Introduction

Each person in the class will pair with another student and present a lecture in the second half of the semester (10 March through 28 April). You should aim to reach a similar level of detail as the lectures you've seen by Dr. Burke-Spolaor. You will do most of the lecture on the blackboard but are also encouraged to use slides, animations, etc. to communicate concepts. For your lectures, I will provide my detailed lecture notes, and you will gather other material as noted below.

This page describes how you will be assessed, and gives a lecture-prep schedule. See the rubric for what's expected of a good lecture.

Topics

By February 1, please send SBS your top four preferred topics and tell me any dates that you cannot present (note, we have no class during spring break). Bear in mind your exam/project schedules for other classes to ensure you're not overwhelmed. **Once your topic and date is assigned, it cannot be rescheduled**.

I will try to match topic requests but can't guarantee that I'll be able to! I will send topic assignments ASAP.

Choose from:
Magnetobremsstrahlung/Synchrotron Emission (ERA 5.1, 5.2)
Synchrotron spectra and sources (ERA 5.3, 5.4)
Compton processes and Extragalactic sources (5.5, 5.6)
Pulsars and pulsar theory (ERA chapter 6)
Recombination lines (ERA 7.1–7.6)
Molecular lines (ERA 7.7)
The HI line (ERA 7.8)

Prep Schedule

1. **By February 1: Pick topics and tell SBS.**
   Request your top 4 topic choices by email to SBS. I'll try to match requests but can't guarantee anything.
2. **At least 2 weeks before lecture: Mentally prepare and communicate topics.**
   - Skim material in ERA.
   - Discuss it with your partner.
   - Decide who will cover what topics. Communicate this to SBS.
3. **By 10am, 1 week before lecture: Pre-Lecture Report.**
   Send your Pre-Lecture Report to SBS. Don't do this until you've had your discussion with your partner. It will help you prepare for lecture:
   - Browse reputable external sources (web resources, texts) to help you understand the material. In your report, list two resources you liked best, with just a few words on what they clarified for you that ERA didn't. Wikipedia is not ok. Don't go overboard with this report; bullet points are fine.
   - List concisely but clearly what you think the 3-5 most important lecture take-aways are.
4. **Anytime until 5 days before lecture**: GROUP MEETING
   Arrange an 0.5 - 1 hour group meeting with SBS. You and your partner are responsible for initiating this. Here we can discuss any questions or confusions you have about the material and discuss important learning points in the material.
5. **Anytime until day before lecture:** SECOND MEETING (0.5hr each; you decide group or individual).
   Meet with SBS to review your lecture plan (or give practice lecture) and discuss any final questions.

On lecture days, you and your partner will lecture (25-30 minutes each), followed by a brief comprehension quiz for the whole class (made by SBS; 10 minutes).

In the below rubric, your final grade can be up to 105, out of 100 points.

Grading components.	Poor (0-50%)	Adequate (~70%)	Proficient (100%)
Pre-lecture report (5pts)	Did not prepare it or did not send it by the deadline.	Incomplete report, gross omissions, or unthorough resources (e.g. wikipedia).	Included resources and topic list, both well-thought-out.
Meet with prof 2x (10pts)	Did not meet or came completely unprepared.	Came only somewhat prepared; had not critically thought about lecture material or had not thought about what topics to discuss; met later than required by schedule.	Met and was prepared; had read and critically thought about lecture material; had meaningful lecture plan.
Lecture clarity (10pts)	Board writing tiny or otherwise illegible and/or voice not audible.	Board writing mostly legible but cluttered and illogically placed. Or, often difficult to read.	Board writing mostly legible and laid out clearly.
Lecture accuracy and completeness (50pts)	Gross inaccuracies, no logical flow to topics presented. Only presented derivations, or only presented concepts.	Only skimmed topics and/or appeared to have moderate confusion about the topics. Did not sufficiently motivate concepts or derivations.	Minor or no factual inaccuracies; covered all topics. Both derivations and conceptual examples were used to clearly communicate the topic.
Engagement/examples (10pts)*	Did not call upon the class to think critically or participate in any meaningful way and/or spoke at the board most of the time, rarely looking at class.	Called upon the class to participate through examples, but posed questions where the answers are blatantly obvious or do not involve any thinking.	Pushed the class to think critically about the topic and there was active participation from the class and/or at least one class engagement exercise presented.
Lecture timing/ organization (10pts)	Covered less than 50% of the critical material.	Included most, but not all, material. Ran beyond or shorter than allotted time.	Covered all material in a logical way and ran within allotted time.
Comprehension quiz results. (5pts)	These five points will be multiplied by the average class post-lecture quiz score. The average will include the students that were present for both your lecture and the quiz, and the lowest score will be dropped before averaging.		
Going above and beyond (extra credit 5pts)	Extra points will go to anyone who went the extra mile to make their own animations, significant original material, or novel examples. Let me know explicitly if you've done anything like this!		

*I will absolutely NOT be grading you on how outgoing or relaxed you are during your presentation. I encourage you to think about how you can make the class do the thinking and talking at some point rather than you; use this as a tool to help you get a break during your lecture!