

# Book Adoptions for SP 2016-17

Prepared Monday, March 27, 2017

This document lists the required and optional textbooks for Caltech courses offered during the SP 2016-17 term. Not all courses are listed. Only those courses for which the Registrar has solid information are listed.

This document is updated as more information comes in from instructors.

Please consult the Library Catalog ([TIND](#)) to view class course reserves. Course reserves are available in the Sherman Fairchild Library only. Reserve material is available for 3-hour checkout.

## Changes in the last 7 days

APh077C

Ae/APh/CE/ME 101C

Bi 270C

Ch 003A

Ch 003X

Ch 006B

Ch 014

Ch 021C

Ch 101

Ch 102

Ch 143

En/H 193

H 120

Hum/H 002

Hum/H 009B

# AEROSPACE

## APPLIED COMPUTATIONAL MATH

## APPLIED PHYSICS

### APh/MS 105C. States of Matter.

Instructor: Brent Fultz

**Required textbooks:**

Fultz, Brent; *Phase Transitions in Materials (1)*, Cambridge, 2014. ISBN: 978-1-107-06724-0

# ASTROPHYSICS

### Ay 102. Physics of the Interstellar Medium.

Instructor: Lynne Hillenbrand

**Suggested textbooks:**

Kwok, S; *Physics and Chemistry of the Interstellar Medium*, University Science Books, . ISBN: 978-1-891389-46-7

Tielens, AGGM; *Physics and Chemistry of the Interstellar Medium*, Cambridge University Press, . ISBN: 978-0-521-82634-9

# BIOLOGY

### Bi 189. The Cell Cycle.

Instructor: William Dunphy

**Required textbooks:**

Morgan, David; *The Cell Cycle: Principles of Control*, . ISBN: 9780878935086

### Bi 252. Responsible Conduct of Research.

Instructors: Elliot Meyerowitz, Paul Sternberg

**Required textbooks:**

Macrina, Francis L.; *Scientific Integrity: Text and Cases in Responsible Conduct of Research (4th ed)*, ASM Press, 2014. ISBN: 9781555816612

## BUSINESS, ECONOMICS, AND MANAGEMENT

### BEM102. Introduction to Accounting.

Instructor: Michael Ewens

**Required textbooks:**

Libby, Robert, Libby, Patricia, Hodge, Frank; *Financial Accounting (9)*, McGraw Hill, 2016. ISBN: 1259222136

## CHEMICAL ENGINEERING

### ChE/Ch 148. Polymer Physics.

Instructor: Zhen-Gang Wang

**Required textbooks:**

M. Rubinstein, Ralph H. Colby; *Polymer Physics (latest)*, Oxford University Press, 2003. ISBN: 019852059x

### ChE115. Electronic Materials Processing.

Instructor: Konstantinos Giapis

**Suggested textbooks:**

Lieberman, Michael; *Principles of Plasma Discharges and Materials Processing (2nd)*, Wiley, 2005. ISBN: 0-471-72001-1

## CHEMISTRY

### Ch 014. Chemical Equilibrium and Analysis.

Instructor: Nathan Dalleska

**Required textbooks:**

Butler, James; *Ionic Equilibrium: Solubility and pH Calculations*, Wiley, . ISBN: 978-0471585268

### Ch 135. Chemical Dynamics.

Instructor: Mitchio Okumura

**Suggested textbooks:**

Steinfeld, Jeffrey; *Chemical Kinetics and Dynamics (2nd Edition) 2nd Edition*, . ISBN: 10: 0137371233

Houston, Paul L.; *Chemical Kinetics and Reaction Dynamics (Dover Books on Chemistry)* , , . ISBN: 10: 0486453340

Brouard, Mark,Vallance, Claire; , , . ISBN: 10: 1849735301

## COMPUTER SCIENCE

### CS 038. Introduction to Algorithms.

Instructor: Leonard Schulman

**Suggested textbooks:**

Cormen et al; *Intro to Algorithms (3)*, MIT, . ISBN: 978-0-262-03384-8

### CS 101C. Special Topics in Computer Science: Bayesian Analysis.

Instructor: Shiwei Lan

**Suggested textbooks:**

Gelman, Andrew,Carlin, John B.,Stern, Hal S.,Rubin, Donald B.; *Bayesian Data Analysis (2nd)*, Chapman Hall, . ISBN: 1-58488-388-X

### CS 138. Computer Algorithms.

Instructor: Leonard Schulman

**Suggested textbooks:**

Cormen et al; *Intro to Algorithms (3)*, MIT, . ISBN: 978-0-262-03384-8

### CS 151. Complexity Theory.

Instructor: Christopher Umans

**Suggested textbooks:**

Papadimitriou, Christos H.; *Computational Complexity*, Addison Wesley, 1994. ISBN: 978-0201530827

# ELECTRICAL ENGINEERING

## ENGLISH

### En 107. Medieval Romance.

Instructor: Jennifer Jahner

**Required textbooks:**

Burgess, Glynn (trans); *Song of Roland*, Penguin, 1990. ISBN: 978-0-14-044532-9

Burgess (trans), Busby (trans); *The Lais of Marie de France*, Penguin, 1991. ISBN: 978-0-14-044759-0

de Troyes, Chrétien; *Arthurian Romances*, Penguin, 1991. ISBN: 978-0-14-044521-3

Malory, Thomas; *Le Morte D'arthur*, Oxford, 1998. ISBN: 978-0-19-953734-1

### En 122. Early History of the Novel.

Instructor: Kristine Haugen

**Required textbooks:**

Heliodorus; *An Ethiopian Romance*, tr. Moses Hadas, Univ. of Pennsylvania Press, 1999. ISBN: 978-0812216721

Ludovico Ariosto; *Orlando Furioso* (tr. G. Waldman), Oxford World's Classics (OUP), 2008. ISBN: 978-0199540389

Francois Rabelais; *Gargantua and Pantagruel* (tr. M. A. Screech), Penguin, 2006. ISBN: 978-0140445503

Sterne, Laurence; *The Life and Opinions of Tristram Shandy, Gentleman*, ed. Ian Campbell Ross, Oxford World's Classics (OUP), 2009. ISBN: 978-0199532896

John Bunyan; *The Pilgrim's Progress*, Penguin, 2009. ISBN: 978-0141439716

Daniel Defoe; *Robinson Crusoe*, ed. Thomas Keymer, Oxford World's Classics (OUP), 2009. ISBN: 978-0199553976

Samuel Richardson; *Pamela: Or Virtue Rewarded*, Oxford World's Classics (OUP), 2008. ISBN: 0-19-953649-X

Denis Diderot; *The Nun*, tr. Russell Goulbourne, Oxford World's Classics (OUP), 2008. ISBN: 978-0199555246

### En 135. Dicken's London.

Instructor: Dehn Gilmore

**Required textbooks:**

Dickens, Charles; *Selected Journalism*, . ISBN: 0140435808

Dickens, Charles; *Bleak House*, . ISBN: 9780141439723

Mayhew, Henry; *London Labour and the London Poor*, . ISBN: 0140432418

Flanders, Judith; *The Victorian City*, . ISBN: 9781250068262

## En 180. Special Topics in English: History of the English Language.

Instructor: Benjamin Saltzman

### **Required textbooks:**

Millward, C.M., Hayes, Mary; *A Biography of the English Language (3rd)*, Cengage Learning, 2011. ISBN: 0495906417

### **Suggested textbooks:**

Millward, C.M.; *Workbook to Accompany A Biography of the English Language*, Holt, Rinehart, Winston, 1990. ISBN: 978-0495910091

## En/H 193. Cervantes, Truth or Dare: Don Quixote in an Age of Empire.

Instructor: Nicolas Wey-Gomez

### **Required textbooks:**

Cervantes, Miguel de; *Don Quixote*, Harper Perennial, 2005. ISBN: 978-0060934347

Johnson, Carroll B.; *The Quest for Modern Fiction*, Waveland Press, Inc., 1990. ISBN: 978-1577661481

## GEOLOGY

### Ge 001. Earth and Environment.

Instructor: Paul Asimow

### **Required textbooks:**

Langmuir, Charles H., Broecker, Wally; *How to Build a Habitable Planet: The Story of Earth from the Big Bang to Humankind (Revised and Expanded)*, Princeton, 2012. ISBN: 978-0-691-14006-3

## HISTORY

### H 120. American History: The Long Nineteenth Century.

Instructor: Sarah Gronningsater

### **Required textbooks:**

Douglas, Frederick; *Narrative of the Life of Frederick Douglass: an American Slave*, Library of America Paperback classic, 2014. ISBN: 978-1598533514

Johnson, Michael P.; *Abraham Lincoln, Slavery, and the Civil War*, Bedford/St. Martin's, 2010. ISBN: 978-0312558130

Stowe, Harriet Beecher; *Uncle Tom's Cabin*, Dover, 2005. ISBN: 978-0486440286

Foner, Eric; *Give me liberty: an American history (volume 1) (4th)*, Seagull, 2013. ISBN: 978-0393920307

## H 189. The Ethics of War.

**Instructor:** Leah Klement

### **Required textbooks:**

Hobbins, Daniel; *The trial of Joan of Arc*, Harvard University Press, 2005. ISBN: 978-0674018945

de las Casas, Bartolome; *A short account of the destruction of the Indies*, Penguin, 1999. ISBN: 0140445625

Armitage, Simon; *The Death of King Arthur*, Norton, 2012. ISBN: 0393343537

## H 192. The Crusades.

**Instructor:** Warren Brown

### **Required textbooks:**

Allen, S. J., Amt, Emilie; *The Crusades: A Reader*, Broadview Press, 2003. ISBN: 1-4426-0002-0

Gabrieli, Francesco; *Arab Historians of the Crusades*, University of California Press, 1969. ISBN: 0520052242

Shaw, M. R. B; *Joinville Villehardouin: Chronicles of the Crusades*, Penguin Classics, 2008. ISBN: 0140449981

Komnene, Anna, Frankopan, Peter, Sewter, E. R. A.; *The Alexiad*, Penguin Classics, 2009. ISBN: 0140455272

Fulcher of Chartres, Harold S. Fink; *A History of the Expedition to Jerusalem, 1095-1127*, W.W. Norton, 1972. ISBN: 978-0393094237

# HISTORY AND PHILOSOPHY OF SCIENCE

## HPS/H 160A. Einstein and His Generation: The History of Modern Physical Sciences.

**Instructor:** Diana Kormos-Buchwald

### **Required textbooks:**

Isaacson, Walter; ; *Einstein- His Life and Universe (paperback)*, Simon Schuster, 2007. ISBN: 0743264746

Kragh, Helge; *Quantum Generations: A History of Physics in the Twentieth Century (any)*, Princeton University Press, 1999. ISBN: 978-0691095523

## HPS/H 168. History of Electromagnetism and Heat Science.

Instructor: Jed Buchwald

### **Required textbooks:**

Purrington, Robert D.; *Physics in the Nineteenth Century*, Rutgers University Press, 1997. ISBN: 978-0813524429

## HPS/PI 124. Philosophy of Space and Time.

Instructor: Christopher Hitchcock

### **Required textbooks:**

Reichenbach, Hans; *Philosophy of Space and Time*, Dover, . ISBN: 978-0486604435

# HUMANITIES

## Hum/En 021. The Marvelous and the Monstrous: Literature at the Boundaries of the Real.

Instructor: Jennifer Jahner

### **Required textbooks:**

Heaney, Seamus (trans); *Beowulf (bilingual edition)*, Norton, 2000. ISBN: 978-0393320978

de France, Marie; *Lais*, Penguin, 2003. ISBN: 978-0-14-044759-0

Anonymous; *Sir Gawain and the Green Knight*, Broadview, 1992. ISBN: 0-921149-92-1

Shakespeare, William; *The Winter's Tale*, Folger Shakespeare Library, 2004. ISBN: 978-0-7434-8489-3

Carter, Angela; *The Bloody Chamber*, Penguin, 1979. ISBN: 978-0-14-017821-0

Harvey, Michael; *The Nuts and Bolts of College Writing*, Hackett, 2013. ISBN: 978-1-60384-898-5

## Hum/En 024. The Scientific Imagination in English Literature.

Instructor: Dehn Gilmore

### **Required textbooks:**

Christopher Marlowe; *Doctor Faustus*, , . ISBN: 9780393977547

Bacon, Francis; *Three Modern Utopias*, , . ISBN: 9780199537990

Shelley, Mary; *Frankenstein*, , . ISBN: 9780199537150

Conan Doyle, Arthur; *Hound of the Baskervilles*, , . ISBN: 1551117223

McEwan, Ian; *Enduring Love*, , . ISBN: 9780385494144



Stoppard, Tom; *Arcadia*, , . ISBN: 0571169341

Shakespeare, William; *The Tempest*, , . ISBN: 9780393978193

Stevenson, Robert Louis; *Dr Jekyll and Mr Hyde*, , . ISBN: 9780199536221

## **Hum/En 025. The Rhetoric of Superiority.**

**Instructor:** Benjamin Saltzman

### ***Required textbooks:***

Boethius, Ancius; *The Consolation of Philosophy (1st edition)*, Harvard University Press, May . ISBN: 0674048350

Milton, John (Author), Teskey, Gordon (Editor); *Paradise Lost (3rd revised edition)*, W. W. Norton Company, Dec. ISBN: 0393924289

Braunmuller, A. R. (Editor); *The Winter's Tale (The Pelican Shakespeare)*, Penguin Classics , Sept. ISBN: 014071488X

Strunk Jr., William, White, E. B.; *The Elements of Style (Fourth Edition)*, Longman, Aug . ISBN: 978-0205309023

Fish, Stanley,; *How to Write a Sentence: And How to Read One (Reprint edition)*, Harper Paperbacks, Aug . ISBN: 978-0061840531

## **Hum/H 002. Baseball and American Culture, 1840 to the Present.**

**Instructor:** Sarah Gronningsater

### ***Required textbooks:***

Levine, Peter; *A.G. Spaulding and the Rise of Baseball: the Promise of American Sport*, , 1985. ISBN: 978-0195042207

Burgos, Adrian; *Playing America's Game: Baseball, Latinos, and the Color Line*, , 2007. ISBN: 978-0520251434

Ritter, Lawrence; *The Glory of Their Times: The Story of the Early Days of Baseball Told by the Men Who Played It*, , 2010. ISBN: 978-0061994715

Tygiel, Jules; *Baseball's Great Experiment: Jackie Robinson and His Legacy*, , 2008. ISBN: 978-0195339284

## **Hum/H 008A. Civilization, Science, and Archaeology: Before Greece: The Origins of Civilization in Mesopotamia.**

**Instructor:** Jed Buchwald

### ***Required textbooks:***

Oppenheim, A. Leo; *Ancient Mesopotamia. Portrait of a Dead Civilization*, The University of Chicago Press, 1977. ISBN: 978-0226631875

Postgate, J. N.; *Early Mesopotamia. Society and Economy at the Dawn of History*, Routledge, . ISBN: 0-415-11032-7

## **Hum/H 009B (Section 1). European Civilization: Early Modern Europe.**

**Instructor:** Philip Hoffman

### ***Required textbooks:***

Locke, John; *Two Treatises of Government*, Cambridge University Press, . ISBN: 978-0521357302

Machiavelli, N.; *The Prince*, Cambridge University Press, . ISBN: 9780521349932

Georges Lefebvre; *The Coming of the French Revolution (Revised ed. edition (October 6, 2015))*, Princeton University Press, 2015. ISBN: 978-0691168463

Rousseau, Jean-Jacques; *The Social Contract and Discourses, Everyman*, Everyman's Library , . ISBN: 978-0679423027

## **Hum/H 009B (Section 2). European Civilization: Early Modern Europe.**

**Instructor:** Nicolas Wey-Gomez

### ***Required textbooks:***

Nuñez Cabeza de Vaca, Alvar; *Castaways*, University of California Press, 1993. ISBN: 978-0520070639

Yupanqui, Titu Cusi; *History of how the Spaniards arrived in Peru (Dual-Language Edition)*, Hackett Publishing Company, 2006. ISBN: 978-0872208285

Erauso, Catalina de; *Lieutenant Nun: Memoir of a Basque Transvestite in the New World*, Beacon Press, 1997. ISBN: 978-0807070734

## **Hum/H 009C. European Civilization: Modern Europe.**

**Instructor:** Diana Kormos-Buchwald

### ***Required textbooks:***

Hagen Schulze; *Germany: A New History ((paper), )*, Harvard University Press, 1998. ISBN: 978-0674005457

Karl Marx and Frederick Engels; ; *The Communist Manifesto (1998)*,, VERSO, , 1998. ISBN: 1-85984-898-2

Hobsbawm, Eric; ; *The Age of Empire (any)*, , Vintage,, 1989. ISBN: 978-0679721758

**INFORMATION SCIENCE AND TECHNOLOGY**  
**MATERIALS SCIENCE**

# MATHEMATICS

## **Ma 001C (Analytical). Calculus of One and Several Variables and Linear Algebra.**

**Instructor:** Alexander Kechris

### ***Required textbooks:***

Apostol, Tom; *Calculus, Volume II, Multi-Variable Calculus and Linear Algebra with Applications (2)*, Wiley, . ISBN: 0-471-00007-8

## **Ma 001C (Practical). Calculus of One and Several Variables and Linear Algebra.**

**Instructor:** Matthias Flach

### ***Required textbooks:***

Marsden, J,Tromba, A; *Vector Calculus (6th)*, W.H. Freeman, . ISBN: 1-4292-1508-9

## **Ma 007. Number Theory for Beginners.**

**Instructor:** Zavosh Amir Khosravi

### ***Required textbooks:***

Davenport, Harold; *The Higher Arithmetic (Eighth)*, Cambridge University Press, 2008. ISBN: 978-0521722360

## **Ma 107. Number Theory for Beginners.**

**Instructor:** Zavosh Amir Khosravi

### ***Required textbooks:***

Davenport, Harold; *The Higher Arithmetic (8)*, Cambridge University Press, 2008. ISBN: 978-0521722360

## **Ma 108C. Classical Analysis.**

**Instructor:** Farzad Fathizadeh

### ***Required textbooks:***

Stein, Elias M. Shakarchi, Rami; *Complex Analysis (Princeton Lectures in Analysis, No. 2)*, Princeton University Press, . ISBN: 9780691113852

## **Ma 109C. Introduction to Geometry and Topology.**

**Instructor:** Faramarz Vafaee

### ***Required textbooks:***

Guillemin, Pollack; *Differential Topology*, . ISBN: 978-0821851937

## **Ma 110C. Analysis, I.**

**Instructor:** Nets Katz

### ***Required textbooks:***

Duoandikoetxea, Javier; *Fourier Analysis (1st)*, American Mathematical Society, 2000. ISBN: 978-0821821725

## **Ma 120C. Abstract Algebra.**

**Instructor:** Matthias Flach

### ***Required textbooks:***

Lang, S; *Algebra (3)*, Springer, . ISBN: 0-387-95385-X

## **Ma 121A. Combinatorial Analysis.**

**Instructor:** Eric Rains

### ***Required textbooks:***

van Lint, JH, Wilson, RM; *A Course in Combinatorics (2nd)*, . ISBN: 0521006015

## **Ma 151C. Algebraic and Differential Topology.**

**Instructor:** Yi Ni

### ***Required textbooks:***

Milnor, John, Stasheff, James D.; *Characteristic Classes*, . ISBN: 9780691081229

Hatcher, Alan; *Vector Bundles and K-Theory*, . ISBN: 0000000000

Hatcher, A; *Spectral Sequences in Algebraic Topology*, . ISBN: 0000000000

## **Ma 191C (Section 3). Selected Topics in Mathematics.**

**Instructor:** Farzad Fathizadeh

### ***Required textbooks:***

Roe, John; *Elliptic Operators, Topology, and Asymptotic Methods (2nd)*, Chapman Hall/CRC Research Notes in Mathematics Series, . ISBN: 978-0582325029

## **Ma 191C (Section 1). Selected Topics in Mathematics.**

**Instructor:** Lukas Schimmer

### ***Required textbooks:***

Anderson, G., Guionnet, A., Zeitouni, O.; *An Introduction to Random Matrices*, Cambridge, 2009. ISBN: 0521194520

Tao, T; *Topics in Random Matrix theory*, AMS, 2012. ISBN: 0821874306

## **MECHANICAL ENGINEERING**

### **ME 012C. Mechanics.**

**Instructor:** Chiara Daraio

### ***Required textbooks:***

Hibbeler, Russell C. ; *Mechanics of Materials (10)*, , 2016. ISBN: 978-0134319650

## **PHILOSOPHY**

### **PI/Law 099. Causation and Responsibility.**

**Instructor:** Christopher Hitchcock

### ***Required textbooks:***

Moore, Michael; *Causation and Responsibility (Paperback)*, Oxford University Press, 2010. ISBN: 978-0199599516

## **PHYSICS**

## **Ph 001C (Practical). Classical Mechanics and Electromagnetism.**

**Instructor:** Jason Alicea

### ***Required textbooks:***

Serway, Raymond A., Jewett, John W.; *Physics for Scientists and Engineers (9th)*, , . ISBN: 978-1133947271

## **Ph 002C. Waves, Quantum Mechanics, and Statistical Physics.**

**Instructor:** Bradley Filippone

### ***Required textbooks:***

Kittel, Charles, Kroemer, Herbert; *Thermal Physics (2nd)*, , . ISBN: 0716710889

## **Ph 008C. Experiments in Electromagnetism.**

**Instructor:** Maria Spiropulu

### ***Required textbooks:***

Pine, Jerry; *Zap!*, , . ISBN: 0867204826

## **Ph 106C. Topics in Classical Physics.**

**Instructor:** Sunil Golwala

### ***Required textbooks:***

Griffiths, David J.; *Introduction to Electrodynamics (4)*, Addison-Wesley, 2012. ISBN: 978-0321856562

### ***Suggested textbooks:***

Heald, Mark A., Marion, Jerry B.; *Classical Electromagnetic Radiation (3)*, Dover, 2012. ISBN: 978-0486490601

Jackson, J. D.; *Classical Electrodynamics (3)*, Wiley, 1998. ISBN: 978-0471309321

## **Ph 125C. Quantum Mechanics.**

**Instructor:** Sean Carroll

### ***Suggested textbooks:***

Schumacher, Benjamin; *Quantum Processes, Systems, and Information*, , . ISBN: 052187534X

Schlosshauer, Maximilian A. ; *Decoherence and the Quantum-to-Classical Transition*, , . ISBN: 3540357734

# SOCIAL SCIENCE

## SS 222C. Econometrics.

Instructor: Robert Sherman

***Required textbooks:***

wooldridge, jeffrey; *econometric analysis of cross section and panel data (second)*, mit press, 2010. ISBN: 978-0-262-23258-6