

## **KURSLITTERATUR - ASTRONOMI** ***COURSE LITERATURE - ASTRONOMY***

Kurslitteraturen kompletteras med tidskriftsartiklar, referensböcker och annat material – se information på respektive kurshemsida.

*Journal articles, reference books and other material will be added to the course literature – see information on the course homepage.*

**E** Tillgänglig som e-bok – *Available as e-book*

### ***ASTA03 ASTRONOMINS GRUNDER (7,5 hp)***

Freedman, R.A., Geller R. M. och Kaufmann, W. J. III: Universe. W.H. Freeman & Co., New York 2014. 10.ed. **OBS!** Viktigt att få med CD-ROM med Starry Nights Enthusiast-programmet  
ISBN 978-1-464-12492-1

### ***ASTA04 LIVSBETINGELSER I UNIVERSUM (7,5 hp)***

Bennett, J.O. and Shostak, G.S.: Life in the universe. 3.ed. Pearson, Upper Saddle River 2011.  
ISBN 978-0321-74730-3

### ***ASTA05 UNIVERSUM OCH KVARKARNA (7,5 hp)***

Fransson, C.: Modern kosmologi. Kompendium, Inst. för astronomi, Stockholm. HT 2006. ). Köpes av/For sale at Media-Tryck, Lunds universitet ([www.lu.se/media-tryck](http://www.lu.se/media-tryck)).

**E** Fritsch, H.: Elementary particles. Building blocks of matter. World Scientific, Singapore 2005.  
ISBN 981-256-408-X (paper); ISBN 981-256-141-2 (hardback)

### ***ASTA33 GALAXIES AND COSMOLOGY (7,5 hp)***

**E** Schneider, P.: Extragalactic astronomy and cosmology : An introduction. 2.ed. Springer Berlin, 2015.  
ISBN: 978-3-642-54082-0

### ***ASTA34 RADIATION PROCESSES AND STELLAR ATMOSPHERES (7,5 hp)***

Gray, D.: The observation and analysis of stellar photospheres. 3.ed. Cambridge Univ Press, Cambridge 2008. ISBN 978-0521-85186-2.

Juri Poutanens lecture notes on "Radiative Processes in Astrophysics",  
<http://cc.oulu.fi/~jpoutane/teaching/rad08.html>: Chapters 1-4 and 8. See also chapters 0.3-0.6 on units, physical constants, and vector analysis. These lecture notes are based mainly on F. H. Shu's The Physics of Astrophysics: Vol I, Radiation.

***ASTB01 INTRODUCTION TO ASTROPHYSICS (7,5 hp)***

**E** Karttunen, H., Kröger, P., Oja, H., Poutanen, M., Donner, K.J. (eds.): Fundamental astronomy (5th edition). Springer-Verlag, Berlin-Heidelberg 2007. ISBN 978-3-540-34143-7.

Den Svenska Almanackan. Almqvist & Wiksell.

***ASTM12 HIGH ENERGY ASTROPHYSICS (7,5 hp)***

Rosswog, S. and Brüggem, M.: Introduction to high-energy astrophysics. Cambridge Univ Press, Cambridge 2007. ISBN 978-0521-67442-3 (paper); ISBN 978-0521-85769-7 (hardback)

***ASTM13 DYNAMICAL ASTRONOMY (7,5 hp)***

Lindgren, L.: Dynamical astronomy: Lecture Notes for ASTM13. Lund Observatory, 2010). Köpes av/For sale at Media-Tryck, Lunds universitet ([www.lu.se/media-tryck](http://www.lu.se/media-tryck)).

***ASTM14 STELLAR STRUCTURE AND EVOLUTION (7,5 hp)***

Prialnik, D.: An introduction to the theory of stellar structure and evolution. 2.ed. Cambridge Univ Press, Cambridge 2009. ISBN 978-0521-86604-0.

***ASTM15 LABORATORY ASTROPHYSICS (7,5 hp)***

Johansson, S.: Komplexa spektra. Kompendium. Distribueras via institutionen. *Distributed by the department.*

Litzén, U.: Atomic interaction in astrophysical plasmas. Distribueras via institutionen. *Distributed by the department.*

Thorne, A.P., Litzén, U., Johansson, S.: Spectrophysics – principles and applications. Springer -Verlag, Berlin 1999. ISBN 3-540-65117-9. Slut på förlaget/*Out of print*. Köpes av/*For sale at Media-Tryck*, Lunds universitet ([www.lu.se/media-tryck](http://www.lu.se/media-tryck)).

***ASTM18 OBSERVATIONAL TECHNIQUES AND INSTRUMENTATION (7,5 hp)***

**E** Chromey, F.R.: To measure the sky. An introduction to observational astronomy. Cambridge University Press, Cambridge 2010. ISBN:9780521747684 (paper), ISBN:9780521763868 (hardback), Adobe e-book: ISBN:9780511731006

***ASTM19 EXTRAGALACTIC ASTRONOMY (7,5 hp)***

Kurslitteraturen består enbart av forskningsartiklar.  
*The course literature consists of scientific articles only.*

**E** Som referensbok användes/*Used as a reference book*:  
Schneider, P.: Extragalactic astronomy and cosmology : An introduction. 2nd edition, 2015, Springer Berlin, ISBN:978-3-642-54082-0.

***ASTM20 PLANETARY SYSTEMS (7,5 hp)***

de Pater, I. and Lissauer, J.: Planetary sciences. 2.ed. Cambridge Univ Press, Cambridge 2010. ISBN 978-0-521-85371-2

***ASTM21 STATISTICAL TOOLS IN ASTROPHYSICS(7,5 hp)***



Wall, J.V., Jenkins, C.R.: Practical statistics for astronomers.2.ed. Cambridge Univ Press, Cambridge 2012. ISBN 978-0521-73249-9.

Press, W.H., Teukolsky, S.A., Vetterling, W.T., Flannery, B.P. (eds.): Numerical recipes. The art of scientific computing. (3<sup>rd</sup> edition). Cambridge Univ Press, Cambridge 2007. ISBN 978-0521-88068-8, 978-0521-88407-5 (with source code CD-ROM).

Tidigare versioner/*Earlier versions* - Older Books Online: <http://www.nr.com/oldverswitcher.html>

***ASTM22 COMPUTATIONAL ASTROPHYSICS (7,5 hp)***

Kurslitteraturen består enbart av utdelat material.

*The course literature consists of handed out material only.*

***ASTC01 ASTROBIOLOGI (7,5 hp)***

Sullivan, Woodruff T. III and Baross, J. (eds.): Planets and life. Cambridge University Press, Cambridge 2007 • ISBN 978-0521-53102-3 (paper); ISBN 978-0521-82421-7 (hardback)

***ASTC02 MÄNNISKAN I UNIVERSUM (7,5 hp)***

Hoskin, M. (ed.): The Cambridge illustrated history of astronomy, Cambridge Univ Press, Cambridge 1997. ISBN 0-521-41158-0 (slut på förlaget, men man kan få tag på ex i bokhandeln eller på internet, t ex Amazon.com), (*out of print, but may be available in a book store or on internet, for example Amazon.com*)

Ett alternativ är/*Alternative*: Hoskin, M. (ed.): The Cambridge concise history of astronomy, Cambridge Univ Press, Cambridge 1999. ISBN 0-521-57291-6 (hardback), 0-521-57600-8 (paper), som innehåller väsentligen samma text men betydligt färre illustrationer/*mainly the same text but much fewer illustrations.*

Högnäs, S.: Idéernas historia: en översikt, Historiska Media, Lund 2000 (2003). ISBN 91-89442-03-2 (hardback), 91-8944292-X (paper)