UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Multimedijski sistemi
Course title:	Multimedia Systems

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Mediji in novinarstvo / Media and Journalism	Program nima smeri / Program has a single course	prvi / first	prvi / first
Druga stopnja / Second Level			

Vrsta predmeta / Course type	Obvezni / Compulsory
Univerzitetna koda predmeta / University course code:	

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija / Other forms of Study	Samost. delo Individ. work	ECTS
20	-	20	-	-	140	6

Nosilec predmeta / Lecturer:	izr. prof. dr. Blaž Rodič / Assoc. Prof. Blaž Rodič, Ph.D.

Jeziki / Languages:	**Predavanja / Lectures:**	slovenski, angleški / Slovenian, English
	Vaje / Tutorial:	slovenski, angleški / Slovenian, English

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Pogoj za opravljanje obveznosti je vpis v prvi letnik.	Enrolment in the first year of study.

Vsebina:	**Content (Syllabus outline):**
• Uvod v predmet: kaj so multimediji. Linearnost, interaktivnost, zgodovina multimedijev, možnosti medijev; • Tehnologija multimedijev. Pomnilniški mediji. Digitalni multimediji. Digitalna predstavitev podatkov. Digitalizacija. Vzorčenje in kvantizacija. Problemi digitalizacije. Kompresija podatkov;	• Introduction to the subject: what are multimedia. Linearity, interactivity, multimedia, history, media possibilities; • The technology of multimedia. Storage media. Digital Multimedia. Digital data representation. Digitization. Sampling and quantization. Problems digitization. Data compression;

• Digitalni multimediji – zvok. Ustvarjanje in zajem vsebin. Problemi digitalizacije zvoka. Psihoakustika. Postprodukcija; • Digitalni multimediji – slika. Ustvarjanje in zajem vsebin. Problemi digitalizacije slik. Rastrska in vektorska grafika. Barvni modeli. Orodja za obdelavo slik; • Digitalni multimediji – video. Zgodovina gibljive slike. Ustvarjanje in zajem vsebin. Pretočni video. Problemi digitalizacije videa. Orodja za obdelavo videa. Postprodukcija.	• Digital multimedia - sound. Create and capture content. Problems digitizing sound. Psychoacoustics. Postproduction; • Digital Multimedia - illustration. Create and capture content. Problems digitizing images. Raster and vector graphics. Color models. Tools for image processing; • Digital multimedia - video. History of moving images. Create and capture content. Streaming video. Problems digitizing video. Tools for video processing. Postproduction.

Temeljni literatura in viri / Readings:

Zakrajšek, S. 2015. *Basics of multimedia production.* Biteks.

Bull, A. 2010. *Multimedia journalism: a practical guide*. Routledge.

Paquette, A. 2013. *Computer graphics for artists: an introduction.* Springer.

Cilji in kompetence:	**Objectives and competences:**
• sposobnost uporabe kompleksnejših oblik znanja v praksi; • strateška usmerjenost, tj. sposobnost anticipacije dogodkov, sposobnost ponujanja rešitev za izboljšanje stanja; • zmožnost prepoznavanja in anticipacije družbenih trendov ter izkoriščanja priložnosti, ki se ponujajo za uspešene poklicni razvoj; • razvoj kompleksnih veščin in spretnosti pri uporabi znanja na področju medijev in medijske produkcije s pomočjo reševanja konkretnih problemov; • sposobnost kompleksne analize medijskih vsebin in tehnik; • obvladovanje zahtevnih znanj in tehnik za produkcijo različnih tipov medijskih vsebin; • sposobnost medijskega komuniciranja v različnih kulturnih okoljih; • organizacijske in vodstvene spretnosti za usmerjanje dela v medijski produkciji.	• The ability to use complex forms of knowledge in practice; • Strategic orientation, i.e. the ability to anticipate events, the ability to provide solutions to remedy the situation; • The ability to identify and anticipate social trends and take advantage of the opportunities offered for successful professional development; • Development of complex skills and abilities in the application of knowledge in the field of media and media production through solving concrete problems; • The ability of performing a complex analysis of media content and techniques; • Mastering intricate knowledge and techniques for the production of various types of media content; • The ability of media communication in different cultural environments; • Organizational and managerial skills for directing work in media production.

Predvideni študijski rezultati:	**Intended learning outcomes:**
Študent/študentka bo sposoben: • učinkovito aplicirati principe multimedijskega načrtovanja, vključno z estetskim in tehničnim vidikom; • sodelovati pri pripravi različnih multimedijskih elementov za tvorjenje in prototipiranje interaktivnega multimedijskega izdela; • razumeti vloge in obveznosti članov tima za multimedije.	Students will be able to: • apply effectively the principles of multimedia design, including aesthetic and technical aspects; • participate in the preparation of various multimedia elements for forming and prototyping interactive multimedia draw; • understand the roles and responsibilities of multimedia team members.
Metode poučevanja in učenja:	**Learning and teaching methods:**
• predavanja z aktivno udeležbo študentov (razlaga, diskusija, vprašanja, primeri, reševanje problemov); • laboratorijske vaje; • individualne in skupinske konzultacije (diskusija, dodatna razlaga, obravnava specifičnih vprašanj); • uporaba spletne učilnice oziroma drugih sodobnih IKT orodij.	• Lectures with active student participation (presentation, discussion, questions, cases, problem solving); • Lab work on practical product (multimedia presentation); • Individual and group consultations (discussion, additional explanation, tackling specific issues); • Use of online classroom or other contemporary ICT tools.

Načini ocenjevanja:		**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt):	Delež (v %) / Weight (in %):	Type (examination, oral, coursework, project):
• Pisni/ustni izpit. • Laboratorijsko delo in seminarska naloga.	60% 40%	• Written / oral examination. • Laboratory work and seminar paper.
Ocenjevalna lestvica – skladno s Pravilnikom o preverjanju in ocenjevanju znanja.		Grading scale - in accordance with the Rules of examination and evaluation of knowledge.

Reference nosilca / Lecturer's references:

RODIČ, Blaž. *Distribuirani sistemi za podporo odločanju in programski agenti. (Distributed decision support systems and software agents).* Nova Gorica: Fakulteta za uporabne družbene študije, 2008, 170 pgs. ISBN 978-961-6718-05-9.

KANDUČ, Tadej and RODIČ, Blaž. Optimisation of machine layout using a force generated graph algorithm and simulated annealing, *International Journal of Simulation Modelling*, vol. 15, no. 2, pp. 1726-4529, 2016.

KANDUČ, Tadej and RODIČ, Blaž. Optimization of a furniture factory layout, *Croatian Operational Research Review*, 2015.

RODIČ, Blaž, BAGGIA, Alenka. Dynamic airport ground crew scheduling using a heuristic scheduling algorithm. *International journal of applied mathematics and informatics*, ISSN 2074-1278, 2013, vol. 7.

RODIČ, Blaž, VUKOVIČ, Goran, ZAVRŠNIK, Bruno, MIGLIČ, Gozdana. Issues in introducing training needs analysis in Slovenia´s public administration. *Transylvanian review of administrative sciences*, 2012, no. 37 E, pgs. 155-171.

RODIČ, Blaž. Mobile agents for distributed decision support systems. *Int. Sci. J. Manag. Inf. Syst.,* 2011, vol. 6, no. 1, pgs. 20-27.

VUKOVIČ, Goran, ZAVRŠNIK, Bruno, RODIČ, Blaž, MIGLIČ, Gozdana. The training of civil servants in the Slovene state administration: issues introducing training evaluation*. Int. rev. adm. sci.*, dec. 2008, vol. 74, no. 4, pgs. 653-676.

RODIČ, Blaž, KLJAJIĆ, Miroljub. Accessing distributed data sources with mobile agents and XML. V: JAŠKOVÁ, Mária (ur.). *ECON '05:* [selected research papers], (Research works proceedings, Vol. 12, 2005). Ostrava: Technical University of Ostrava, Faculty of Economics, 2005, pgs. 280-287.

KLJAJIĆ, Miroljub, BRESKVAR, Uroš, RODIČ, Blaž. Computer aided scheduling with use of genetic algorithms and a visual discrete event simulation model. *WSEAS Trans. Syst*., 2004, vol. 3, no. 3, pgs. 1021-1026.