Learn and Understand:
1. Skin is an organ comprised of all four tissues
2. Each layer of the skin contributes to one or more of its numerous functions
3. Skin is both strong and flexible
4. Keratinization results in an epidermis that is a protective barrier
5. Darkly pigmented skin is an adaptation to ultraviolet light exposure
6. Skin is flexibly attached to underlying tissues

Lecture Outline
I. General
   a. Skin is an organ
   b. Skin thickness varies
   c. Skin consists of epidermis and dermis and those structures of epidermal/dermal origin: hair, nails, glands
II. Skin Structure
    a. Epidermis
       i. Layered epithelium – stratified squamous
       ii. Attached to dermis at basement membrane
       iii. Avascular
       iv. Cells of the epidermis
          1. Keratinocytes and keratinization
             a. Strata and stratification
             b. Desquamation
          2. Melanocytes and skin color
             a. Skin pigments
          3. Dendritic (Langerhans’) cells and immunity
          4. Tactile (Merkel’s) cells and light touch
       v. Epidermal Strata
          1. stratum basale, spinosum, granulosum, lucidum, corneum
       vi. Keratinization process in the epidermis
       vii. Thick vs thin skin as related to the thickness of the epidermis
    b. Dermis
       i. Composition
          1. Connective tissue and epithelial glands and hair follicles
          2. Papillary dermis: Loose fibrous and Reticular dermis: dense irregular collagenous
          3. Sensory tissue
          4. Vascular tissue and role of blood supply
          5. Nervous tissue
          6. Muscular tissue
       ii. Papillary and reticular layers
          1. dermal papillae
             a. friction ridges
III. Subcutaneous layer beneath skin (not part of it)
    a. Function
    b. Composition
       c. Connective tissue: loose fibrous, adipose, macrophages
IV. Functions of skin
a. Protection
   i. chemical protection
      1. melanin and protection from ultraviolet radiation
   ii. physical protection
   iii. biologic protection
b. Thermoregulation
c. Sensation
d. Vitamin D production
e. Excretion (minor)
f. blood reservoir

V. Appendages of the skin

❖ Some concepts that you may have to learn on your own:

Types of hair, the origin and histology of hair, hair color, and hair growth cycles.
Origin and histology of nails.
The function of glands of the skin.

❖ Some concepts you must know for Test Two:

Functions of the integument.
The general anatomy and functions of the epidermis, dermis and hypodermis.
Layers of the epidermis.
Keratinization and desquamation of the epidermis.
Skin coloration, melanocytes and melanin. The effect of ultraviolet radiation exposure on melanin and melanin production.
Basics of the skin’s involvement in thermoregulation.
Role of skin in excretion.
Functional and locational differences between thick and thin skin.

❖ Some concepts you that will not be on Test Two:

Developmental aspects of the integumentary system.
Homeostatic imbalances of the skin including skin cancer and burns.