

Astronomy 4930: Special Topics **Neutron Stars and Black Holes**

Course Dates for 2022 Fall:

August 24 – December 7

Lecture Times and Location:

Mondays, Wednesdays, and Fridays 11:45PM – 12:35PM (5)
in Turlington Hall (TUR) 2333

Instructor: Dr. Paul Sell
Office: Bryant Space Sciences Center 222
Office Hours: Mondays 1PM – 3PM, Tuesdays 3PM – 4PM, Fridays 1PM – 2PM, and
by appointment
Contact Information: psell@ufl.edu
Office Phone: (352) 294-1867

Course Website: Canvas/E-Learning

Textbook: *Accretion Power in Astrophysics*, 3rd (the newest) edition, by Frank, King, and Raine. Other references will be used for supplemental information throughout the course.

Brief Description: This course is intended for advanced undergraduate students in astronomy and astrophysics. This course centers on describing the observational and theoretical properties of compact objects (black holes and neutron stars). Prerequisites: AST3018 and AST3019. Though not required, students will benefit from various advanced physics courses, most notably: PHY3101, PHY3221, PHY3323.

Detailed Description of the Graded Course Structure

Class Participation: Regular class attendance is expected. See the university policy regarding excused absences: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>. In-class work may occasionally be assigned.

Homework: Problem sets will be regularly assigned throughout the semester. Late homework will generally not be accepted.

Working in groups is allowed for homework assignments and (usually strongly encouraged) for in-class activities, although if you do, discuss the problem/solution and then write your own

answers without looking at the other students' paper. Each student is required to show all work and submit separate homework solutions; no emailed work.

Project: A handout and discussion to explain the project fully will be provided when appropriate. All guidelines including due dates will be provided.

Note: there are no exams for this course.

Course Grade Summary Breakdown: Each of the components of class described above will be assigned the following weights to determine your final score:

- Class Participation: 20%
- Homework: 40%
- Project: 40%

Grading Scale: (<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>)

<u>Score</u>	<u>Grade</u>	<u>Score</u>	<u>Grade</u>	<u>Score</u>	<u>Grade</u>
90% – 100%	A	77% – 79%	B–	64% – 66%	D+
87% – 89%	A–	74% – 76%	C+	60% – 63%	D
84% – 86%	B+	70% – 73%	C	57% – 59%	D–
80% – 83%	B	67% – 69%	C–	< 57%	E

Class/University Policies

- Please put your phones and, unless you are taking notes, your laptops away during class: no Facebook, Twitter, texting, etc.
- You may need to make calculations, so you should always have available a scientific calculator in addition to your usual materials for taking notes.
- Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting disability.ufl.edu/students/get-started. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. Classroom accommodations can only be provided after appropriate verification.
- Responsible citizenship among college students includes honesty and integrity in classwork; regard for the rights of others; and respect for local, state, and federal laws as well as campus standards. Students are responsible for understanding the standards of the “Code of Student Conduct” and the Student Handbook. From the Academic Honesty Guidelines and Student Conduct Code in the University of Florida Undergraduate

Catalog: “Academic Honesty: The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge are diminished by cheating, plagiarism, and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff, and administrators who practice dishonest or demeaning behavior.” Any student caught cheating will be referred to the Honor Code Chancellor.

- Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Campus Resources

Health and Wellness

- *U Matter, We Care*: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.
- *Counseling and Wellness Center*: [Visit the Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.
- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).
- *University Police Department*: [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).
- *UF Health Shands Emergency Room / Trauma Center*: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

Academic Resources

- *E-learning technical support*: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- *Career Connections Center*: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- *Library Support*: Various ways to receive assistance with respect to using the libraries or finding resources.
- *Teaching Center*: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
- *Writing Studio*: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- *Student Complaints On-Campus*: [Visit the Student Honor Code and Student Conduct Code webpage for more information.](#)
- *On-Line Students Complaints*: [View the Distance Learning Student Complaint Process.](#)