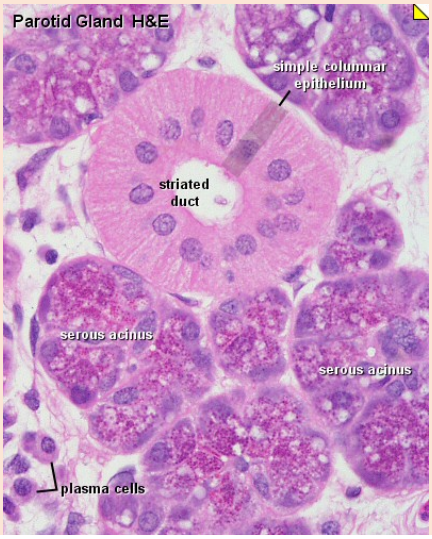
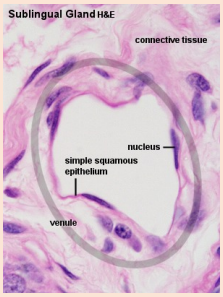
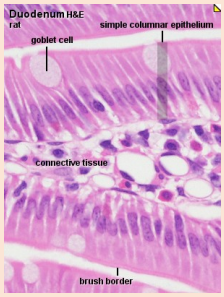
C. Simple squamous: blood vessels and lung alveoli
D. Stratified squamous keratinizing: back and palm

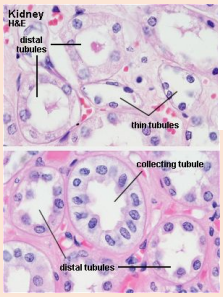


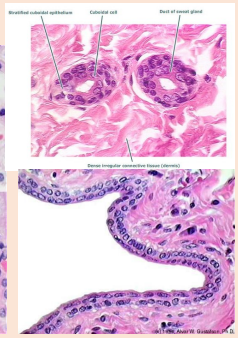


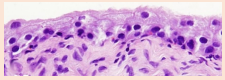
Examples of epithelia

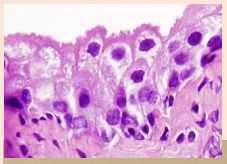


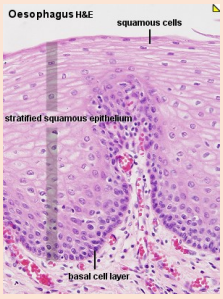


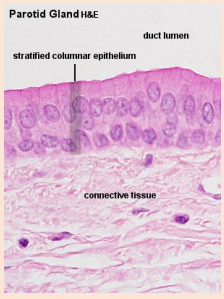


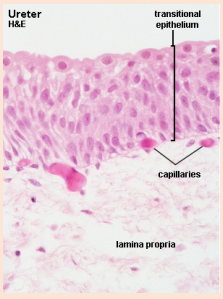


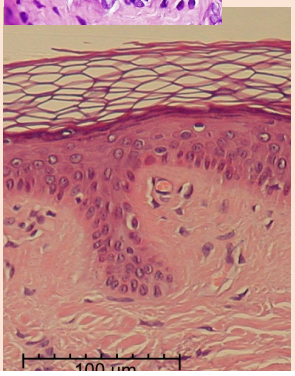


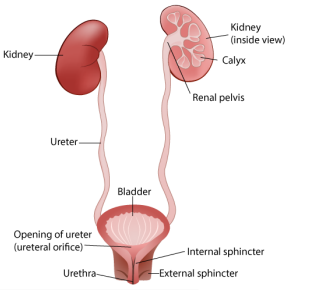


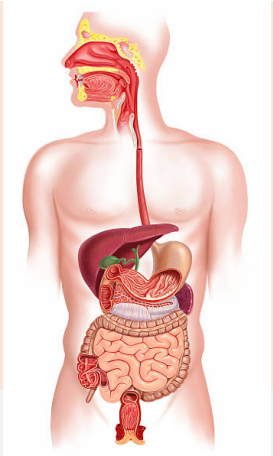


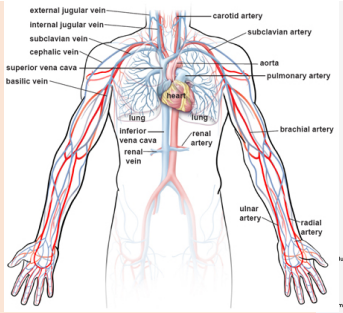


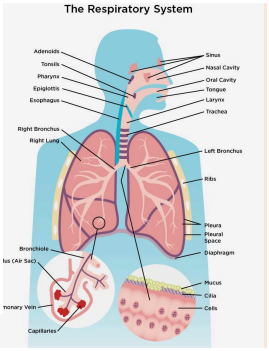


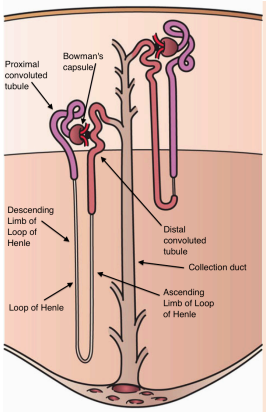


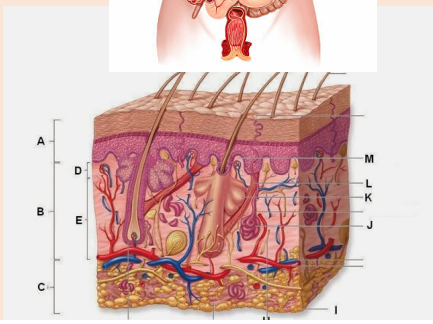

Kidney
Kidney
(inside view)
Calyx
Renal pelvis
Ureter
Bladder
Opening of ureter
(ureteral orifice)
Internal sphincter
Urethra
External sphincter




external jugular vein
internal jugular vein
subclavian vein
cephalic vein
superior vena cava
basilic vein
carotid artery
subclavian artery
aorta
pulmonary artery
heart
lung
lung
inferior
vena cava
renal
vein
renal
artery
brachial artery
ulnar
artery
radial
artery


The Respiratory System
Adenoids
Tonsils
Pharynx
Epiglottis
Esophagus
Sinus
Nasal Cavity
Oral Cavity
Tongue
Larynx
Trachea
Right Bronchus
Right Lung
Left Bronchus
Ribs
Pleura
Pleural
Space
Diaphragm
Bronchiole
Mucus
Cilia
Cells
Capillaries


Proximal
convoluted
tubule
Bowman's
capsule
Descending
Limb of
Loop of
Henle
Distal
convoluted
tubule
Collection duct
Loop of Henle
Ascending
Limb of Loop
of Henle


A
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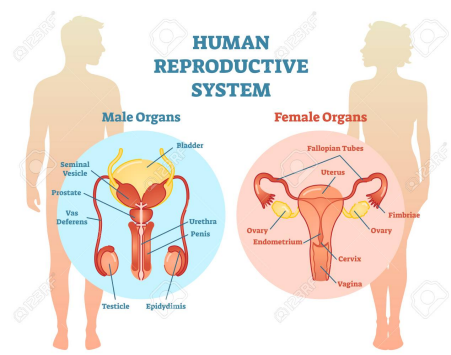
HUMAN
REPRODUCTIVE
SYSTEM
Male Organs
Female Organs
Bladder
Seminal
Vesicle
Prostate
Vas
Deferens
Urethra
Penis
Testicle
Epididymis
Fallopian Tubes
Uterus
Fimbriae
Ovary
Endometrium
Ovary
Cervix
Vagina

CAREER SERVICES

CO-OP EMPLOYER EVALUATION

In order for the student to successfully complete the UNM Co-op Program and earn a credit ("CR") on his/her academic transcript, you will have to complete this evaluation form. The information gathered through this evaluation form will provide us with feedback on the student's Co-op experience and the overall process of the UNM Co-op Program.

The completion of the 'Student Evaluation' and the 'Employer Evaluation' form is considered the student's "Final Exam." Failure to complete both forms and to return it to UNM Career Services before the last day of classes for each semester will result in a no-credit ("NC") entry on the student's transcript and a subsequent ban from the UNM Co-op Program.

There will be no exceptions and no retroactive credit Co-op will be allowed. This information is kept strictly confidential.

EMPLOYER INFORMATION

Co-op Term: ☑ Fall ☐ Spring ☐ Summer (PLEASE SELECT ONE) Year: 20 18

Company: UNM SOM

City: _____ State: ___

Supervisor: _____

Job Title: Professor + Course Director

Student Name: _____

Student Title: Teaching Assistant

Start Date: 10 - 08 - 18 (beginning of semester) (Month - Day - Year)

End Date: 11 - 20 - 18 (end of semester) (Month - Day - Year)

Hours Worked: 48 (total) ☐ Full-Time ☐ Part-Time

EVALUATION

Please rate the statements below based on the following scale:

5 = Strongly Agree 4 = Agree 3 = Indifferent 2 = Disagree 1 = Strongly Disagree

The Co-op Student...

... met the learning goals for the position	(5) 4 3 2 1
... was able to apply concepts learned in class	(5) 4 3 2 1
... understood concepts and theories with relative ease	(5) 4 3 2 1
... completed assigned tasks efficiently and promptly	(5) 4 3 2 1
... conducted self in a professional manner	(5) 4 3 2 1
... was punctual, reliable, and demonstrated initiative	(5) 4 3 2 1
... sought supervision and guidance when needed	(5) 4 3 2 1
... kept others informed of work progress	(5) 4 3 2 1
... responded well to supervision/constructive criticism	(5) 4 3 2 1
... received supervision for professional development	(5) 4 3 2 1

I recommend the Student ...

... for another Co-op placement with my company 5 4 3 2 1

Will the student continue the Co-op next semester? ☐ Yes ☐ No

If "No", why not? _____

We offered the student a position after graduation? ☐ Yes ☐ No

If "No", why not? _____

Specific projects the student accomplished this semester:

Reports/Papers the student submitted as a result of this placement:

Suggestions for further growth in the student's field:

Medical Educator Development courses through OMED, UNM SOM

Comments on the UNM Co-op Program:

Thank you for your participation in the UNM Co-op Program.

Supervisor: I certify that this performance appraisal represents my best judgment and has been discussed with the student.

Supervisor Name (Printed) / Supervisor Signature 12 - 10 - 18 (Month - Day - Year)

Student: I certify that this evaluation has been discussed with me.

Student Name (Printed) Student Signature 12 - 10 - 18 (Month - Day - Year)

The University of New Mexico • Career Services • MSC 06 3710 • Student Services Center, Room 220 • Albuquerque, NM 87131-0001
Phone: (505) 277-2531 • Fax: (505) 277-9285 • Email: career4u@unm.edu • Web: www.career.unm.edu

Student Evaluation

POSET Observation Form – *Didactic SAMPLE*

Observed instructor name:

Observer name:

Name of course/block/rotation:

Date of learning session: 3/26/19

Type of learning session (e.g., didactic, rounds, clinical reasoning session, etc.): *Didactic*

Number of learners present: 6

Debrief meeting Date:

Instructor behavior	Observation	Take-away or feedback point
Stating learning objectives and their relevancy to topic and course Gestures	You looked confident & comfortable. Normal Gestures.	Normal gestures
Organization (e.g., outlines, transitions, connections between concepts, introduction-body-conclusion) Depth	Depth was very good.	Bigger pictures especially explaining in depth points would be helpful.
Quality of presentation slides, handouts, or other learning aids Breadth	Good	Good depth was covered.
Providing for interactivity among learners flow	It was hard to understand what you want us to focus on initially at the start of your talk.	Make sure the pictures/words correlate with what you are talking about. Work on better flow.
Providing time to learners to organize thoughts and respond to questions Engagement.	very engaging.	You should could incorporate some humor to engage the learners or tell a story.

POSET Observation Form – *Didactic SAMPLE*

Observed instructor name: | Observer name:

Name of course/block/rotation: Epithelium | Date of learning session: 1/10/17

Type of learning session (e.g., didactic, rounds, clinical reasoning session, etc.): *Didactic*

Number of learners present: 6 | Debrief meeting Date:

Instructor behavior	Observation	Take-away or feedback point
Stating learning objectives and their relevancy to topic and course Content	- Watch your pointer sometimes	I think you did very well with your lectures. There wasn't anything too bad.
Organization (e.g., outlines, transitions, connections between concepts, introduction-body-conclusion) Breadth	- I think your visuals maybe need more detail for first slide - Loss in second.	- Lots of breadth included from simple histology to the clinical implication. - Be careful with things like junction as I am not sure if it helped. - Maybe too many pictures of each tissue
Quality of presentation slides, handouts, or other learning aids Depth	- Good depth of description - Nice contextual additives - I think you have this. Do Anatomy first learning new things like week three.	- Depth was very good. You covered the specific topic very well. - Great histological examples - Watch question depth.
Providing for interactivity among learners Flow	- Jumped straight to Junctions ! - There is classification? - Maybe start with really easy example (visual)	- I think your flow could be improved some (see left) - You have really good knowledge but we get lost in where we are
Providing time to learners to organize thoughts and respond to questions Engagement	- Good use of class questions. - Great analogies - Watch your except questions	- Really good pace ! I love your physical demos. - I think you had great pace ! engagement. - Very strong analogies

- Content
- Flow
- Engagement

o regenerative or proliferative

POSET Observation Form – *Didactic SAMPLE*

Observed instructor name: Observer name:

Name of course/block/rotation: Date of learning session: 1/

Type of learning session (e.g., didactic, rounds, clinical reasoning session, etc.): *Didactic*

Number of learners present: Debrief meeting Date:

Instructor behavior	Observation	Take-away or feedback point
Stating learning objectives and their relevancy to topic and course gestures	- pointing effective to show junctions - used arms to illustrate fallopian tubes	long distance well illustrated
Organization (e.g., outlines, transitions, connections between concepts, illustration introduction-body-conclusion) depth	- small text hard to read - not all illustrations used	should have images larger and text on handouts
Quality of presentation slides, handouts, or other learning aids Breadth	- started too broad so not clear at start where headed	instead of starting with "tissues" (which took a lot of time off subject) start with epithelium.
Providing for interactivity among learners Flow	- organization by type worked well	- let class know what to expect
Providing time to learners to organize thoughts and respond to questions Engagement	- great eye contact and interactions - questions I was an except question	- reacted well to class members - Too many words in the questions

discussion of questions a better learning experience

POSET Observation Form – *Didactic SAMPLE*

Observed instructor name: Observer name:

Name of course/block/rotation: Date of learning session: 3/26/2019

Type of learning session (e.g., didactic, rounds, clinical reasoning session, etc.): *Didactic*

Number of learners present: 6 Debrief meeting Date:

Instructor behavior	Observation	Take-away or feedback point
Stating learning objectives and their relevancy to topic and course Geriatrics	Relaxed and professional - excellent eye contact	Keep it up
Organization (e.g., outlines, transitions, connections between concepts, introduction-body-conclusion) Depth	Begin w/ less detail → broad overview	Start w/ a broad overview before diving deep
Quality of presentation slides, handouts, or other learning aids Breadth		Need to balance breadth + depth depending on audience
Providing for interactivity among learners Flow	~~Objectives would~~ I got lost a couple of times	Objectives would help w/ flow (more numbers fewer bullets)
Providing time to learners to organize thoughts and respond to questions Engagement	• Asks questions to engage audience (Socratic) • Minimal words on slides so audience can focus on pictures + words (nice)	If would be easy to convert this to active learning (worksheets would great) don't ask negative questions

who is the audience? This will determine level of detail.