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| **Course Title: Standardization in Information Systems and Technology – selected chapters** |
| **Teacher(s): Vesna S. Ružičić** |
| **Course status: Elective course** |
| **Number of ECTS credits: 10** |
| **Condition: None** |

**Course objectives**

The course aims for students to acquire the highest theoretical and practical knowledge and the highest scientific abilities and academic skills for critical analysis, independent research work, and original research in the field of standardization in information systems and technology.

**Learning outcomes**

The ability of students to:

1. critical analysis and work on original research in the field of standardization in information systems and technology

2. independent evaluation of existing results in research on the importance and impact of standardization in information systems and technology

3. manifestation of scientific and professional integrity in developing knowledge in the field of standardization in information systems and technology.

Prerequisites: Before starting the course, students should have prior knowledge at the level of understanding in the areas of classification of standards and types of standardization, standardization organizations and their cooperation, economic and other effects of the application of ICT (Information and Communication Technology) standards and the development of ICT standardization, as well as ICT standardization that takes place in business associations or consortia.

**Contents**

*Theoretical teaching*

Contemporary research on the development and importance of ICT standardization in the global market. Classification of ICT standards and ICT standardization. Specifics of certification in the ICT sector. Possibilities and limitations of ICT standardization research in business associations and consortia (Cossortia-based). Organizations for standardization in the field of ICT, activity, importance, and cooperation. The connection between ICT standards and the global market. Competition of ICT standards. Standardization and patents. RAND/FRAND principles. Research on the impact of SEP (Standard Essential Patents) - European and North American approach. Differences in EU and US standardization systems and their impact on global IT business. Interoperability and compatibility. Standards for IT service management. The ITIL concept of IT service management. Models of integration of IT service management systems and quality management systems. Certification of IT service management system according to ISO/IES 20000 standards. Connection of ITIL and ISO/IES 20000 standards. Concepts in ICT standardization research. Terminological problems in ICT standardization. The inertia of standards and obstacles in the market of IT services.

*Practical teaching*

Acquaintance with examples of realization of standardization of information systems and technology. The process of development, harmonization of solutions, and adoption of standards – possibilities, and limitations in the development of new models of standardization. Model of development of ICT standards in formal organizations for standardization. On a selected topic in the field of standardization in information systems and technology, study research work is carried out, through independent research, review, and systematization of available scientific literature. Realization of research work.

**Препоручена литература**

1. Мијатовић И, Стандардизација, Факултет организационих наука, Универзитет у Београду, 2019.

2. Graz Jean-Christophe, The Power of Standards – Hybrid Authority and the Globalisation of Services, Cambridge University Press, United Kingdom, 2019.

3. Abdelkafi N, Bolla R, Lanting J M C, Rodriguez-Ascaso, Thuns A, Wetterwald M, Understanding ICT Standardization: Principles and Practice, ETSI, 2018.

4. Филиповић Ј, Јовановић Б, Квалитет и информационе технологије – Приручник за вежбе, Факултет организационих наука, Универзитет у Београду, 2014.

5. Chryssoula Pentheroudakis, Justus A. Baron, Licensing Terms of Standard Essential Patents. A Comprehensive Analysis of Cases, JRS Science for Policy Report, EUR 28302 EN: doi:10.2791/32230, 2017.

6. Murphy C N, Yates J A, The International Organization for Standardization (ISO): Global governance through voluntary consensus, Taylor & Francis, 2009.

7. ISO/IEC 20000-1: 2018, Information technology – Service management – Part 1: Service management system, International Organization for Standardization (ISO), 2018.

8. ISO/IEC 20000-2: 2019(en), Information technology – Service management – Part 2: Guidance on the application of service management systems, International Organization for Standardization (ISO), 2019.

9. ISO/IEC TR 20000-7: 2019(en), Information technology – Service management – Part 7: Guidance on the integration and correlation of ISO/IEC 20000-1:2018 to ISO 9001:2015 and ISO/IEC 270001:2013, International Organization for Standardization (ISO), 2019.

| Number of hours of active teaching: 7 | Theoretical teaching: 5 | Practical teaching: 2 |
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**Teaching methods**

Combination of classical teaching with e-learning and appropriate literature. Problem-oriented teaching, practical teaching, independent work of students – homework and project assignments. Use of the most modern services (System for electronic learning – Moodle, Office 365) in teaching, communication, teamwork, and cooperation. Holding consultations live and via video conferences. Interactive lectures, mentor work, independent research work (seminar work).

**Evaluation (maximum number of points 100)**

Homework – 20

Seminar paper (development and presentation) – 30

Oral part of the exam – 50