

Course Syllabus

The HR diagram, Equations of stellar structure, Equation of state, Radiation pressure, Radiative transfer, Nuclear binding energy, Nuclear reactions, H, He, C, O, Si burning, Creation of heavy elements, Stellar structure equations, Polytrope model, Chandrasekhar mass, Eddington luminosity, Secular thermal and dynamical instability, The $\log(T)$ - $\log(\text{density})$ plane, Evolution of the centre of a star, Theory of the main sequence, Late evolutionary phases, Stellar mass loss, Detailed picture of the evolution of stars.

Tests and quizzes:

There will be six in-class tests throughout the term, roughly once per two weeks and usually on a Friday. There are also 12 weekly quizzes, usually on Mondays and lasting 20 minutes.

Tentative lecture schedule for Winter 2015 (details on D2L course website)

Date	# Lectures	Topics	Textbook Section3
2014-01-12 to 21 2014-01-23	5	HR diagram, Equations of stellar structure Test 1	1.1-2.8
2014-01-26 to 02-05 2014-02-06	5	Equation of state, radiation pressure, radiative transfer, nuclear binding energy Test 2	3.1-4.2
2014-02-09 to 02-25	5	Nuclear reactions, H, He, C, O, Si burning, creation of heavy elements, stellar structure equations, polytrope model	4.3-5.3
2014-02-16 to 02-20	READING WEEK – No Lectures		
2014-02-27 2014-03-02 to 03-11	5	Test 3 Chandrasekhar mass, Eddington luminosity, secular thermal and dynamical instability, the $\log(T)$ - $\log(\text{density})$ plane	5.4-7.1
2014-03-13 2014-03-16 to 03-25	5	Test 4 Evolution of the centre of a star, theory of the main sequence, late evolutionary phases, stellar mass loss	7.2-8.4
2014-03-27		Test 5	
2014-03-30 to 04-15 2014-04-10	6	Detailed picture of the evolution of stars Test 6	9.1-9.7