

**INSTITUTE FOR SCIENCE AND MATHEMATICS**  
**Biology, Structure and Function, 2011/2012**  
**Instructor: Dr. M.E. Donaldson**

**Syllabus**

**Fall 2011: Human Anatomy and  
Physiology**

1. Hierarchical organization of living systems
2. Macromolecules: the chemistry of living Systems
2. DNA: The Regulation of Life
3. Heredity: The Continuity of Life
4. Design and Function of Cells
4. Bones and Muscles
5. The Nervous System
6. Nutrition and Digestion
7. Circulation and Respiration
8. Integumentary, Excretory and Endocrine Systems
9. Disease and the body's Immune System

**Spring 2012: Botany and Zoology**

1. Flowering Seed Plants
2. Structure and Function of Leaves
3. Flowers, Fruits and Seeds
4. Stems and Roots
5. Variety in the World of Plants
6. Mammals
7. Birds
8. Reptiles and Amphibians
9. Fish
10. Arthropods
11. Variety in the World of Invertebrates
12. Populations, communities and ecosystems

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**Grading\***

**Homework ..... 50%**

- Typed lecture notes (due each Tues)
- Worksheets and study questions
- Lab write-ups

**Participation ..... 10%**

- Class discussions
- Lab exercises

**Tests/quizzes ..... 40%**

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**Text:** Biology. S. Robinson (Ed). CK-12 Foundation, 2011. Electronic Text available at:  
[www.scimathinstitute.org/texts/biology.pdf](http://www.scimathinstitute.org/texts/biology.pdf)

Optional: Modern Biology Student Edition (Hardcover), by A. Towle

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**Cost** \$190/semester; \$380/full year

\* Policies regarding work.

- 1) Work is to be handed in at the beginning of the class period. Work turned in after this is considered late. Late-work will be accepted up to the beginning of the next class period for half credit. After that the work is considered a zero.
- 2) Extra credit will only be considered for those who hand in their regular work.
- 3) Make-up work must be completed within one week upon return from an absence.