Assoc. Prof. in Computer Science
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Dip. di Matematica
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TITLE: Wireless Networks for Mobile Applications (in English) - 2023/2024 - 1st semester

TEXT BOOK (just to mention one, but not really endorsing its purchase):
Wireless Communications & Networks (2nd Edition), William Stallings; Prentice Hall; 2005; 0131918354

OTHER MATERIAL: slides and scientific papers

CLASS AIMS:
This class offers an overview of issues related to systems and services on wireless networks with a specific emphasis on their use to support popular and/or innovative mobile applications. To this aim, we analyze the main problems and protocol solutions available in this context, also discussing the terminology and visionary scenarios. Through the analysis of services that can be offered over wireless technology, the student will become aware of the future possible evolution of our pervasively hyperconnected world. Aiming at a practical approach, class includes the development of a project or as survey.

CLASS SCHEDULE (1st semester):
Lectures will start on Monday, October 2nd, 2023 and will end in December 2023
- Monday, from 10.30 to 12.30
- Thursday, from 10.30 to 12.30
(there might be some project-related extra classes out of this weekly schedule)
Lectures will be in Room 2C at the COMPLESSO DIDATTICO DI BIOMEDICINA "FIORE DI BOTTA", Via del Pescarotto, 8, Padova.

Students are required to subscribe to the **MOODLE** page of the class (httphttps://stem.elearning.unipd.it/course/view.php?id=7293).
Lectures will be **IN PRESENCE**; yet video recordings (no live/zoom) will be made available, if possible, through the moodle page.

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LECTURE SLIDES:

3 Oct 2022 - lecture slides 00
6 Oct 2022 - lecture slides 01
10 Oct 2021 - lecture slides 02
13 Oct 2021 - lecture slides 03
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More material and info (including the Zoom link) can be found in the Moodle page

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READING MATERIAL:

Nano Networks
TCP Westwood
TCP Hybla
TCP UAV project report example
Fast Broadcast
Cooperative collision warning
AODV protocol
DakNet

EXAM:
- Group Project with paper or slide presentation (to be discussed with the teacher before starting).
- In case of paper presentation, a 4 page long document is expected (it can also be longer or shorter), written in English. The format suggested in the following link must be utilized template IEEE. - In case of slide presentation, students will be asked to present their work with a 20 min slide presentation and a paper as in the previous case.
- The paper or slide, or at least a semi-definitive version, should be sent to cpalazzi[AT]math.unipd.it 7 days prior to the class exam (finals).
- During finals, students will discuss their work and topics related to the class material. Depending on the subject of their projects, part of the class program may not be part of the oral examination during finals.

PROJECT MATERIAL:
- Examples of project reports
- Programming in Android

EXAMPLES OF PAPERS FROM PROJECTS:
- Node detection in WLAN (with comments)
- File Sharing DTN
- Road crossing recognition