| Obuda University | Donát Bánki Faculty of Mechanical and Safety Engineering |
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**Subject name, code: IT Networks, BGRIH16NEC**                    *Credits: 4*
*Full-time course 2014/2015 year I1 . semester*

Faculties:: *Mechanical and Safety Engineering*

| Subject Leader: | **Krisztina Tibenszky-Forika PhD.** | Instructor | **Krisztina Tibenszky-Forika PhD.** |
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| Study conditions: | **Informatics I, Informatics II** | | | |
|---|---|---|---|---|
| Ours per week: | Performance:: | Practice.: 1 | Labor practice: 2 | Consultation |
| Semester closing(required) | mid-semester mark | | | |

## Syllabus

**Educational target:** In this subject the students will recognize the structure of IT Networks, network operations and accessibilities, fundamental requirements and basic concepts of network address management and securing data and authentication.

### Timetable

| Educational week (consultation) | Themes |
|---|---|
| 1. | History of IT networks, targets, standards. The structure of IT networks. Virtual machines. ISO OSI reference Modell. |
| 2. | IT like utility. TCP/IP reference Modell. Basic networking concepts. Characteristics of IPV6 protocol. |
| 3. | Configuring DHCP server, types of services. |
| 4. | Internet addresses, DNS. Telecommunication networks. Types of  access. |
| 5. | Wireless Networking configuring print services |
| 6 | Networking I/O. Distributed file systems. |
| 7. | 1.classroom test |
| 8. | Update services (WSUS). |
| 9. | Securing Network Traffic with IPsec. |
| 10 | Domain matrix, Active Directory. |
| 11. | Network Access Protection (NAP) |
| 12. | Conditions of activation and recovery. |
| 13. | 2.classroom test |
| 14. | Correction of unsuccessful tests. |

### Study conditions *(test, essay)*

| Educational week (consultation | Examination |
|---|---|
| 7, 13. week | classroom test |
| 14 | Correction of unsuccessful tests |

### Review of semester

Signature from the instructor can get the student, who participate the 75% of consultations and write the classroom tests successfully. Mid-semester mark can get the student, who perform two tests or correct the unsuccessful test. The mid-semester mark is the average of the test marks.

**Required reading:**

S. Gnanasudaram, A.Shrivastava, Information Storage and Management, 2nd Edition, John Wiley & Sons, INCISBN: 978-1-118-09483-9, 2012, USA.

Weijia Jia, Wanlei Zhou, Distributed Network Systems, Network theory and applications, Vol.15, Springer, U.S.A, ISBN:0-387-23839-5, 2005, pp.15-30

**Recommended literature**

D.Barrett, G. Kipper, Visions of the Future: Virtualization and Cloud Computing, Virtualization and Forensics, 2010, pp. 211-220.

L. L. Kong, Applied Mechanics and Materials, Study of Cloud Computing and Virtualization Technology, 2014, pp. 539, 407.

J. Savill, Microsoft Virtualization secrets, John Wiley & Sons, INC., ISBN: 978-118-29316-4, 2012, USA.

Budapest, 2015.01.09.

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subject leader                                                                director