

SCIT 1408: Study Guide Outline of Laboratory Modules

Lab #9

Note: This list of modules contains all the structures you are to know for lab quizzes and practical exams. It is also an excellent study guide for lecture exams.

* *Starred items are found in the text book, but not in the lab manual.*

Module 29

Urinary system anatomy

Renal artery

Renal vein

Kidney

Aorta

Vena cava

Ureter

Renal pelvis

Urethra

Bladder

Internal sphincter

External sphincter

*Trigone

*Detrusor muscle

Module 30

External kidney anatomy

Hilum

Renal artery

Renal vein

Ureter

Renal pelvis

Renal capsule

Internal kidney anatomy

Cortex

Medulla

Renal pyramids

Renal columns

Renal papilla

Minor calyx

Major calyx

Renal pelvis

Ureter

Hilum

Module 31

The nephron

- Cortical nephrons
- Juxtamedullary nephrons
- Renal corpuscle
 - Glomerulus
 - Glomerular capsule
- Renal tubules
 - Proximal convoluted tubule
 - Henle's loop
 - Distal convoluted tubule
- Collecting duct

Module 32

Blood supply to the kidney and nephron

- Renal artery
- Interlobar arteries
- Arcuate arteries
- Interlobular arteries
- Afferent arteriole
- Glomerulus
- Efferent arteriole
- Peritubular capillary bed
 - Vasa recta
- Interlobular vein
- Arcuate vein
- Interlobar vein
- Renal vein

Module 33

Urinalysis—Know the normal values for the following characteristics:

- Volume
- Color
- Turbidity
- Odor
- pH (also know the effect of diet on pH)
- Specific gravity

Constituents of Urine

- Protein—Albuminuria
- Glucose—Glycosuria
- Ketones—Ketonuria
- Hemoglobin—Hemoglobinuria
- Erythrocytes—Hematuria
- Leukocytes—Pyuria
- Bilirubin—Bilirubinuria
- Urobilinogen—Urobilinogenuria

Casts
Renal calculi
Microbes—bacteriuria

Module 34

Terms to know:

- *Filtration
- *Filtrate
- *Reabsorption
- *Secretion
- *Nitrogenous waste
 - Urea
 - Uric acid
- *Micturition
- *Juxtaglomerular apparatus
- *Macula Densa
- *Juxtaglomerular cells
- *Renin
- *Angiotensinogen/Angiotensin I, Angiotensin II
- *ADH
- *Aldosterone
- *Atrial natriuretic peptide
- *Erythropoietin
- *Vitamin D activation
- *Countercurrent Mechanism