

HISC 107: The Emergence of Modern Science

Fall 2017

Professor Tal Golan tgolan@ucsd.edu

Time and location: Tu, Th 12.30-1.59 Peter 103

Office Hours: Tuesday 11-12 a.m., or by appointment, H&SS bldg room 4044

Reader Kris Nelson krisnelson@ucsd.edu

Week 1

Meeting 1 (Sep 28) Introduction

Reading: Bowler and Morus, Introduction

Week 2

Meeting 2 (Oct 3) Young Newton Goes to College

Reading: Bowler and Morus, Ch. 2, The Scientific Revolution.

Meeting 3 (Oct 5) The Newtonian Synthesis

Reading: TBA

Week 3

Meeting 4 (Oct 10) Enlightened Science

Reading: Dorinda Outram, pp 47-62

Meeting 5 (Oct 12) The Scientific Method

Reading: TBA

Week 4

Meeting 6 (Oct 17) The Chemical Revolution

Reading: Bowler and Morus, Ch. 3, The Chemical Revolution.

Meeting 7 (Oct 19) Natural History

Reading: TBA

Week 5

Meeting 9 (Oct 24) Natural Theology

Reading: Bowler and Morus, Ch. 15, Science and Religion.

Meeting 8 (Oct 26) The Science of Man and Society

Reading: TBA

Week 6

Meeting 9 (Oct 31) Mid Term Examination - Bring a bluebook

Meeting 10 (Nov 2) The Industrial Revolution

Reading: TBA

Week 7

Meeting 11 (Nov 7) Nineteenth Century Physics I- The Mechanical Synthesis

Reading: TBA

Meeting 12 (Nov 9) Nineteenth Century Physics II - Thermodynamics

Reading: Bowler and Morus, Ch. 4 – The Conservation of Energy

Week 8

Meeting 13 (Nov 14) Evolution

Reading: Bowler and Morus, Ch. 5 The Age of the Earth

Meeting 14 (Nov 16) Darwinism

Reading: Bowler and Morus, Ch. 6 The Darwinian Revolution

Week 9

Meeting 15 (Nov 21) Biological Determinism: Race, Gender, and Class
Reading: Stephen J. Gould - The Mismeasure of Man, Chapter 2, pp 64-104.

Week 10

Meeting 16 (Nov 28) The Science of the Soul - Psychology
Reading – TBA
Meeting 17 (Nov 30) Fin-De-Siecle Science – Growing Uncertainties
Reading: John Heilbron, Fin-de-siecle physics

Week 11

Meeting 18 (Dec 5) 20th Century Science
Reading: TBA
Meeting 19 (Dec 7) What have we learned?

Final examination: Home test

Posted: 10 a.m., Dec 8, 2017 Deadline: 10 a.m. Dec 11, 2017

Policy

- All submitted work must be your own.
- Computers are allowed but should be used for class purposes only. If I think it distracts you (or me, or anyone else), I will ask you to put it away.
- Weekly commentaries on the assigned readings
 - The students will comment on the assigned readings before each meeting.
 - Commentaries:
 1. Must be entered by 11.30 a.m., day of class.
 2. Should be short, not longer than half a page.
 3. Will be checked but not graded.
 4. Will not be accepted passed the deadline
 5. If you fail to enter three or more commentaries, you lose the commentary's grade contribution. Instead, your grade will be calculated according to your mid-term (50%) and final (50%) exams.

Grading

- **Weekly commentaries** %10
- **Mid-term exam** 40%
- **Final exam** 50%

Bibliography

Bowler, Peter, and Iwan Morus. *Making Modern Science: A Historical Survey*. University of Chicago Press, 2005. ISBN: 9780226068619.