

# ASTR 515 – ISM and Star Formation

Fall 2019

MW 10:00-11:50

Steward Observatory Rm 208 (mostly!)

## Instructors:

Prof. Feryal Ozel

Office: Steward N312

Phone: 621-7096

E-mail: [fozel@email.arizona.edu](mailto:fozel@email.arizona.edu)

Office Hours: By appointment

Prof. Chris Walker

Office: Steward 211

Phone: 621-8783

E-mail: [cwalker@as.arizona.edu](mailto:cwalker@as.arizona.edu)

Office Hours: By appointment

## Course Website:

Course material including handouts and notes will be posted on the D2L course website. You can find the syllabus, the schedule for the term (including any changes or updates to the schedule), handouts, and information about papers there.

## Course Description:

This course will cover basics of radiative transfer, atomic and molecular spectroscopy, line diagnostics, phases of the ISM, dust physics, basics of star formation, stellar winds, supernovae and shocks.

## Classroom:

We will meet in the Steward Observatory Rm 208 for all Monday and Wednesday classes. Occasionally, a class may occur on Friday - location for those classes will be announced. During the upcoming renovation of "old Steward" (scheduled for September 9 – October 30) classes will be held in Steward Observatory Rm 450.

## Textbook:

There is no required textbook for this class; however, Bruce Draine's textbook *Physics of the Interstellar and Intergalactic Medium* is recommended and will be a useful reference. Other useful references include:

Tielens, *The Physics & Chemistry of the ISM*, Ch. 1

Spitzer, *Physical Processes in the ISM*, Ch. 1

C. Walker, *Terahertz Astronomy*, Ch. 1

Burton, in *The Galactic ISM*, pp. 1-20

Elmegreen, in *The Galactic ISM*, pp. 157-173

## Grading Policy:

The final grade will be determined by:

homework: 50%

2 exams: 50 %

## Grading Scale:

A 90% overall grade will guarantee an A.

Incompletes will only be given if a student has satisfactorily completed the majority of the work in the class and has a valid reason, such as medical, for not completing the remainder of the course. Students must make arrangements with the instructor in order to receive an incomplete.

**Assignments and Exams:**

There will be weekly or biweekly homeworks, which will account for 50% of the final grade. The homeworks will be due at the beginning of class on the days indicated on the schedule. There will be no credit for late homework, but you will be able to drop the homework set with the lowest score. There will also be two exams, a midterm and final, which will account for 50% of the final grade. The midterm will be in-class. The final exam will be an oral.

**Schedule:**

Date	Topic	Instructor
8/26	Overview I	CW
8/28	Overview II	CW
9/2	Labor Day	
9/4	Overview III	CW
9/9	RT1	FO
9/11	RT2	FO
9/16	RT3	FO
9/18	RT4	FO
9/23	RT5	FO
9/25	RT6	FO
9/30	RT7	FO
10/2	At+Mol Spec	CW
10/7	At+Mol Spec	CW
10/9	At+Mol Spec	CW
10/14	MIDTERM	
10/16	Dust	CW
10/21	Dust	CW
10/23	RT Codes	CW
10/28	RT Codes	CW
10/30	RT Codes	CW
11/4	Fluids	FO
11/6	Shocks	FO
11/11	Veteran's Day	
11/13	SNe	FO
11/18	SNe	FO
11/20	IGM	FO
11/25	SF	CW
11/27	TGiving No Class	
12/2	SF	CW
12/4	SF	CW
12/9	Review	FO
12/11	In class final	

**Additional Information:**

Students with disabilities who require accommodations to fully participate in course activities or meet course requirements are encouraged to register with the Disability Resource Center and contact us to discuss access issues.

Students are expected to follow all of the university-wide student policies, which are available at <http://catalog.arizona.edu>

Students are also expected to understand and follow the Student Code of Academic Integrity: <http://deanofstudents.arizona.edu/codeofacademicintegrity>

Other than grade and absence policies, the information contained in this syllabus may be subject to change with reasonable advance notice.