

## Fall 2020 Course Descriptions as of 04/05/2020 08:14 PM

Information in Browse Course Catalog is subject to change. Information is term specific. Please refer to the appropriate term when searching for course content. Key to Course Descriptions may be found at: [http://rcs.registrar.arizona.edu/course\\_descriptions\\_key](http://rcs.registrar.arizona.edu/course_descriptions_key).

### Remote Sensing (REM)

#### **REM 490: Remote Sensing for the Study of Planet Earth** (3 units)

**Description:** Remote Sensing for the Study of Planet Earth introduces basic and applied remote sensing science as a means to explore the diversity of our planetary environments (biosphere, atmosphere, lithosphere and hydrosphere) within the radiometric, spectral, spatial, angular and temporal domains of remote sensing systems. This survey course strikes a balance between theory, applications and hands-on labs and assignments. We explore how you can download, process, analyze and interpret multi-sensor data and integrate online remotely sensed data sources/products into your research of interest.

**Grading basis:** Regular Grades

**Career:** Undergraduate

**Flat Fee:** \$50

**Course Components:** Lecture Required

**Equivalent to:** ARL 490, ATMO 490, GEN 490, GEOG 490, GEOS 490, HWRS 490, MNE 490, OPTI 490, RNR 490, SW 490, SWES 490

**Also offered as:** ATMO 490, ENVS 490, GEOG 490, GEOS 490, HWRS 490, OPTI 490, RNR 490

**Co-convened with:** REM 590

**Course typically offered:**

Main Campus: Fall

**Enrollment requirement:** GEOG/GEN/GEOS/ENVS/WSM/GIST 330.

-SA represents a Student Abroad & Student Exchange offering

-CC represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.

**REM 555: Introduction to Atmospheric and Hydrology Remote Sensing (3 units)**

**Description:** The purpose of this course is to introduce the basic remote sensing techniques and their applications to the atmosphere, hydrology and other fields. This includes understanding the basic concepts of radiation transfer, passive and active remote sensing, satellite and ground-based remote sensing and their retrieval techniques. Finally, inversion techniques in remote sensing will be briefly introduced and the uncertainties/errors of the retrieved cloud and precipitation properties will be estimated. Graduate students will do some homework, but primarily work on processing and analyzing the aircraft, ground-based and satellite remote sensing data collected from instructors research projects. Graduate students will get hands-on experience by doing these projects using IDL, MATLAB, FORTRAN, or other programs. For some projects, I may provide key codes as a reference.

**Grading basis:** Regular Grades

**Career:** Graduate

<b>Course Components:</b>	Lecture	Required
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**Also offered as:** ARL 555, ATMO 555, ENVS 555, GEOS 555, HWRS 555, OPTI 555

**Course typically offered:**

**Main Campus: Spring**

**Home department:** Hydrology and Atmospheric Sciences

**REM 590: Remote Sensing for the Study of Planet Earth (3 units)**

**Description:** Remote Sensing for the Study of Planet Earth introduces basic and applied remote sensing science as a means to explore the diversity of our planetary environments (biosphere, atmosphere, lithosphere and hydrosphere) within the radiometric, spectral, spatial, angular and temporal domains of remote sensing systems. This survey course strikes a balance between theory, applications and hands-on labs and assignments. We explore how you can download, process, analyze and interpret multi-sensor data and integrate online remotely sensed data sources/products into your research of interest.

**Grading basis:** Regular Grades

**Career:** Graduate

**Flat Fee: \$50**

<b>Course Components:</b>	Lecture	Required
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**Equivalent to:** ARL 590, ARL 590, ATMO 590, GEN 590, GEOG 590, GEOS 590, HWRS 590, MNE 590, OPTI 590, RNR 590, SW 590, SWES 590

**Also offered as:** ARL 590, ATMO 590, ENVS 590, GEOG 590, GEOS 590, HWRS 590, MNE 590, OPTI 590, RNR 590

**Co-convened with: REM 490**

**Course typically offered:**

Main Campus: Fall

**-SA** represents a Student Abroad & Student Exchange offering

**-CC** represents a Correspondence Course offering

**May Be Offered** Departments may offer this component in some semesters. See the Schedule of Classes for term-specific offerings.