



Course title: INTERNET OF THINGS

ECTS credit allocation (and other scores): 5

Semester: autumn

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Natural sciences

Language: English

Number of hours per semester: 30 lectures + 30 classes = 60 hours

Course coordinator/ Department and e-mail: Erasmus coordinator Anna Szczepkowska/ WMil,
anna.szczepkowska@matman.uwm.edu.pl

Type of classes: classes and lectures

Substantive content

CLASSES:

1) Location of the equipment 2) Wireless Network Technologies 3) ad-hoc network construction 4) design and analysis of smart buildings 5) Sensors 6) Modular projects

LECTURES:

1. The third dimension of internet access: except wherever and whenever ever - for help? anything 2. RFID technology 3. Electronic EPC product code 4. Sensor technologies 5. Comparison of tagging methods: RFID, SMS, graphic, virtual 6. Electronic cards: magnetic, chip, close-up 7. wearable computers 8. Miniaturization of things: nanotechnology 9. Smart things: devices, cars, houses, clothes 10. Human-thing communication, thingman, thing-thing, communication of objects and people in motion 11. Use of wireless networks on the Internet things: personal, radio, sensor, individual 12. Ad-hoc networks 13. Agent systems 14. Challenges of the Internet Things: Security, Privacy, standardization, ethical aspects 15. Market Potential of Internet Things

Learning purpose:

Presentation of the concept of ubiquitous access to computers and learn about the ways and technologies involved Internet devices and communication of people with devices and devices between themselves, the concept of "smart things" everyday use. Concepts of a remote lab.

On completion of the study programme the graduate will gain:

Knowledge:

has basic knowledge in mathematics and physics, knows analog and digital electronics systems

Skills:

can obtain information from sources; can analyze signals; Can design and execute computer simulations

Social Competencies:

He can think and act in an entrepreneurial way

Basic literature:

1) Michael Miller , Internet rzeczy. Jak inteligentne telewizory, samochody, domy i miasta zmieniają świat, wyd.



PWN, 2016 , s. 360; 2) Guinard Dominique, Trifa Vlad, INTERNET RZECZY. BUDOWA SIECI Z WYKORZYSTANIEM TECHNOLOGII WEBOWYCH I RASPBERRY PI, wyd. Helion, 2017 ; 3) Opr zbiorowe, Internet rzeczy. Bezpieczeństwo w Smart City, wyd. Wydawnictwo C.H. Beck, 2017 , s. 250

Supplementary literature:

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 2,60 ECTS points,

Student's independent work: 2,40 ECTS points,