Book Adoptions for FA 2020-21

Prepared Wednesday, September 02, 2020

This document lists the required and optional textbooks for Caltech courses offered during the FA 2020-21 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

Ch 021A
Ch 122
Hum/En 021
Mu 137
APPLIED & COMPUTATIONAL MATH

ACM/IDS 101A. Methods of Applied Mathematics.

Instructor: Oscar Bruno

Required textbooks:

ASTROPHYSICS


Instructor: Evan Kirby

Required textbooks:

Ay 121. Radiative Processes.

Instructor: Evan Kirby

Required textbooks:

Ay 123. Structure and Evolution of Stars.

Instructors: Andrew Howard, Dimitri Mawet

Required textbooks:

BIOLOGY
Bi 122. Genetics.

Instructors: Bruce Hay, Paul Sternberg

Required textbooks:
Griffiths, Anthony, Doebley, John, Peichel, Catherine, Wassarman, David; Introduction to Genetic Analysis, . . ISBN: 13191114784

Bi 145A. Tissue and Organ Physiology.

Instructor: Carol Tydell

Required textbooks:

BUSINESS, ECONOMICS, AND MANAGEMENT

BEM105. Options.

Instructor: Jaksa Cvitanic

Required textbooks:

Notes for students:
The book by Cvitanic and Zapatero is the main textbook for the course. You don’t have to buy it, but you may have to borrow it every now and then. The book by Shreve contains more advanced material, that is covered in another course.

CHEMICAL ENGINEERING

CHEMISTRY

Ch 001A. General Chemistry.

Instructor: Nathan Lewis

Required textbooks:

Notes for students:
Feel free to use the 8th edition. However, please note that the page references on the schedule in the course syllabus will be towards the 6th edition. You may obtain an electronic version of the 8th edition, if you prefer.

Ch 021A. Physical Chemistry.
Instructor: Mitchio Okumura

Required textbooks:
McQuarrie, Donald; Quantum Chemistry (2nd), University Science Books, 2007. ISBN: 9781891389504
Schrier, Joshua; Introduction to Computational Physical Chemistry (1st), University Science Books, 2017. ISBN: 9781938787904
Orzel, Chad; How to Teach Quantum Physics to Your Dog (1st), Scribner, 2010. ISBN: 9781416572299

COMPUTER SCIENCE

CS/IDS 150A. Probability and Algorithms.
Instructor: Leonard Schulman

Suggested textbooks:

ECONOMICS

Ec 121A. Theory of Value.
Instructor: Kim Border

Required textbooks:
Ec 122. Econometrics.

Instructor: Robert Sherman

Required textbooks:

hill, r. carter.griffiths, william e.,lim, guay c.; principles of econometrics (4th), wiley, 2011. ISBN:
978-0-470-62673-3

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ELECTRICAL ENGINEERING

EE 111. Signal-Processing Systems and Transforms.

Instructor: Palghat Vaidyanathan

Required textbooks:

Oppenheim and Willsky (with Nawab); Signals and Systems (2nd Edition), Prentice Hall, 1997. ISBN:
978-0138147570

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EE/Ma/CS 126A. Information Theory.

Instructor: Michelle Effros

Required textbooks:

Cover & Thomas; Elements of Information Theory, . . ISBN: 9780-471241959

Suggested textbooks:

Gallager; Information Theory and Reliable Communication, . . ISBN: 9780-471290483

Csiszar and Korner; Information Theory, . . ISBN: 9789-630574402

Notes for students:

There is a library ebook available for Elements of Information Theory. Please use the link in this catalogue record to access the Wiley ebook - https://caltech.tind.io/record/752672?ln=en

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ENGINEERING

E 110. Principles of University Teaching and Learning in STEM.

Instructor:

Suggested textbooks:


ENGLISH

En 145. Literary Constructions of Motherhood.
Instructor: Julia Hori

**Required textbooks:**

- Bechdel, Alison; *Are You My Mother?*, First Mariner, ISBN: 9780547524368
- Vuong, Ocean; *On Earth We're Briefly Gorgeous*, Penguin, ISBN: 9780525562023
- Adichie, Chimamanda Ngozi; *Dear Ijeawele, or A Feminist Manifesto in Fifteen Suggestions*, Anchor Books, ISBN: 9781524733148

En 190. Chaucer.
Instructor: Jennifer Jahner

**Required textbooks:**


En/VC 108. Volcanoes.
Instructor: Anne Sullivan

**Required textbooks:**


Notes for students:
Please purchase or borrow the Broadview Press 3rd edition of _Frankenstein: the original 1818 text_ (edited by D. L. MacDonald and Kathleen Scherf). Please note: the 1818 version of Frankenstein by Broadview is substantially different from the 1831 version of the novel, which many other publishers use instead.

Instructor: Joann Stock

**Required textbooks:**


Instructor: Hugh Politzer

**Required textbooks:**

- Deutsch, Diana; *Musical Illusions and Phantom Words (1st)*, Oxford University Press, 2019. ISBN: 9780190206833

**Notes for students:**

eBook versions of "This Is Your Brain..." and "Musical Illusions..." are available at Caltech for streaming or downloading from the Caltech Library once you are registered as a student. Musical Illusions is $35 as a hardcover -- and a treasure. Inexpensive paperback versions of "This Is Your Brain..." are widely available, new or used. There are updated editions, but the first one would be fine. You choose. "Perfecting Sound..." is a paperback. Caltech does not, as yet, have a digital version. We'll only be reading it after the other two. So you can wait before you buy one -- or just go ahead. (Personally, I prefer reading print off of paper.) The long list of Reserves at the Library (which may or may not appear in your version of course books) was an integral part of the course offered in person. This Fall, I do not now who, if anyone will be able to access it. So it is not an essential part of this term's course.

GEOLOGY

Ge 101. Introduction to Geology and Geochemistry.

Instructor: Brian Wernicke

**Required textbooks:**

- Grotzinger JP, Jordan TH; *Understanding Earth (7)*, Freeman, 2014. ISBN: 978-1464175084
Ge 114A. Mineralogy.

Instructor: George Rossman

Suggested textbooks:

HISTORY

HISTORY AND PHILOSOPHY OF SCIENCE

HPS/Pl 123. Introduction to the Philosophy of Physics.

Instructor: Mario Georg Hubert

Required textbooks:
Aristotle; Physics, Oxford University Press, 2008. ISBN: 978-0199540280

HUMANITIES

Hum/En 020. The Epic Tradition.

Instructor: George Pigman

Required textbooks:
Homer; The Odyssey, trans. Emily Wilson, . ISBN: 978-0393356250
Homer; The Iliad, trans. Richmond Lattimore, . ISBN: 9780226470498
Virgil; The Aeneid, trans. David Ferry, . ISBN: 9780226450216

Hum/En 021. Monsters and Marvels.

Instructor: Jennifer Jahner

Required textbooks:
Marie de France, Dorothy Gilbert (trans.); Poetry (ebook), Norton, . ISBN: 978-0-393-52313-3

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

**Instructor:** Philip Hoffman

**Required textbooks:**


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

**Instructor:** Philip Hoffman

**Required textbooks:**


**Hum/H 010. Medieval Europe: The Problem of Violence.**

**Instructor:** Warren Brown

**Required textbooks:**

Hum/H 012. Social Theory.

**Instructor:** Maura Dykstra

**Required textbooks:**


**Suggested textbooks:**


Jalil Muntaqim; *We are our own liberators: selected prison writings,* Portland, OR: Arissa Media Group, 2010. ISBN: 1936900025


Huey P Newton; David Hilliard; Donald Weise; Elaine Brown; *The Huey P. Newton reader,* New York: Seven Stories Press, 2019. ISBN: 9781609809003


Hum/VC 049. Consuming Victorian Media.

**Instructor:** Anne Sullivan

**Required textbooks:**


**Notes for students:**


INFORMATION AND DATA SCIENCES

IDS/Ec/PS 126. Applied Data Analysis.

**Instructor:** Jonathan Katz
**Required textbooks:**


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**LANGUAGES**

**L 102A. Elementary French.**

**Instructor:** Christiane Orcel

**Required textbooks:**


**L 106A (Section 1). Elementary Japanese.**

**Instructor:** Megumi Fujio

**Required textbooks:**

Ritsuko Hirai; *First Year Japanese (6)*, Pearson, ISBN: 9781323419014

Ritsuko Hirai; *First Year Japanese Workbook (7)*, Pearson, ISBN: 9781323587829

**L 106A (Section 2). Elementary Japanese.**

**Instructor:** Megumi Fujio

**Required textbooks:**

Ritsuko Hirai; *First Year Japanese Workbook (7)*, Pearson, ISBN: 9781323587829

Ritsuko Hirai; *First Year Japanese (6)*, Pearson, ISBN: 9781323419014

**L 110A (Section 1). Elementary Spanish.**

**Instructor:** Gloria Arjona

**Required textbooks:**

Rubio, Fernando; Cannon, Tim; *Juntos (1st)*, Cengage, 2019. ISBN: 9781337809924
Notes for students:

We will use one textbook [JUNTOS] during the whole academic year. You have several purchase and rental options. Please make sure to select the proper one according to the number of terms you're planning to take elementary Spanish. The option listed at the Caltech Bookstore is for those students who plan to take three terms and want a printed copy of the textbook. For all the options, visit: https://www.cengage.com/c/mindtap-for-juntos-student-edition-1e-rubio/

L 110A (Section 2). Elementary Spanish.

Instructor: Daniel Garcia

Required textbooks:

Notes for students:

We will use one textbook [JUNTOS] during the whole academic year. You have several purchase and rental options. Please make sure to select the proper one according to the number of terms you're planning to take elementary Spanish. The option listed at the Caltech Bookstore is for those students who plan to take three terms and want a printed copy of the textbook. For all the options, visit: https://www.cengage.com/c/mindtap-for-juntos-student-edition-1e-rubio/

L 112A. Intermediate Spanish.

Instructor: Gloria Arjona

Required textbooks:

L 130A. Elementary German.

Instructor: Andreas Aebi

Required textbooks:

Notes for students:

Text is interactive - students must sign up with publisher for text and work access - and for contact with instructor - same book will be used for all 3 quarters
L 132A. Intermediate German.
Instructor: Andreas Aebi

Required textbooks:
Antoniuk, David, Forester Lee; Weiter geht’s (3rd), live oak multimedia - evia learning, 2019/20. ISBN: 978-1-886553-08-8

Notes for students:
Book is mandatory - students also must sign up for interactive publisher access - same book will be used for all 3 quarters

L 170A. Introduction to Chinese.
Instructor: Xiangyun Wang

Required textbooks:

Notes for students:
Students have the option to buy the e-edition of this book. There is also a version of the traditional Chinese characters. Students can use the traditional ones instead if preferred.

L 172A. Intermediate Chinese.
Instructor: Xiangyun Wang

Required textbooks:

Notes for students:
Students have the option to buy the e-edition of this book.

L/VC 109. Introduction to French Cinema from Its Beginning to the Present.
Instructor: Christiane Orcel

Required textbooks:
MATERIALS SCIENCE

MS 132. Diffraction and Structure.
Instructor: Brent Fultz

Required textbooks:
Brent Fultz and James Howe; Transmission Electron Microscopy and Diffractometry of Materials (Fourth), Springer, 2013. ISBN: 978-3-642-29760-1

MATHEMATICS

Ma 001A. Calculus of One and Several Variables and Linear Algebra.
Instructor: Nets Katz

Required textbooks:

Ma 002 (Practical). Differential Equations.
Instructor: Lu Wang

Required textbooks:

Ma 005A. Introduction to Abstract Algebra.
Instructor: Thomas Graber

Required textbooks:
Dummit, David,Foote, Richard; Abstract Algebra (3rd), , . ISBN: 0471433349

Ma 102 (Practical). Differential Equations.
Instructor: Lu Wang
Required textbooks:

Ma 108A. Classical Analysis.
Instructor: Alexander Dunn

Required textbooks:
Rudin, Walter; *Principles of Mathematical Analysis (3)*, ISBN: 978-0070542358

Ma 109A. Introduction to Geometry and Topology.
Instructor: Peter Smillie

Required textbooks:

Ma 120A. Abstract Algebra.
Instructor: Anna Szumowicz

Required textbooks:

Ma 130A. Algebraic Geometry.
Instructor: Thomas Graber

Suggested textbooks:
Shafarevich, Igor; *Basic Algebraic Geometry I*, ISBN: 978-3-642-37956-7
Harris, Joe; *Algebraic Geometry: A First Course*, ISBN: 0387977163

Ma 157A. Riemannian Geometry.
Instructor: Lu Wang
**Required textbooks:**

**Suggested textbooks:**

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**Ma/ACM 142A. Ordinary and Partial Differential Equations.**

**Instructor:** Kirill Lazebnik

**Suggested textbooks:**
Morris W. Hirsch, Stephen Smale, Robert L. Devaney (Author); *Differential Equations, Dynamical Systems, and an Introduction to Chaos (2nd or 3rd)*, ISBN: 0123820103

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**MUSIC**

**Mu 051. Understanding Music.**

**Instructor:** Thomas Neenan

**Required textbooks:**
Kerman, Joseph; *Listen (9th)*, Norton, ISBN: 978-0-393-69600-4

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**PHYSICS**

**Ph 002A. Waves, Quantum Mechanics, and Statistical Physics.**

**Instructor:** Frank Porter

**Required textbooks:**

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**Ph 106A. Topics in Classical Physics.**

**Instructor:** James Fuller

**Required textbooks:**
Ph 125A. Quantum Mechanics.
Instructor: Mark Wise

**Suggested textbooks:**

**Notes for students:**
I follow parts of this text closely but additional material is added and of course some of it is left out. One should think of PH125a and b as covering a good portion of the material in this text.

Ph 127A. Statistical Physics.
Instructor: Olexei Motrunich

**Required textbooks:**

Ph 136A. Applications of Classical Physics.
Instructor: E Phinney

**Required textbooks:**

Ph 230A. Elementary Particle Theory.
Instructor: Kathryn Zurek

**Required textbooks:**

**SOCIAL SCIENCE**

SS 202A. Political Theory.
Instructor: Alexander Hirsch

**Required textbooks:**

Austen-Smith, David, Banks, Jeffrey S; *Positive political theory I: collective preference*, ISBN: 0472087215

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SS 205A. Foundations of Economics.

Instructor: Kim Border

**Required textbooks:**


**Suggested textbooks:**


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SS 213A. Financial Economics.

Instructor: Jaksa Cvitanic

**Required textbooks:**

Steven E. Shreve; *Stochastic Calculus for Finance II: Continuous-Time Models*, ISBN: 978-0387401010

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WRITING

Wr 002 (Section 1). Introduction to Academic Writing.

Instructor: Susanne Hall

**Required textbooks:**


Harris, Joseph; *Rewriting: How to do things with texts (2nd)*, Utah State UP, 2017. ISBN: 978-1607326861