

MILESTONES IN BIOLOGY: HISTORICAL PERSPECTIVE

Coordinator: Norma Grossman

The biological sciences in the 21st Century have reached a level of complexity, which can be mind boggling even for the most serious and committed among us. The myriad sub-specialties are often deep and interrelated, requiring a range of prior knowledge. Our goal is to trace the quest for understanding, from earliest civilizations to the present. Taking the long view, we look at the questions, challenges, controversies, methods, technologies and applications. We consider the roles of disease, warfare, religion, the increasing dependence on chemistry and physics and, the most vital, the ever-compelling human desire to understand. Our text is a historical overview, which is augmented with more detailed information, relevant PowerPoint illustrations and voluntary reports by participants.

Reading: *The Epic History of Biology* by Anthony Serafini {Basic Books, 2001 ISBN 978-0738205779; \$20}.

Norma taught biology for 26 years and since 1994 has made a second career of it in the IRP. She is grateful for the opportunity.

*** * * * * Syllabus – A Work in Progress * * * * ***

Readings, discussion and supplementary input are framed by the sequence of chapters in the text, titled as follows:

Week 1: The Beginnings, Mesopotamia

Week 2: Greek Medicine, Rome

Week 3: The Middle Ages, The Renaissance

Week 4: Pestilence in the Renaissance, The Age of Vesalius

Week 5: The Harvey Era, The Age of Newton

Week 6: The Microscope and Leeuwenhoek, The Meeting of Biology and Chemistry

Week 7: Ray and the Emergence of Cell Theory, The Age of Linnaeus and the Enlightenment

Week 8: Lamarck and his System, The Rise of Paleontology

Week 9: Biology in the Victorian Era, Darwin and His Age

Week 10: Embryology and Biochemistry in the Darwinian Era, The Age of Pasteur and the Development of the Microscope

Week 11: Biology in the 20th Century, T.H. Morgan and the Rise of Genetics

Week 12: On the Trail of DNA, Evolution and Genetic Engineering, Epilogue