60424 - Fundamentals of Remote Sensing

Syllabus Information

Academic Year: 2020/21
Subject: 60424 - Fundamentals of Remote Sensing
Faculty / School: 103 - Facultad de Filosofía y Letras
Degree: 352 - Master's in Geographic Information Science and Technology for Land Management: Geographic Information Systems and Remote Sensing
ECTS: 2.0
Year: 1
Semester: Annual
Subject Type: Optional
Module: ---

1. General information

1.1. Aims of the course
1.2. Context and importance of this course in the degree
1.3. Recommendations to take this course

2. Learning goals

2.1. Competences
2.2. Learning goals
2.3. Importance of learning goals

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The course has a predominantly theoretical and theoretical-practical orientation, thus teaching and learning activities are developed using the lecture approach. With the teacher's support, the analysis and practical discussion of satellite images is addressed, but without involving the use of specific software by the student. In this context it is of great significance both autonomous work (reading comprehension and study of the literature, visualization and interpretation of satellite images...) and a collaborative attitude in practice sessions, as well as the effectiveness of tutorials as a tool for autonomous learning.

4.2. Learning tasks

The course includes the following learning tasks:

- Lectures and practice sessions (16 hours): lecture (12 hours), interactive-practical activities (4 hours).
- Guided tasks to strengthen the critical learning of the competencies: 4 hours
- Study: 29 hours
- Assessment in the form of a written exam: 1 hour

4.3. Syllabus

The course will address the following topics:
1. General presentation (objectives, syllabus and agenda, assessment).
2. General literature and Internet resources in remote sensing.
3. Conceptual framework of remote sensing.
4. Physical principles of remote sensing.
5. Remote sensing systems, resolution of a sensor system.
7. Spectral signatures (introduction).

4.4. Course planning and calendar

This course (20 hours) is taught during the first month of the academic year, prior to the course "Introduction to geographic information technologies", where the use of dedicated software for remote sensing image processing is introduced.

For this course, the only assessment activity is a written exam, which takes place in the first exam period (February) of the three official periods.

4.5. Bibliography and recommended resources

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<tr>
<th>Code</th>
<th>Title</th>
<th>Authors</th>
<th>Publisher &amp; Edition</th>
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<tbody>
<tr>
<td>BB</td>
<td>Introduction to remote sensing / James B. Campbell</td>
<td>James B. Campbell</td>
<td>3rd ed London: Taylor &amp; Francis, 2002</td>
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<tr>
<td>BB</td>
<td>Fundamentals of satellite remote sensing / Emilio Chuvieco</td>
<td>Emilio Chuvieco</td>
<td>2nd ed Boca Raton: CRC, 2015</td>
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<tr>
<td>BB</td>
<td>Teledetección ambiental : la observación de la Tierra desde el espacio</td>
<td>Emilio Chuvieco</td>
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<td>BB</td>
<td>Introductory remote sensing: digital image processing and applications</td>
<td>Paul J. Gibson and Clare H</td>
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<td>BB</td>
<td>Introductory remote sensing, principles and concepts</td>
<td>Paul J. Gibson</td>
<td>with contributions to the text by</td>
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<td>development by John Keating</td>
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<td>BC</td>
<td>Introductory digital image processing: a remote sensing perspective</td>
<td>J. R. Jensen</td>
<td>3rd ed Englewood</td>
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