

**DEPARTMENT OF PHYSICS  
SOUTHERN UNIVERSITY**

**ASTROPHYSICS  
PHYS 462, FALL 2003**

**INSTRUCTOR: J. GREGORY STACY**

**COURSE OVERVIEW BY WEEK AND TOPIC**

WEEK	TOPIC	IMPORTANT DATES AND RELEVANT CHAPTER(S) FROM TEXTBOOK
<b>Week 1 (2/2): Aug. 25-29</b>	Introduction and overview Review of fundamental concepts	Chapts. 1, 2 In-class discussion
<b>Week 2 (1/3): Sept. 2-5</b>	Basic stellar properties and classification schemes	Chapt. 3 In-class discussion
<b>Week 3 (2/5): Sept. 8-12</b>	Stellar atmospheres Intro to stellar spectroscopy	Chapts. 5, 8
<b>Week 4 (2/7): Sept. 15-19</b>	Radiative transfer The formation and structure of spectral lines	Chapt. 9
<b>Week 5 (2/9): Sept. 22-26</b>	The basic equations of stellar evolution	Chapt. 10 <b>Exam #1: Wed., Sept. 24</b>
<b>Week 6 (2/11): Sept. 29-Oct. 3</b>	Nuclear processes in stars	Chapt. 10
<b>Week 7 (2/13): Oct. 6-10</b>	Models of stellar equilibrium and conditions for stability	Chapt. 10
<b>Week 8 (2/15): (Mid-term week) Oct. 13-17</b>	Stellar evolution - the main sequence	Chapt. 10
<b>Week 9 (2/17): Oct. 20-24</b>	The Sun	Chapt. 11 <b>Exam #2: Wed., Oct. 22</b>
<b>Week 10 (2/19): Oct. 27-31</b>	Post-main-sequence stellar evolution Low mass vs high-mass stars	Chapt. 13
<b>Week 11 (2/21): Nov. 3-7</b>	Supernovae and nucleosynthesis beyond iron	Chapt. 13
<b>Week 12 (2/23): Nov. 10-14</b>	Compact objects: WDs, NSs, and BHs	Chapts. 15, 16 <b>Research paper/mini-project due: Wed., Nov. 12</b>
<b>Week 13 (2/25): Nov. 17-21</b>	Star formation in galaxies	Chapt. 12 <b>Exam #3: Wed., Nov. 19</b>
<b>Week 14 (2/27): Nov. 24-26</b>	The Big Picture: cosmology and the accelerating Universe	Chapts. 25, 27, 28 (selections)
<b>Thanksgiving Break, Nov. 27-28</b>		
<b>Week 15 (2/29): Dec. 1-3</b>	Current topics, observations, trends Class reports	TBA
<b>FINAL EXAM, TBA</b>		

**NOTE:** More detailed reading and homework assignments will be given out weekly in class. Some assignments will involve outside supplemental readings (refer to course web pages, TBA).