

INTERNET OF THINGS COURSE INFORMATION

Instructor: Assoc. Prof. Dr. Orhan Dagdeviren (www.orhandagdeviren.com)

Course Web Page: <http://akademik.ube.ege.edu.tr/netos/courses.php>

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Aim and Content:

- The course provides a comprehensive look at IoT concepts.
- Important definitions, key market forces, fundamental building blocks, IoT specific network challenges will be studied.
- Broader topics like fog computing, blockchain and security considerations will be reviewed.
- As for the implementation, Contiki IoT operating system with its simulator Cooja will be presented.
- Business-related aspects of IoT will be outlined.

Course Book: Internet of Things From Hype to Reality, 2nd edition, Ammar Rayes, Samer Salam, Springer, 2019.

List of Topics (Tentative):

1. Internet of Things (IoT) Overview
2. The Internet in IoT
3. The Things in IoT: Sensors and Actuators
4. IoT Requirements for Networking Protocols
5. IoT Protocol Stack: A Layered View
6. Fog Computing
7. Wireless Sensor Networks (not in course book)
8. IoT Services Platform: Functions and Requirements
9. Internet of Things Security and Privacy
10. IoT Vertical Markets and Connected Ecosystems
11. The Blockchain in IoT
12. Industry Organizations and Standards Landscape
13. The Role of Open Source in IoT

Tentative Grading:

Programming Homeworks: 30 % (3 homeworks)

- will be Cooja based simulations.
- will be announced on website and through e-mail.
- can be submitted through e-mail.
- a course related to Cooja/Contiki will be provided by the assistant. The date of the course will be announced through e-mail.

Written Homeworks: 30 % (5 homeworks)

- will be from course book.
- can be submitted through e-mail/by-hand.
- will be announced on website and through e-mail.

Final: 40 %

- A written exam based on concepts on Textbook and Homeworks.