CHAPTER 11: SOUND, THE AUDITORY SYSTEM, AND PITCH PERCEPTION

1. Appreciate the importance of hearing for humans.
2. Describe the physical stimulus for sound, including the concepts of sound waves, pure tones, amplitude, and frequency.
3. Discuss how physical characteristics of the sound wave are related to the perceptual dimensions of loudness and pitch.
4. Explain what an audibility curve is, and how these curves are different for different species.
5. Define timbre, and discuss how perception of timbre is related to perception of complex sounds.
6. Identify the structures and the function of the outer ear and middle ear.
7. Describe how transduction occurs in the cochlea.
8. State the main principles of Bekesy’s place theory, and discuss supporting evidence for the theory.
9. Explain why the basilar membrane is believed to be a “frequency analyzer.”
10. Discuss how phase locking relates to coding of frequency information.
11. Identify the structures in the auditory pathway, and the auditory areas in the cortex.
12. Define presbycusis, and state the gender difference in American culture.
13. Know what can be done to minimize noise-induced hearing loss.
14. Discuss evidence for the existence of what and where streams in audition.
15. Discuss research that supports that A1 is involved in pitch perception.
16. Describe the method and results of research that shows that experience affects the auditory cortex.
17. Discuss the technology and controversy regarding cochlear implants.