# BIOL 112 – OUTLINE #11 – ANIMAL CIRCULATION AND GAS EXCHANGE

1. Function of circulation and respiration
2. Evolution of circulation systems
3. diffusion
4. open circulatory systems
5. closed circulatory systems
6. Vertebrate cardio-vascular systems
7. structure
8. evolution of double circulation
9. evolution of 4 chambered hearts
10. Blood circulation and capillary exchange
11. Blood structure and function
12. plasma
13. cellular elements
14. production
15. Evolution of gas exchange surfaces
16. diffusion across skin
17. gills
18. tracheae
19. lungs
20. Ventilation
21. Respiratory pigments and gas exchange
22. oxygen
23. diffusion gradients
24. hemoglobin
25. carbon dioxide