

## **Web Site Directory for Alles Biology**

There are 58 papers on this web site. All are projection ready PDF files formatted as 8-1/2 by 11 inch pages to fit on letter size paper for printing. The majority of the papers (25) are illustrated lectures for my courses. The balance consists of supplemental material and case studies for my courses (24), and my formal research papers (9).

All of these web papers have been developed for the express purpose of supplying up-to-date Internet resources for science educators in secondary schools and higher education. Their non-profit use for educational purposes is, therefore, encouraged.

### **Biology 101: Illustrated Lecture Presentations (12 pdf papers)**

- The Nature of Science (59 pages)
- Cosmological Evolution (34 pages)
- Biological Evolution (29 pages)
- Life as a Chemical Function (38 pages)
- The Hadean Eon (30 pages)
- The Archean Eon (22 pages)
- Life and Energy (37 pages)
- The Proterozoic Eon (39 pages)
- The Paleozoic Era (40 pages)
- The Mesozoic Era (30 pages)
- The Cenozoic Era (41 pages)
- Biology and Society (24 pages)

Available at: [http://fire.biol.wvu.edu/trent/alles/101Lectures\\_Index.html](http://fire.biol.wvu.edu/trent/alles/101Lectures_Index.html)

### **Biology 350: Illustrated Lecture Presentations (13 pdf papers)**

- The Nature of Science (28 pages)
- Public Ethics in a Pluralistic Society (17 pages)
- A Primer on Genetics (16 pages)
- Cystic Fibrosis and Genetic Screening (20 pages)

- The Human Genome Project (14 pages)
- Human Reproduction (15 pages)
- Assisted Reproductive Technologies (10 pages)
- Stem Cell and Cloning Research (15 pages)
- Human Longevity (19 pages)
- History of the Human Population (16 pages)
- How many people can the Earth support? (11 pages)
- The Human Impact on Biodiversity (17 pages)
- Ethics and Equity in the 21st Century (17 pages)

Available at: [http://fire.biol.wvu.edu/trent/alles/350Lectures\\_Index.html](http://fire.biol.wvu.edu/trent/alles/350Lectures_Index.html)

### **Formal Published and Unpublished Papers (9 pdf papers)**

- The Nature of Evolution (6 pages)
- Synthesizing Scientific Knowledge: A Conceptual Basis for Non-Majors Science Education (9 pages)
- Teaching Human Evolution (14 pages)
- Using Evolution as the Framework for Teaching Biology (8 pages)
- Ethical Naturalism: A Normative Analysis (33 pages)
- The Role of Memory in the Evolution of Human Cognition (4 pages)
- Essays on the Nature of Causality (21 pages)
- The Third Culture: Exploring the Relationship between Biology and Philosophy (21 pages)
- Worldviews: A Darwinian View of Human Decision-Making (13 pages)

Available at: <http://fire.biol.wvu.edu/trent/alles/papersindex.html>

## **Cosmological Evolution (5 pdf papers)**

This section expands on the conceptual basis of my Biology 101 course. See also my papers *Synthesizing Scientific Knowledge: A Conceptual Basis for Non-Majors Science Education*, and *The Nature of Evolution* in the Papers section.

- The Evolution of the Universe (35 pages)
- The Origin of the Elements (29 pages)
- The Life History of Stars (12 pages)
- Stellar Nursery in the Orion Nebula (30 pages)
- The Formation of Stars and Solar Systems (24 pages)

Available at: [http://fire.biol.wvu.edu/trent/alles/Cosmic\\_Evolution\\_index.html](http://fire.biol.wvu.edu/trent/alles/Cosmic_Evolution_index.html)

## **Global Ecology and Remote Sensing (6 pdf papers)**

This section further develops my unit on humanity's impact on the Earth's ecosystems in my Biology 350: Biology and Society course.

- Marine Phytoplankton Blooms (34 pages)
- Water Pollution and Algal Blooms in U.S. Coastal Waters (24 pages)
- Biodiversity Hot Spots: The Florida Everglades (32 pages)
- Asian Air Pollution (37 pages)
- Freshwater Shortage and Desertification (30 pages)
- The Aral Sea (23 pages)

Available at: <http://fire.biol.wvu.edu/trent/alles/GlobalEcologyindex.html>

## **The Colorado River: An Ecological Case Study (6 pdf papers)**

This section is a further expansion on the theme of global ecology and coupled human and natural systems.

- Introduction to the Colorado River (20 pages)
- The Grand Canyon (25 pages)
- The Lower Colorado River (25 pages)

- Geology of the Salton Trough (30 pages)
- The Colorado River Delta (26 pages)
- The Sea of Cortez (36 pages)

Available at: <http://fire.biol.wvu.edu/trent/alles/ColoradoRiver.html>

### **Supplemental Web Papers (7 pdf papers)**

These papers are supplemental material for my courses and published papers. Note especially that *A Review of Current Research on Human Evolution* is an illustrated and much expanded version of my published paper *Teaching Human Evolution* (see Papers section).

- A Review of Current Research on Human Evolution (65 pages)
- Central Figures in the History and Philosophy of Science (68 pages)
- Trilobites (28 pages)
- Stromatolites (28 pages)
- China's Deserts (30 pages)
- Geomorphology and Dust Storms in China (34 pages)
- The Altyn Tagh Fault (34 pages)

Available at: <http://fire.biol.wvu.edu/trent/alles/webpapersindex.html>

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