

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

<b>Predmet:</b>	Zasebnost in upravljanje z identitetami, zaupanjem in ugledom
<b>Course title:</b>	Privacy and Identity, Trust and Reputation Management

Študijski program in stopnja Study programme and level	Modul Module	Letnik Academic year	Semester Semester
Informacijske in komunikacijske tehnologije, 3. stopnja	Napredne internetne tehnologije	1	1
Information and Communication Technologies, 3 <sup>rd</sup> cycle	Advanced Internet Technologies	1	1

**Vrsta predmeta / Course type**

Izbirni / Elective

**Univerzitetna koda predmeta / University course code:**

IKT3-667

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Druge oblike	Samost. delo Individ. work	ECTS
15	15			15	105	5

*\*Navedena porazdelitev ur velja, če je vpisanih vsaj 15 študentov. Drugače se obseg izvedbe kontaktnih ur sorazmerno zmanjša in prenese v samostojno delo. / This distribution of hours is valid if at least 15 students are enrolled. Otherwise the contact hours are linearly reduced and transferred to individual work.*

**Nosilec predmeta / Lecturer:**

Doc. dr. Tomaž Klobučar

**Jeziki /****Predavanja / Lectures:** Slovenščina, angleščina / Slovenian, English**Languages:****Vaje / Tutorial:****Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Zaključen študij druge stopnje s področja informacijskih ali komunikacijskih tehnologij ali zaključen študij druge stopnje na drugih področjih z znanjem osnov s področja predmeta. Potrebna so tudi osnovna znanja matematike, računalništva in informatike.

**Prerequisites:**

Completed second cycle studies in information or communication technologies or completed second cycle studies in other fields with knowledge of fundamentals in the field of this course. Basic knowledge of mathematics, computer science and informatics is also requested.

**Vsebina:**

Uvod:  
ponovitev osnovnih pojmov (zasebnost, osebni podatki, identiteta, zaupanje, ugled) in groženj  
Napredne tehnologije za zaščito zasebnosti:  
- na strani uporabnika: zaščitniki identitete, anonimne poverilnice, zapisi preferenc glede zaščite osebnih podatkov  
- na strani ponudnika storitve: organizacijski in nadzorni procesi, politike zasebnosti  
- v komunikacijskem sistemu:

**Content (Syllabus outline):**

Introduction:  
basic definitions and principles (privacy, personal data, identity, trust, management), threats and risks  
Advanced privacy-enhancing technologies:  
- on the user side: identity protectors, anonymous credentials, privacy preference languages  
- on the service provider side: organisational and monitoring processes, privacy policies

<p>anonimizacija komunikacije, anonimizacija elektronske pošte, anonimizacija v svetovnem spletu</p> <p>Napredni sistemi za upravljanje z identitetami</p> <p>Sistemi za upravljanje z zaupanjem: koncepti, modeli, algoritmi, upravljanje, uporaba</p> <p>Sistemi za upravljanje z ugledom: koncepti, modeli, algoritmi, upravljanje, uporaba</p> <p>Izbrana poglavja iz zasebnosti in upravljanja z identitetami, zaupanjem in ugledom v naprednih internetnih sistemih in tehnologijah (npr. v oblaku)</p>	<p>- at communication level: anonymous communication systems, remailers, anonymising web proxies</p> <p>Advanced identity management systems</p> <p>Systems for trust management: concepts, models, algorithms, management, usage</p> <p>Systems for reputation management: concepts, models, algorithms, management, usage</p> <p>Selected topics in privacy and identity, trust and reputation management in advanced internet systems and technologies (e.g. in cloud computing)</p>
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### Temeljna literatura in viri / Readings:

Izbrana poglavja iz naslednjih knjig: / Selected chapters from the following books:

- J. Camenisch, S. Fischer-Hübner and K. Rannenberg, *Privacy and Identity Management for Life*, Springer, 2011, ISBN 978-3-642-14281-9
- A. Acquisti, S. Gritzalis, C. Lambrinoudakis and S. De Capitani di Vimercati, *Digital Privacy: Theory, Technologies, and Practices*, Auerbach Publications, Taylor & Francis Group, 2008, ISBN 978-1420052176
- R. Bachman, and A. Zaheer, *Handbook of Trust Research*, Edward Elgar Publishing, Inc., Northampton, MA, 2006, ISBN 978-1843767541
- R. F. Farmer and B. Glass, *Building Web Reputation Systems*, O'Reilly Media, Inc., 2010, ISBN 978-0596159795
- E. Chang, T. Dillon and F. K. Hussain, *Trust and Reputation for Service-oriented Environments: Technologies for Building Business Intelligence and Customer Confidence*. John Wiley & Sons Ltd, 2006, ISBN 978-0470015476

Izbrani znanstveni članki iz revij s področja zasebnosti in upravljanja z identitetami, zaupanjem in ugledom / Selected scientific articles in the area of privacy and identity, trust and reputation management, na primer:

- A. Acquisti, C. Taylor, and L. Wagman, *The Economics of Privacy*, Journal of Economic Literature, 2016, 54(2), 442–492
- A. Jøsang, R. Ismail, C. Boyd, A Survey of Trust and Reputation Systems for Online Service Provision, Decision Support Systems, vol. 43, št. 2, 2007.

### Cilji in kompetence:

Namen predmeta je študentom predstaviti naprednejše tehnologije za zaščito zasebnosti in upravljanje z identitetami, zaupanjem in ugledom in ustrezne varnostne mehanizme, ki omogočajo odpravo problemov glede zasebnosti.

Študenti bi morali biti sposobni:

- Izbrati ustrezne modele in mehanizme za zagotovitev zasebnosti in upravljanje z identitetami, zaupanjem in ugledom

### Objectives and competences:

The main objective of this course is to present advanced technologies for privacy protection and identity, trust and reputation management and security mechanisms for mitigation of the privacy threats.

Students should be able to:

- Select appropriate models and mechanisms for privacy provision and identity, trust and reputation management

- Oceniti in razvijati nove metode za zaščito zasebnosti
- Oceniti in razvijati nove metode, modele in algoritme za upravljanje zaupanja in ugleda
- Nadaljevati raziskovalno-razvojno delo na področju zaščite zasebnosti in upravljanja z identitetami, zaupanjem in ugledom

- Evaluate and develop new privacy enhancing technologies
- Evaluate and develop new methods, models and algorithms for trust and reputation management
- Continue research and development in the area of privacy protection and identity, trust and reputation management

#### Predvideni študijski rezultati:

Študenti bodo z uspešno opravljenimi obveznostmi tega predmeta pridobili:

- Poznavanje varnostnih problemov v internetu in metod za zaščito zasebnosti ter upravljanje z identitetami, zaupanjem in ugledom.
- Razvoj mehanizmov in sistemov za zaščito zasebnosti in upravljanje z identitetami, zaupanjem in ugledom.
- Evalvacija sistemov za upravljanje identitete, zaupanja in ugleda.
- Priprava raziskovalnih rezultatov na področju.

#### Intended learning outcomes:

Students successfully completing this course will acquire:

- Knowledge on internet security problems, privacy protection and identity, trust and reputation management.
- Development of appropriate mechanisms and systems for privacy protection and identity, trust and reputation management
- Evaluation of systems for identity, trust and reputation management
- Provision of research results in the field

#### Metode poučevanja in učenja:

Predavanja, seminar, konzultacije, individualno delo

#### Learning and teaching methods:

Lectures, seminar, consultancy, individual work

#### Načini ocenjevanja:

Seminarska naloga  
Ustni zagovor  
Ustni ali pisni izpit

Delež (v %) /

Weight (in %)

#### Assessment:

Seminar work  
Oral defense  
Oral or written exam

#### Reference nosilca / Lecturer's references:

- **T. Klobučar**, D. Gabrijelčič and V. Pagon, "Cross-border e-learning and academic services based on eIDs: case of Slovenia" in *eChallenges 2014: 29-30 October, 2014 Belfast, Ireland*. Dublin: IIMC: = International Information Management Corporation, 8 pages, 2014
- V. Jovanovikj, D. Gabrijelčič and **T. Klobučar**, "A conceptual model of security context," *International journal of information security*, ISSN 1615-5262, vol. 13, no. 6, pp. 571-581, 2014
- B. Ivanc and **T. Klobučar**, "Attack modeling in the critical infrastructure = Modeliranje napadov v kritični infrastrukturi," *Elektrotehniški vestnik*, ISSN 0013-5852. [Slovenska tiskana izd.], vol. 81, no. 5, pp. 285-292, 2014
- **T. Klobučar**, D. Gabrijelčič and V. Pagon, "Cross-border e-learning and academic services based on eIDs: case of Slovenia" in *eChallenges 2014: 29-30 October, 2014 Belfast, Ireland*. Dublin: IIMC: = International Information Management Corporation, 8 pages, 2014
- P. Cigoj and **T. Klobučar**, "Cloud security and OpenStack," in R. Trobec (Ed.), *Proceedings of the 1st International Conference on Cloud Assisted Services, Bled, Slovenia, October 22 -25: CLASS*. 1st ed. Ljubljana: Univerza v Ljubljani, pp. 20-27, 2012