

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet: POSLOVNA ITELIGENCA I
Course title: BUSINESS INTELLIGENCE I

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Upravljanje in vodenje sistemov Control and Management of System		3	5

Vrsta predmeta / Course type

obvezni

Univerzitetna koda predmeta / University course code:

17

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30	30	30	0	0	90	6

Nosilec predmeta / Lecturer:

prof. dr. Matjaž Gams, akademik IAS

**Jeziki /
Languages:** S/A

**Predavanja /
Lectures:** prof. dr. Matjaž Gams

Vaje / Tutorial: Dr. Boštjan Kaluža

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

- osnove računalništva in informatike

Prerequisites:

- basics in computer science and informatics

Vsebina:

- uvod v inteligenco, poslovanje in znanstvene pristope
- uvod v poslovno inteligenco (BI) in zgodovinska področja,
- narava BI rešitev in tipične nevarnosti prenosa v poslovno prakso,
- metodologija razvoja BI rešitev,
- tehnologija BI rešitev,
- več-dimenzionalno modeliranje (npr. MDX), razvoj vmesnikov za BI rešitve,
- poslovno in strateško merjenje

Content (Syllabus outline):

- introduction to intelligence, business and scientific approaches
- introduction and overview of Business Intelligence (BI),
- nature of BI, adoption processes, and major adoption pitfalls,
- design methodology of BI solutions,
- BI solutions technology,
- multi-dimensional modelling (e.g. MDX),
- BI interface design,
- business/strategic performance

učinkovitosti, pregled konkretnih poslovnih primerov, pregled BI orodij in rešitev na trgu, - vpogled v prihajajoče BI tehnologije, - strojno učenje in rudarjenje podatkov za BI (teorija, Orange, Weka), - praktična uporaba DM za BI	measurement, overview of BI case studies, - overview of BI solutions and tools, - future trends in BI technologies, - machine learning and data mining for BI (theory, Orange, Weka) - practical use of DM for BI
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Temeljni literatura in viri / Readings:

BI:

Rud O.: Business Intelligence Success Factors: Tools for Aligning Your Business in the Global Economy. Hoboken, N.J: Wiley & Sons, 2009.

Kolb J.: Business Intelligence in Plain Language: A practical guide to Data Mining and Business Analytics, 2012.

Sharda R., Delen D., Turban E.: Business Intelligence and Analytics: Systems for Decision Support (10th Edition), 2014.

Maheshwari A.: Business Intelligence and Data Mining Made Accessible, 2014.

Sherman R.: Business Intelligence Guidebook: From Data Integration to Analytics, 2014.

AI, ML, DM:

Kononenko I: Strojno učenje, založba FE in FRI, Ljubljana, 2005.

Guid N., Strnad D.: Umetna inteligenca, Univerza v Mariboru, Fakulteta za elektrotehniko, računalništvo in informatiko, 2007.

Russel S., Norvig P.: Artificial Intelligence: A Modern Approach (3rd Edition), 2009.

Older:

Moss L. T., Atre S.: Business Intelligence Roadmap. The Complete Project Lifecycle for Decision-Support Applications. Addison-Wesley, 2003.

Thomsen E.: OIAP Solutions. Building Multidimensional Information Systems. Wiley Computer Publishing, John Wiley & Sons, 2002.

Kimball R., Ross M.: The Data Warehouse Toolkit. John Wiley & Sons, 2002.

Loshin D.: Business Intelligence: The Sawy Manager's Guide, Getting Onboard with Emerging IT. Morgan Kaufmann, 2003.

Liautaud B. and Hammond M.: e-Business Intelligence: Turning Information into Knowledge into Profit, McGraw-Hill, 2000.

Vitt E., Luckevich M., Misner S.: Business Intelligence. Microsoft Press, 2002.

Loshin D.: Business Intelligence: The Sawy Manager's Guide, Getting Onboard with Emerging IT. Morgan Kaufmann, 2003.

Walker, Mullins, Boyd: Marketing Strategy: A Decision-Focused Approach, 5/e. McGraw-Hill, 2006.

Nash E.L.: Direct Marketing: Strategy, Planning, Execution. McGraw-Hill Professional, 2000.

LeSueur J.: Pragmatic Marketing Automation. Wiley, 2007.

Stone B., Jacobs R.: Successful Direct Marketing Methods. McGraw-Hill Professional, 2001.

Gams M.: Weak intelligence, 2001.

Cilji in kompetence:

- seznaniti se z osnovami znanstvenega pristopa,
- seznaniti se s temeljnimi področji, cilji in pristopi poslovne inteligence,
- razumeti metode in pristope za manipulacijo s podatki,
- razumeti metode predstavitve znanja in iskanja, zakonitosti v podatkih ter njihovo ovrednotenje in prenos v poslovno prakso,
- pridobiti znanja in spretnosti za praktično uporabo metod poslovne inteligence predvsem z uporabo rudarjenja podatkov.

Objectives and competences:

- to learn basics of scientific approaches,
- to learn about basic areas, goals and approaches of business intelligence,
- to understand the methods and approaches of data manipulation,
- to understand the methods of knowledge representation and knowledge discovery in databases, the evaluation and business adoption,
- to acquire practical skills for the applications of business intelligence, mainly with data-mining methods.

Predvideni študijski rezultati:**Znanje in razumevanje:**

- razumevanje znanstvenega pristopa
- razumevanje osnov poslovne inteligence
- pregled področja in pristopov poslovne inteligence,
- razumevanje pristopov za manipulacijo s podatki,
- razumevanje metod iskanja zakonitosti v podatkih in njihove uporabnosti v poslovni praksi,
- pridobitev znanja in spretnosti za praktično uporabo metod poslovne inteligence (uporaba rudarjenja podatkov za poslovanje)

Prenesljive/ključne spretnosti in drugi atributi:

- razumevanje izzivov konkretnih poslovnih primerov,
- osvojitve praktičnih znanj s poudarkom na tipičnih napakah in nevarnostih, sposobnost uporabe pristopov in orodij v poslovni praksi,
- sposobnost komuniciranja in vzpostavljanja realističnih pričakovanj pri vodstvu na področju BI rešitev.

Intended learning outcomes:**Knowledge and Understanding:**

- understanding of scientific approaches
- understanding the basis of business intelligence
- overview of business intelligence approaches and methods,
- understanding of data manipulation approaches,
- understanding of knowledge discovery from data and its business adoption,
- gaining the knowledge and practical skills for the applications of business intelligence (i.e. data mining for business applications).

Transferable/Key Skills and other attributes:

- understanding of real business case studies challenges,
- acquiring practical skills with focus on major pitfalls,
- acquiring the ability to apply approaches, methods, and solutions in business practice,
- acquiring the knowledge to communicate and foster realistic expectations of the role of BI solutions in management and decision support.

Metode poučevanja in učenja:**Learning and teaching methods:**

- predavanja, vaje, - študije primerov, - predstavitev seminarske naloge, - demonstracija programske opreme, - individualno delo in svetovanje	- lectures, exercises, - case studies, - presentation of a seminar assignment, - software demonstrations, - individual work and consultations.
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Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

- Pisni izpit - Seminarska naloga	20% 80%	- Written examination, - Seminar assignment
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Reference nosilca / Lecturer's references:

Among 10 best in computer science and information society
VIDULIN, Vedrana, BOHANEK, Marko, GAMS, Matjaž. Combining human analysis and machine data mining to obtain credible data relations. *Information sciences*, ISSN 0020-0255. [Print ed.], dec. 2014, vol. 288, str. 254-278.