<table>
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<th>Academic Year: 2019/2020</th>
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<td><strong>Course:</strong> Urban Climatology</td>
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<td><strong>Coordinator:</strong> António Lopes</td>
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<td><strong>Teaching Staff:</strong> António Lopes</td>
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<td><strong>ECTS:</strong> 6                <strong>Weekly Hours:</strong> 2,5            <strong>Typology:</strong> Theoretical and practical</td>
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## Contents

1. Climate as part of the urban environment
   - Introduction to the study of urban climate; Data acquisition for urban climate studies; Climatic data statistical treatment.
2. Main characteristics of the urban climate
   - Urban energy balance, Thermal consequences: the urban heat islands and park cool islands; Hydrological balance in urban areas; Wind field modifications in urban areas; Air quality and pollution in urban areas
3. Urban Climate and global changes of climate
4. Applied urban Climatology
   - Urban climate and environmental quality of life; Urban climate and planning; Adapting to climate change issues.

## Objectives and skills

Objectives: Within this course the students should understand: i) the main characteristics of the urban climate and their implications in global changes, namely the "global warming"; ii) the specific methods and data needed for the urban climate studies; iii) the consequences and risks of the urban climate; iv) the strategies to adapt the cities to climate change in urban environments and the urban planning solutions;

Skills: At the end of the course the students should be able to: i) know how to obtain mesoscale and microscale climatological data; ii) apply statistical and modeling methodologies in urban microclimate scale, recognizing software limitations and potentialities; iii) use an open source bibliographic management software (Mendeley – Academic Reference Management for Researchers; iv) communicate scientific results and to write scientific papers with international standards.

## References


## Knowledge evaluation methods and their partial grades

To be approved the students must accomplish 2 (two) theoretical and practical tests (25% each) and 1 (one) oral presentation (40%). 10% should be given to the student progression in the practical classes.