The exam covers the following lectures: (Ch. 1-4 & 13)
Introduction
Standards
Assessment
Digestion
Metabolism
Energy

The specific areas of the text to focus on are:

Ch. 1 pg. 3-11, 19-27, 31-34
Study Questions # 2, 3, 4

Ch. 2 pg. 37-68
Study Questions # 1, 6, 7, 8, 10

Ch. 3 pg. 81-97, 98-99
Study Questions # 4, 5, 6, 8, 9

Ch. 4 pg. 108-123 (skip lipogenesis), DO NOT skip gluconeogenesis, 125-128, 130, 135-136
Study Questions # 1, 2, 4, 5, 8

Ch. 13 pg. 453-458 460-468, 471-472, 476-489, 499-502
Study Questions #6, 7, 8, 10

Specific topics and definitions to know about:

Essential nutrients
Macromolecules: Lipids, carbs, proteins + nucleic acids
Vitamins (fat and water sol.)
Trace minerals
Monomer subunits of the macromolecules
Sat. vs. unsat. fatty acids
Food groups
Components of DRI
Diseases caused by poor nutrition (heartburn, diabetes, gout, heart disease, etc--examples from slides)
Energy content of foods (4-9-4-7)
Energy density
Nutrient density
Normal body fat content for men and women
BMI - (know how to calculate and what the cutoffs are between normal, overweight, underweight, etc)
Probiotics
BMR/REE know how to calculate BMR
TEF
Android vs. Gynoid obesity
Adipocyte development (hypertrophic vs. hypercellular)
Leptin
Food label information
Enriched
Fortified
Kcal vs. Calorie vs. calorie
Treatments for obesity (gastric bypass, OTC drugs, Rx Drugs))
Nutritional studies (double-blind, case-control, placebo)

Know the four overall functions of the digestive system
Bolus
Chime
Feces
Know GI tract from Mouth to anus
Enzymes: amylase, lipases, protease (pepsin) know where these are made and released
Peristalsis
Sphincter
Rugae
Hydrochloric acid
Know how the stomach protects itself from “self” digestion
Know accessory organs and where each connects the GI tract
Bile- gallbladder, common bile duct, liver, hepatic portal system, sphincter of Oddi, etc
Pancreas, enzymes, bicarbonate (increases ph)
Duodenum, jejunum, ileum, colon
Villi vs. microvilli
Know where each macromolecule is broken down and how (where) each is absorbed by
the GI-sugars & proteins: blood capillaries, lipids: lacteals
Know the difference between active and passive transport
Endo/exocytosis

Enzymes- protein catalysts…
Know what factors can affect enzyme function and how each works
Substrate specificity
Cofactor
Coenzyme
Holoenzyme
Apoenzyme
Phosphorylation (substrate level vs. oxidative)
Define metabolism, catabolism, anabolism
Potential energy vs. kinetic vs. bond energy
Reduction- oxidation reactions
Carrier molecules (WHY??)
NADH (niacin) and FADH2 (riboflavin)
Aerobic vs. anaerobic metabolism
Fermentation
Glycolysis- kreb’s- ETC
Electrochem gradient- chemiosmosis
Cytochromes
Lipid Catabolism- beta oxidation
Protein catabolism- deamination
Gluconeogenesis
Where is co2 made
Where does glucose get split in half