OFFICIAL UNDERGRADUATE COURSE OUTLINE (page 1)

COURSE IMPLEMENTATION DATE:	January 2008
COURSE REVISED IMPLEMENTATION DATE:	September 2011
COURSE TO BE REVIEWED:	November 2016
(six years after UPAC approval)	*(month, year)*

OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.

Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor

GEOG 453	Geography	4
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS

Remote Sensing of the Environment
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

Remote sensing is the art and science of studying Earth features from a distance. Students will learn the principles of remote sensing science and the characteristics of imagery collected from aircraft and satellite sensors. Students will use remote sensing to interpret and map geologic, hydrologic, vegetative, and urban features.

PREREQUISITES: GEOG 353, or GEOG 253 with permission of instructor
COREQUISITES:
PRE or COREQUISITES:

SYNONYMOUS COURSE(S):
(a) Replaces:
(b) Cross-listed with:
(c) Cannot take: for further credit.

SERVICE COURSE TO: *(department/program)*

TOTAL HOURS PER TERM: 75

STRUCTURE OF HOURS:

Lectures:	**25**	Hrs
Seminar:		Hrs
Laboratory:	**50**	Hrs
Field experience:		Hrs
Student directed learning:		Hrs
Other (specify):		Hrs

TRAINING DAY-BASED INSTRUCTION:
Length of course:
Hours per day:

OTHER:
Maximum enrolment: **25**
Expected frequency of course offerings: Every other year
(every semester, annually, every other year, etc.)

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)	☐ Yes	☒ No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)	☒ Yes	☐ No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:	☐ Yes	☒ No

Course designer(s): **Scott Shupe**

Department Head:	**Ken Brealey**	Date approved:	**November 2010**
Supporting area consultation (Pre-UPAC)		Date of meeting:	**November 5, 2010**
Curriculum Committee chair:	**John Carroll**	Date approved:	**November 12, 2010**
Dean/Associate VP:	**Jacqueline Nolte**	Date approved:	**November 12, 2010**
Undergraduate Program Advisory Committee (UPAC) approval		Date of meeting:	**November 26, 2010**

LEARNING OUTCOMES:

Upon successful completion of this course, students will be able to:
1. demonstrate an understanding of electromagnetic energy and the fundamental interactions of this energy with earth features
2. understand the difference between active and passive remote sensing systems
3. be able to distinguish major earth surface features using remote sensing
4. be able to critically examine the role of scale and resolution in different types of imagery
5. understand the increasing role remotely sensed imagery plays in society and the importance of this imagery in geographic information science

METHODS: *(Guest lecturers, presentations, online instruction, field trips, etc.)*

The course will be offered in a lecture/lab format.

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

☒ Examination(s) ☒ Portfolio assessment ☐ Interview(s)

☐ Other (specify):

☐ PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

Jensen, J.R. 2007. Remote Sensing of the Environment: An Earth Resource Perspective, Prentice Hall: Upper Saddle River, NJ, 592 pages

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Lab assignments and projects	40-60%
Exams	40-60%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

1. Principles of electromagnetic (EM) energy and surface-EM energy interactions
2. History and evolution of remote sensing systems
3. Elements of image interpretation and classification
4. Thermal infrared remote sensing
5. Radar remote sensing
6. LIDAR remote sensing
7. Remote sensing of water resources
8. Remote sensing of vegetation
9. Remote sensing of geomorphic surfaces
10. Remote sensing of the urban landscape