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Dr. Gail Grabowsky Kaalalii
I310 1011
Fall 1999

**Biology 101: General Biology I (Lecture Only)**
**An Introduction to the Devices & Design of Life**
**Syllabus**

| Date | Topic | Chapter(s) |
|---|---|---|
| 8/31/99 | Introduction/Hello/Course Mechanics: The Study of Life | 1 |
| 9/2 | Science as a Way of Knowing; Doing Science | 1<br>Also: W. Quine: "Belief and Change of Belief' |
| 9/7 | Life's Origin; Life's Characteristics; Evolution as the Great Unifying Principle in Biology | 1<br>Optional Reading: J. Haught: "Does Evolution Rule our God's Existence?" discussion |
| 9/9 | Energy and Life; Thermodynamic Laws<br>Hypothetical experiment project explained | 4<br>Handouts |
| 9/14 | Review of Basic Chemistry | 2 |
| 9/16 | Special Properties of Water | 2 |
| 9/21 | Organic vs Inorganic Molecules | 3 |
| 9/23 | Carbohydrates and Proteins<br>Turn in your hypothetical experiment's hypothesis to Dr. Gail by today! | 3 |
| 9/28 | Lipids and Nucleic Acids<br>Scientific literature critique explained | 3<br>Handouts |
| 9/30 | Introduction to Cells: Life's Most Basic Unit; Prokaryotes vs. Eukaryotes | 5 |
| 10/5 | Structure & Function of the "Typical" Cell Organelles | 6 |
| 10/7 | Some Specialized Cells: Neurons, Muscle Fibers, Osteocytes, Gametes & Guard Cells | 6 |
| 10/12 | EXAM I | |
| 10/14 | DNA: From Structure to Function in General | 9 |
| 10/19 | DNA Function in Detail: Replication | 9 |
| 10/21 | DNA: Transcription, Translation | 10 |

Tell Dr. Gail what scientific article you'll be critiquing by today!

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|---|---|---|
| 10/26 | DNA Mutations, Altered Proteins and Evolution | 10 |
| 10/28 | The Cell Cycle | 11 |
| 11/2 | Limitations to Cell Size; Phases of Mitosis | 11 |
| 11/4 | Meiosis and the Purpose of Sex;<br>Multicellularity's Potential Evolutionary Advantages; Colony or Individual? | 11<br>Read: S. Gould: "A Most Ingenious Paradox;" discussion |
| 11/9 | Genetics: Mechanisms of Inheritance; Mendelian | 12 |
| 11/11 | VETERAN'S DAY no class | |
| 11/16 | Non-Mendelian Genetics: Critters are far from Bean Bags! | 12 |
| 11/18 | EXAM II | |
| 11/23 | Cell Energetics: The Importance of Photosynthesis<br>Turn in your tentative experimental design for your hypothetical research project by today! | 6 |
| 11/25 | THANKSGIVING BREAK noclass | |
| 11/30 | The Mechanism of Photosynthesis | 6 |
| 12/2 | Cell Energetics: The Need for Food | 7 |
| 12/4 | Cellular Respiration: Glycolysis, Krebs Cycle, Mitochondria and the ETS | 7 |
| 12/7 | Hypothetical experiment oral reports | 7 |
| 12/9 | Synthesizing: What IS the Single Organism<br>Literature critiques due today! | Discussion |

FINAL EXAM Tuesday December 14 from 12:45 to 2:45 in our classroom

Dr. Gail Grabowsky Kaaialii
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Fall 1999

**Biology 101: General Biology I (Lab Only)**
**An Introduction to the Devices & Design of Life**
**Syllabus**

| Date | Top 1C | Chapter(s) |
|---|---|---|
| 9/1 | LAB 1: Introduction to Bio 101 Lab | Handouts |
| 9/8 | LAB 2: Microscopic Techniques Lab | Handouts |
| 9/15 | LAB 3: Diffusion and Osmosis Lab | Handouts |
| 9/22 | LAB 4: Biological Molecules | Handouts |
| 9/29 | LAB 5: Diet Analysis | Handouts |
| l 0/6 | LAB 6: Cell Structure & Function Lab | Handouts |
| 10/13 | LAB PRACTICAL I | |
| 10/20 | LAB 7: Cellular Diversity Lab | Handouts |
| 10/27 | LAB 8: DNA Replication to Translation Internet Lab | Handouts |
| 11/3 | LAB 9: Genotype to Phenotype Lab | Handouts |
| 11/10 | LAB 10: Meiosis & Mitosis Lab | Handouts |
| 11/17 | LAB 11: Genetics Lab: Humans, Corn, etc. | Handouts |
| 11/24 | LAB 12: Genetics Video | |
| 12/1 | LAB 12: Photosynthesis Lab | Handouts |
| 12/1 | LAB 13: Cell Respiration Lab | Handouts |
| 12/8 | LAB PRACTICAL 11 | |