


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.

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

ASTA01 INTRODUKTIONSKURS (7,5 hp)

Lagerkvist, C.-I. och Olofsson, K.: *Astronomi : en bok om universum*. Bonnier utbildning, Stockholm 2003. ISBN 91-622-5374-3

ASTA02 UNIVERSUMS UTMANINGAR (7,5 hp)

Fransson, C.: *Modern kosmologi. Kompendium*, Inst. för astronomi, Stockholm. HT 2006. Distribueras via institutionen/*Distributed by the department*.

Mayor, M. and Frei, P.-Y.: *New worlds in the cosmos : the discovery of exoplanets*. Cambridge Univ Press, Cambridge 2003. ISBN 0-521-81207-0.

ASTA03 ASTRONOMINS GRUNDER (7,5 hp)

Freedman, R.A., Geller R. M. och Kaufmann, W. J. III: *Universe*. W.H. Freeman & Co., New York 2010. 9.ed. ISBN 978-1-4292-3153-4.

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 9780321747303

ASTA21 PLASMA FYSIK/PLASMA PHYSICS (7,5 hp)

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).

ASTA33 GALAXIES AND COSMOLOGY (7,5 hp)

Phillips, S.: *The structure and evolution of galaxies*. John Wiley & Sons, Ltd., Chichester 2005. ISBN 0-470-85506-1 (hardback), 0470-85507-X (paper).

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

Gray, D.: The observation and analysis of stellar photospheres.

Juri Poutanens lecture notes on "Radiative Processes in Astrophysics",
<http://cc.oulu.fi/~jpoutane/teaching/RAD06/>: 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)



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 Brügggen, M.: Introduction to high-energy astrophysics. Cambridge Univ Press, Cambridge 2007. ISBN 978-0521-85769-7

ASTM13 DYNAMICAL ASTRONOMY (7,5 hp)

Lindegren, L.: AST 217 Dynamical astronomy, Lecture notes, 2001. Kompendium. Distribueras via institutionen. *Distributed by the department.*

ASTM14 STELLAR STRUCTURE AND EVOLUTION (7,5 hp)

Prialnik, D.: An introduction to the theory of stellar structure and evolution. Cambridge Univ Press, Cambridge 2000. ISBN 978-0521-65937-6 (0 521-65937-X).

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).

ASTM18 OBSERVATIONAL TECHNIQUES AND INSTRUMENTATION (7,5 hp)

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.



Som referensbok användes/*Used as a reference book:*

Weinberg, S: *Cosmology*. Oxford Univ Press, Oxford 2008. ISBN 978-0198-52682-7.

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*. Cambridge Univ Press, Cambridge 2003.
ISBN-13 978-0521-45616-6, ISBN-10 0-521-45616-9 (paper).

Press, W.H., Teukolsky, S.A., Vetterling, W.T., Flannery, B.P. (eds.): *Numerical recipes. The art of scientific computing*. (3rd 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)