

AS865 – Space Physics Seminar Course (Section A1) – Fall 2021

CAS Room 502

Friday 2:30pm to 3:45pm

2 credits

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Office Hours: by appointment

University Course Description

Weekly seminar offering graduate students and advanced undergraduates discussions of current research topics in space physics with staff and visiting scientists.

Practical Implementation of Seminar Courses (AS850/AS851/AS865/AS866)

The university course description of the graduate-level seminars allows for a wide range of in-class activities. The core philosophy behind the graduate level-seminars is that they should prepare students for certain professional activities that are carried out regularly by research-active astronomers. These activities include reading and understanding the peer-reviewed professional literature, preparing and delivering research-based talks, and attending research-based talks given by others.

The seminar courses are colloquially referred to as “Journal Club”. The specific activities that are carried out during Journal Club have evolved over time. The current implementation of Journal Club has the activities split between one course that focuses on reading the literature (held on Wednesdays) and one course that focuses on delivering talks (held on Fridays). Despite the formal names of the seminar courses, the current implementation of Journal Club encompasses topics in both astrophysics and space physics in all of the seminar courses.

Wednesday (“Junior”) Journal Club

With its focus on reading and understanding the professional literature, this course aims to introduce more junior graduate students to the styles in which professional research papers are written. Here, the emphasis is on participation by relatively junior graduate students, but participation by senior students is encouraged.

Friday (“Senior”) Journal Club

With its focus on preparing and delivering research-based talks, this course aims to provide more senior graduate students who have engaged in directed or original research an opportunity to give oral presentations of their recent results. These can be opportunities to prepare for PhD oral qualifying examination presentations, conference presentations, or simply general practice with presentation of scientific results in a public setting. Here, the emphasis is on participation by relatively senior graduate students, but participation by junior students is encouraged.

Relationship between Seminar Courses and Scientific Seminar Series

The Department of Astronomy hosts two scientific seminar series each semester. During these seminars, professional astronomers present their recent research results. Scientific seminars that focus primarily on astrophysics topics are held on Monday afternoons. Scientific seminars that focus primarily on space physics topics are held on Thursday afternoons. The scientific seminars are typically hosted by the faculty members who are leading the Wednesday and Friday Journal Club activities. In Fall 2021, it is expected that space physics seminars will occur approximately weekly while the astrophysics seminars will occur approximately twice per month.

The Astronomy PhD requirements include the following statements that can be found at <https://www.bu.edu/academics/grs/programs/astronomy/phd/> :

“A minimum of 4 credits must be from any combination of 2-credit AS seminar courses (which may be repeated for credit):

GRS AS 850/851 Astrophysics Seminar

GRS AS 865/866 Space Physics Seminar”

and:

“...all students are expected to participate in a journal club and seminar series each semester that they are in residence.”

Fall 2021 Learning Outcomes for AS865

- Students will be able to prepare clear oral scientific presentations, including the preparation of appropriate visual aids (graphics, PowerPoint slides, etc.)
- Students will be able to assess the effectiveness of the oral presentations and give constructive advice to the presenters on how the presentation could be improved in the future

Fall 2021 Course Format for AS865

Each week, one or more students will prepare and deliver an oral scientific presentation, including PowerPoint slides. Each week, the number of student presenters will vary according to

the lengths of the presentations that are envisioned (e.g., because of the length of the presentation, students preparing for their final PhD defense presentation would typically be the sole presenter that week). Following each student's presentation, the student will answer questions from the audience and the audience will provide constructive feedback on the presentation (i.e., what was clear and worked well vs. that which was confusing and could be presented better the next time). Feedback should encompass all aspects of the presentation including such things as speaking pace, speaking volume, mechanics of the visual aids, appropriateness of the introductory material, clarity with which the results were presented, and overall organization.

Books and Other Course Materials

There are no required textbooks.

Courseware

The course website can be found at <http://learn.bu.edu> .

Assignments and Grading Criteria

Student grades will be based on the quality of their presentations and the quality and quantity of their feedback to the speakers. Students who are enrolled in AS865 must attend all class meetings and must give at least one research presentation during the course of the semester. There will be no examinations.

Resources and Support

Academic accommodations for students with disabilities will be determined by the Office of Disability Services (<http://www.bu.edu/disability/services/>).

If you have concerns about this course or the instructor, you can discuss your concerns with the following people:

- Your advisor
- Chair of the Astronomy Department: Professor Dan Clemens, CAS 514, 617-353- 2625, clemens@bu.edu
- Director of Graduate Studies: Professor Paul Withers, CAS 604, 617-353-1531, withers@bu.edu
- Associate Dean of the Graduate School: Professor Malika Jeffries-EL, CAS 112, 617-353-2696, grs@bu.edu

Class and University Policies

All students share responsibility for ensuring a positive learning environment. Please arrive punctually for the start of class and remain for the duration of the class. If you must arrive late or

depart early, please minimize the disruption this causes to other students. Mobile phones must be silenced and not used at all during class (i.e., no texting, no scrolling, no emailing).

Students are expected to attend every class. If you must miss a class, check the course website for any assignments or news and talk with a fellow student to learn what else you missed. BU's policy on religious observance (<http://www.bu.edu/ctl/university-policies/policy-on-religious-observance/>) applies to this course.

All students are expected to abide by Boston University's Academic Conduct Code (www.bu.edu/academics/policies/academic-conduct-code/). Cases of suspected academic misconduct will be referred to the Dean's Office.

Planned Schedule

Schedules and topics are subject to change. Students will be notified of changes by learn.bu.edu and in-class announcements. Your expected preparation for each class meeting will be posted on learn.bu.edu.

Date	Class Number	Description
Friday, 3 September	1	Welcome to AS865
Friday, 10 September	2	Student presentations
Friday, 17, September	3	Student presentations
Friday, 24 September	4	Student presentations
Friday, 1 October	5	Student presentations
Friday, 8 October	6	Student presentations
Friday, 15 October	7	Student presentations
Friday, 22 October	8	Student presentations
Friday, 29 October	9	Student presentations
Friday, 5 November	10	Student presentations
Friday, 12 November	11	Student presentations
Friday, 19 November	12	Student presentations
Friday, 26 November		Thanksgiving recess
Friday, 3 December	13	Student presentations
Friday, 10 December	14	Student presentations