



# Studies of Graphic Engineering and Design



University of Novi Sad / Faculty of Technical Sciences Department of Graphic Engineering and Design



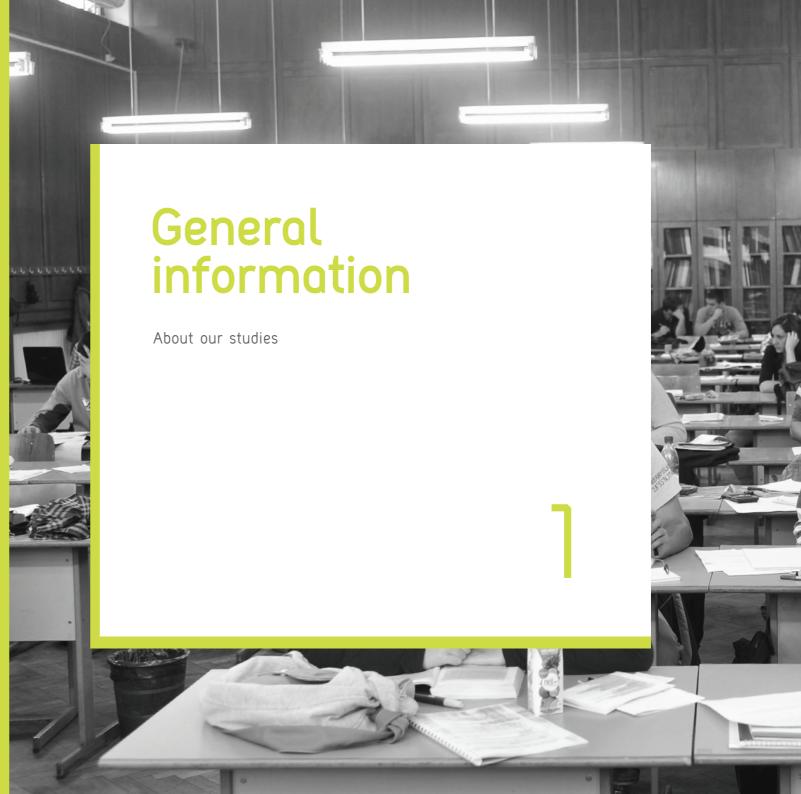
Studies of Graphic Engineering and Design







University of Novi Sad / Faculty of Technical Sciences Department of Graphic Engineering and Design







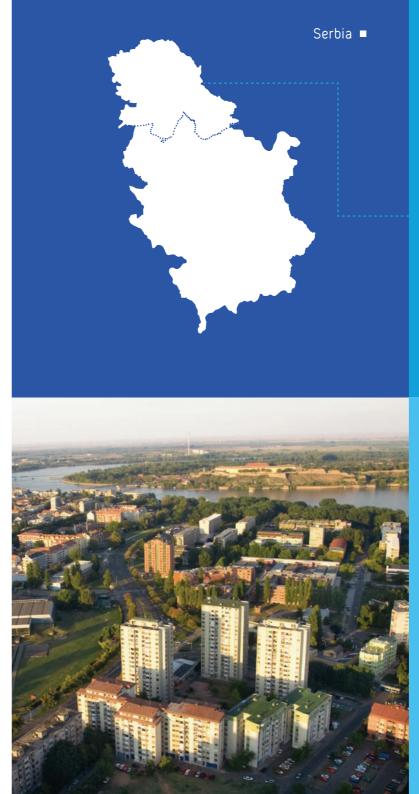
## The City of Novi Sad University of Novi Sad

Novi Sad is the capital of the Autonomous Province of Vojvodina, which is located in the northern part of Serbia, and is the second largest city in Serbia. Once the cradle of political and cultural renaissance of Serbia "Serbian Athens", as it is called, is a city of education, culture, museums, galleries, libraries and theatres. Novi Sad is today the educational, administrative, economic and cultural centre of Vojvodina, proud of its multicultural and multi-religious population. Novi Sad has about 450,000 inhabitants and is connected to the region with road and railway routes as well as waterways. It is in the centre of a highway network connecting North-eastern and Eastern Europe to the Middle and Far East, as well as Central and Northern Europe to the ports of the Adriatic Sea.

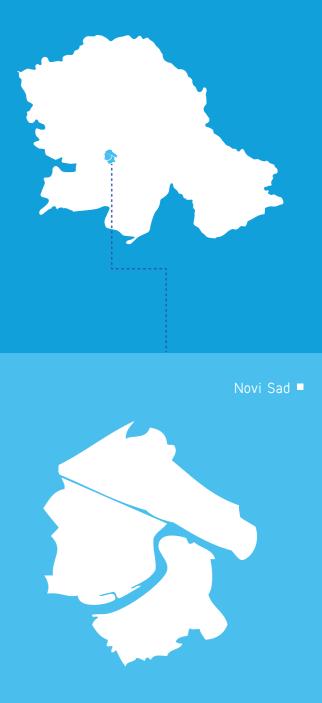
The Department of graphic engineering and design is one of the youngest departments of the Faculty of Technical Sciences which was founded in 1999.

Faculty of Technical Sciences originates from the Faculty of Mechanical Engineering which

was established by the Decree of the National Assembly of People's Republic of Serbia on 18th May 1960 as a Faculty of Mechanical Engineering in Novi Sad and it was a constituent part of the University of Belgrade. After the founding of the University of Novi Sad on 28th June 1960, the Faculty along with six previously established faculties in Vojvodina was regarded as a part of the University of Novi Sad. Today the University of Novi Sad is the second largest among six state universities in Serbia and Faculty of Technical Sciences is the largest faculty of the University of Novi Sad. Also the Department for graphic engineering and design with over 1400 students is the leader in graphic arts education in the region. Faculty of Technical Sciences in the framework of its activities has a very developed international cooperation, which is confirmed by over 50 implemented international projects. In recent years a great number international projects TEMPUS (EU), CEPUS (EU), WUS (Austria), CARDS (EU), FP6 (EU) and FP7 (EU) were started with international partners from all over Europe.









#### Department of Graphic Engineering and Design

New department, founded in 1999, has circled the set of of engineering educational profiles at The Faculty of Technical Sciences at the University of Novi Sad. One of the major reasons for establishing this department was the fact that this profession, which is highly significant and brings high profit in all developed countries, was not present in Serbia. After a detailed analysis of study programs from different world wide universities, we formed a plan and program for studies of Graphic Engineering and Design. After a short time of existence, the department has become one of the most popular and most wanted educational profiles. It turns out to be a direction of modern times, new dynamic of changes, new living conditions and new technologies which changed the world of communication and human habits. The basic name of the studies has a lot of meaning. Term graphic in its general meaning is connected to the skill of writing, drawing or painting, basically it is

a written record: represented by letters or by a drawing. Written records are traces of everything connected to mind and everything worth remembering, that is written and that existed and will exist for generations. The nations who had no records had felt into oblivion. The name of the studies also contains the term design, an applied art that focuses on artistic side of shaping and forms of industrial products. The term engineering connects them through specialized expert elaboration and studying of techniques used to realize them.

Graphic Engineering and Design as an interdisciplinary field of technology, along with graphic design, also includes sciences such as computing, electronics, electrical and chemical engineering, communication, multimedia, management and economy. Graphic technologies in an aesthetic, economic, technical and technological sense include development and design of graphic products –



There are moments in our lives that we can never forget. One of those moments is, certainly, the decision what to study and what our future avocation will be. This decision includes many questions that are looking for answers. We will share the same pleasure if we help You resolve those dilemmas with following information.



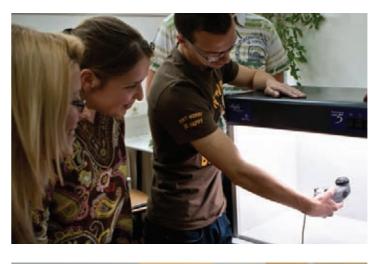
graphic design, industrial design, web design and multimedia. They are a necessity in all of the industries. For example, the product packgaging design is the first contact a consumer has with the product and significantly affects their decision to buy it.

The graphics technologies also include text processing, images, graphics, animations, video and audio sequences, computer games, interaction simulations and film production. During the studies student will learn to manage reproduction techniques like scanning, recording with digital cameras and other digital devices, about printing systems, web design, electronic publishing, packaging, production of many decorative products, prints on fashion products and many

other products like books, magazines and similar products that are a necessity in our lives. The Faculty of Technical Sciences is the largest in our country and combines years of experience and tradition in educating the world approved engineers in different technical fields. That also refers to personnel of the department of Graphic Engineering and Design. The teaching professors, assistants and associates from the Academy of Arts in Novi Sad are also engaged in program of art subjects. In focus is the permanent education with the participation of prominent international experts. All this is supported by modern laboratory equipment, the most expensive in this part of South-eastern Europe. This newest laboratory equipment, worth several millions, is

used in educational and research process. The equipment consist of five colour printing machine with unit for varnishing, postpress systems for cutting, folding and book binding, printing plate making equipment for flexo printing and numerous devices for research in colour management area. Besides this, an important segment is two modern computer classrooms. For their future work, students have to master many computer programs for text and picture processing, programs for illustrating and projecting. All the equipment is used daily by our students with great working enthusiasm. The production and laboratory facilities of many local and foreign companies are used for complementing education process. There are periodically organized study tours which include domestic and foreign companies and institutions, special visits to leading international faculties, leading companies in graphic equipment

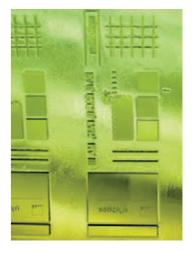
production like KBA, Horizon, Perfecta, Heidelberg, MAN Roland and their training schools and educational centers. Visits to fairs, domestic and foreign, are also organized to be informed about latest achievements and production trends. Since 2002, the department organizes an international scientific and professional symposium GRID which gathers researchers from more than ten countries with an aim to share the scientific and research results from real production. Students with their research works also can take part in it. This meeting is now a traditional, and is held every two years. Studies on the Department of Graphic Engineering and Design are organized in full compliance with the Bologna Declaration and are divided into three levels – undergraduate academic studies which last four years, graduate academic (Master) studies, which represent a continuation of basic studies lasting one year, and postgraduate doctoral studies which last for three years.











ata ta dagi ata kalia nanginta kaling manakta man Minangi Minangi ata kaling manakta manakta man

Method Hold and

With the knowledge they have acquired, students of this department are trained for independent work and employment in firms that deal with graphic technologies, as well as research and development institutions, companies that promote visual identity, media and product design. These studies are one of those whose education provides the broad possibility of starting ones own business.

No. of Contraction of

# Curriculum Outline

List of courses taught at the department

aont





# Undergraduate Academic Studies

FIRST YEAR		
#	Course title	
1.	Mathematics	
2.	Chemistry in Graphic Engineering	
3.	Graphic applications	
4.	Art and Culture	
5.	Foreign language 1 - 1 of 2	
	English Language – Elementary	
	German Language — Elementary	
б.	Graphic Materials	
7.	Physics	
8.	Sociology of Culture	
9.	Visual Culture	
10.	Elective course 1 - 1 of 2	
	Technical Mechanics	
	Marketing and Entrepreneurship	
11.	Foreign language 2 - 1 of 2	
	English Language — Pre-Intermediate	
	German Language – Pre-Intermediate	

Winter semester	Summer semester	Credits
4+4		8
3+3		б
2+4		б
2+4		б
2+0		2
2+0		2
	4+4	8
	3+3	б
	2+2	4
	2+2	б
	2+2	б
	2+2	б
	2+0	2
	2+0	2

	SECOND YEAR			
#	Course title	Winter semester	Summer semester	Credits
1.	Introduction to Graphic Technologies	2+4		б
2.	Electrical Machines	2+2		4
3.	Type and Typography	3+3		8
4.	Photography	2+2		б
5.	Elective course 1 - 1 of 2			
	Introduction to Programming	3+3		7
	Fundamentals in Mechanical Engineering	2+2		7
б.	Foreign language 3 – 1 of 2			
	English Language – Intermediate	2		2
	German Language — Intermediate	2		2
7.	Graphic Processes		4+4	8
8.	Electronics and Optoelectronics		2+2	6
9.	Multimedia		2+4	б
10.	Elective course 2 - 1 of 3			
	Graphic Culture		2+2	5
	Graphic Design Products		2+2	5
	Raster Graphics		2+2	5
11.	Foreign language 4 – 1 of 2			
	English Language — Upper Intermediate		2	2
	German Language – Upper-Intermediate		2	2

		THIRD YEAR		
#	Course title	Winter semester	Summer semester	Credits
1.	Reproduction Technology	4+4		8
2.	Fundamentals of Spatial Design	2+4		6
3.	Printing Forms	4+4		7
4.	Elective course 1 - 1 of 2			
	Chemigraphy	2+2		5
	Graphic Communication	2+2		5
5.	Foreign language 5 - 1 of 2			
	English Language — ESP Course 1	2		3
	German Language – LSP Course 1	2		3
б.	Printing Techniques		4+4	8
7.	Print Finishing		4+4	8
8.	Industrial Design		2+4	6
9.	Elective course 2 - 1 of 2			
	Design of Graphic Products		2+2	6
	Digital Photography		2+2	6
10.	Foreign language 6 - 1 of 2			
	English Language — ESP Course 2		2	3
	German Language — LSP Course 2		2	3

			FOURTH YEAR		
#	Course title	Winter semester	Summer semester	Credits	
1.	Colour Science	4+4			
2.	Basics of Game Making	2+2		4	
3.	WEB Design	2+4			
4.	Modelling, Simulation and Control	2+2		4	
5.	Elective course 1 - 1 of 2				
	Creative Calligraphy	2+0		2	
	Design for All	2+0		2	
б.	Foreign language 7 – 1 of 2				
	English Language for GRID 1	2+0		2	
	German Language for GRID 1	2+0		2	
7.	Graphic Systems		4+4	6	
8.	Graphic Design		3+3	6	
9.	Production Systems		2+2	5	
10.	Foreign language 8 – 1 of 2				
	English Language for GRID 2		2+0	2	
	German Language for GRID 2		2+0	2	
11.	Professional Practice			3	
12.	Bachelor Thesis			1	

# Master Academic Studies

#	Course title	Winter semester	Summer semester	Credits
1.	Graphic Packaging	4+4		4
2.	Spatial Design	2+4		4
3.	Elective course 1 - 1 of 4			
	Colour Management	2+2		3
	Effectiveness of Advertising	2+2		3
	Video Game Design	2+2		3
	3D Printing	2+2		3
4.	Elective course 2 - 1 of 2			
	English Language for GRID 3	2+0		2
	German Language for GRID 3	2+0		2
5.	Graphic Environment	3+3		4
б.	Electronic Publishing		2+4	5
7.	Elective course 3 - 1 of 5			
	Design of Industrial Products		2+2	4
	Character and Movement Design		2+2	4
	Method of Research		2+2	4
	Digital Printing		2+2	4
	Electronic Multimedia Systems		2+2	4
8.	Professional Practice – Master		4	4
9.	Study Research on Master Thesis		10	15
	Theoretical Bases			
10.	Preparation and Defence of Master Thesi	S	10	15

# Doctoral Academic Studies

FIRST YEAR				
#	Course title	Winter semester	Summer semester	Credits
1.	Scientific Research Method	0+3		5
2.	Selected Chapters in Contemporary	4+9		14
	Graphic Technologies			
3.	Selected Chapters - Elective course 1			
	Selected Chapters in Physics	5+3		12
	Selected Chapters in Mathematics	5+3		12
	Selected Chapters in Chemistry	5+3		12
	Graphic Materials-Selected Chapters	5+3		12
	Selected Chapters in Computing	5+3		12
4.	Selected Chapters – Elective course 2			
	Selected Chapters in Colour Management		5+4	14
	Selected Chapters in Technical Mechanics		5+4	14
	Selected Chapters in Programming		5+4	13
5.	Selected Chapters - Elective course 3			
	Selected Chapters in Multimedia		5+4	14
	Selected Topics in Computer Graphics		5+4	14
	Colour and Image Appearance Models		5+4	14
	Selected Chapters in Design for Excellence		5+4	14
	Selected Chapters in Contemporary Printing Techniques		5+4	14
б.	Current State in the Field		0+2	2

	SECOND YEAR				
#	Course title	Winter semester	Summer semester	Credits	
1.	Selected Chapters - Elective course 4				
	Selected Chapters in Design	5+4		14	
	Selected Chapters in Art in Graphic Engineering	5+4		14	
	Selected Chapters in Industrial Product Modelling	5+4		14	
2.	Selected Chapters - Elective course 5				
	Selected Chapters in Packaging	5+4		14	
	Lightness and Colour Perception	5+4		14	
	Selected Chapters in Contemporary Graphic Systems and Processes	5+4		14	
3.	Preparation for the Application of Doctoral Dissertation Topic	0+2		2	
4.	Doctoral Dissertation (Theoretical Bases)		0+20	30	
	THIRD YEAR				
1.	Doctoral Dissertation				
	Doctoral Dissertation — Study and Research	0+30		30	
	Doctoral Dissertation — Study and Research	0+10		10	
2.	Doctoral Thesis - Realization and Defence of Thesis			20	



13.3

A STAT









All study programs of graphic engineering and design are accredited by the Commission for Accreditation and Quality Assurance of Republic of Serbia. The study program synthesizes the necessary knowledge about graphics technologies, design and other specific knowledge relevant for this type of engineering study profile. With the acquired knowledge engineers of this department are trained for independent work and employment in companies dealing with graphic technologies, research and development institutions, graphic, web and multimedia design studios or for starting their own business.

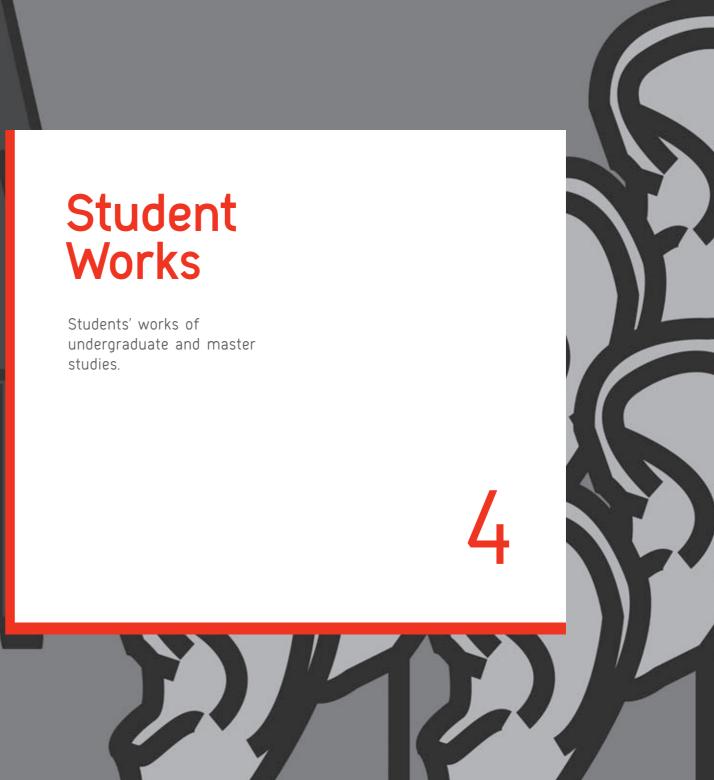
With all of this, studying on this department provides great opportunities which fulfill the most beautiful part of student's life, and with constant work comes success, personal satisfaction and achievement of the Faculty's goal, "a high position among the best." Since recently, there were almost no engineers of this profession in Serbia and that gives hope that with the development our society is trying to achieve, new employment possibilities will appear. Our students are trained with the latest knowledge and software most commonly used in graphic arts: Adobe Illusrator CS, InDesign CS, Adobe Photoshop CS (advance course), Flash MX, 3DStudio, SoundForge, Adobe Premier, Adobe Acrobat 7, ArtiosCad, QuarkXpress, FontLab, Fontografer, Preps, EngView Sysems, Catia and other general-purpose software.

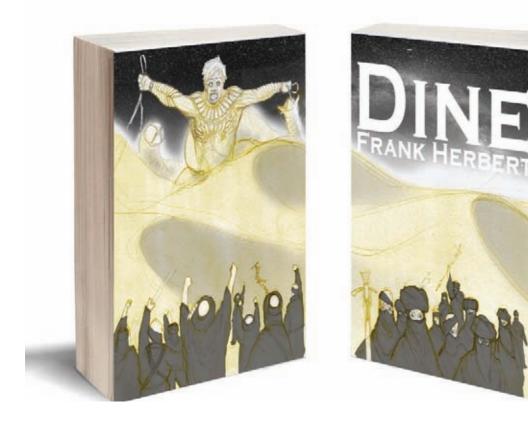
The department is a member and partner of several prestigious international professional and scientific associations such as the International Circle and IARIGAI. It also active in Erasmus Mundus and other European student and teacher exchange programs.



Exibition of student works from the photography course.

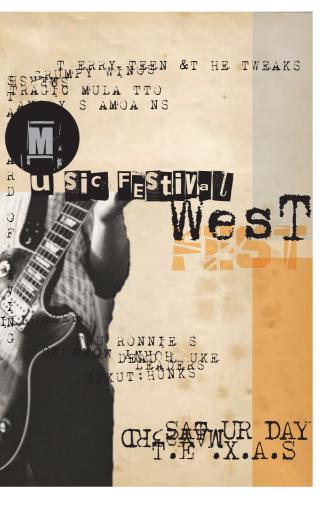
•







Student Nikola Pavlović Project name Book Cover Course Fine arts and Graphic Culture School yeor II



Student Pavle Josifidis Project name An Excersise in Pastiche Course Lettering and Typography School year II







<mark>Student</mark> Tibor Miglinci Project name Business Card Course Fine arts and Graphic Culture School year II

Student Marija Jotanović Project name Commercial Ad Course Graphic Design School year IV

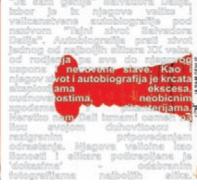










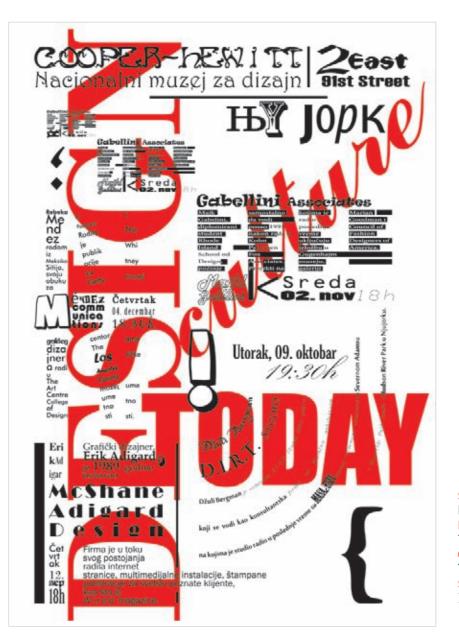








Student Marko Savatović Project name Book Cover Course Fine arts and Graphic Culture School year II



Student Marko Savatović Project name Typography Poster Project Course Type andTypography School year II





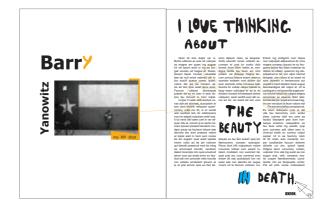




#### Student Terečik-Nađ Gabor Project name Magazine Design Course Graphic Design School year IV







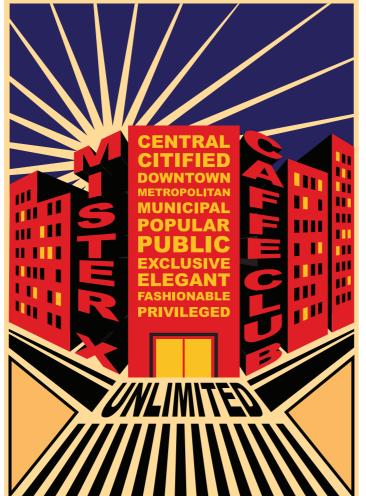


Student

Sandra Ćirković Project name Magazine Design Course Graphic Design School year IV



Student Goran Breberina Project name An Excersise in Pastiche Course Type and Typography School year II



Student Strahinja Aparac Project name Magazine Design Course Graphic Design School year IV









## YOU GOTTA Eat more Beans to Be like This guy...





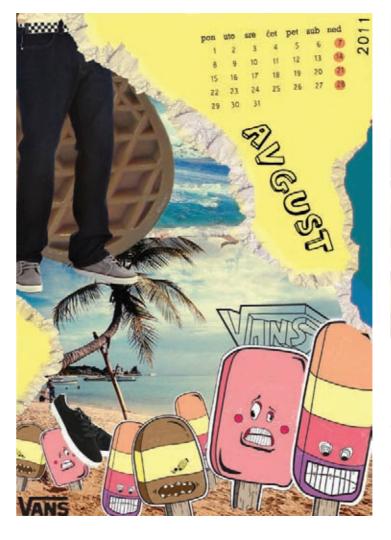






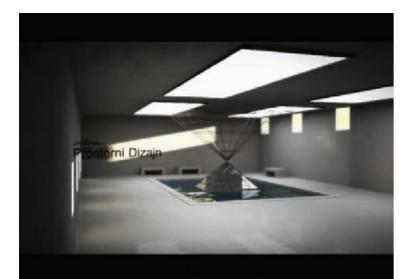


Student Tamara Badža Project name Catalogue Design Course Graphic Design 2 School year IV





Student Ana Pejović Project name Calendar Design Course Graphic Design 2 School year IV



#### Students

Uroš Aleksić Dalibor Latinović Ivana Palanjuk Sonja Vidaković Project nome 3D Museum, video sequence\* Course Spatial design School year V

\* To view the video clip please visit our web page www.grid.uns.ac.rs



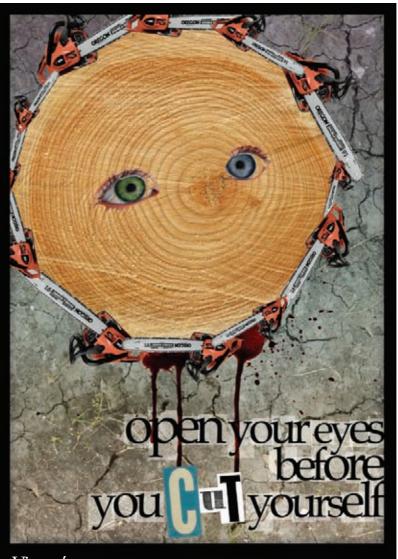












Vienna's summit 2010.



Student Strahinja Aparac Project name Poster project / Progressive Propaganda Course Graphic Design School year IV



### FORMA

Graphic engineering and design students magazine

#### Editorial office

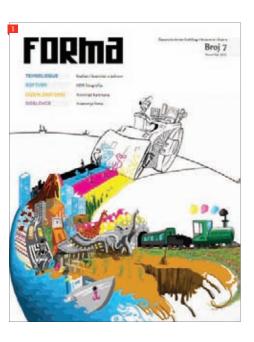
Olga Glumac Lena Đunisijević Radomir Mitrić Stevan Petrov Nenad Perić Biljana Pavković Kristina Nikolić Tatjana Ivić

Editor-in-chief

Dajana Marjanović

Technical support Ivan Radumilo

Technical support forma.grid@gmail.com





niverzalni voj

Issue #7 November, 2010

Issue #6 December, 2009





Television processing and the second second Assessment Editor-in-chief Ivana Tomić Dragan Drlačić Colaborators

Jelena Laništanin. Kovač



MAGIČNI OTISCI SITO ŠTAMPE

lssue #4-5 2007 / 2008

Issue #3 2007

Issue #2 2006

## Technical support and design

Kosta Čemerikić, Nemanja Srećković, Marija Injac, Mladen Mitrinović, Branka Žarković,

Ivana Miljević, Neda Milić, Milica Kecman, Irma Puškarević, Darko Novaković, mr Igor Karlović, Dorotea Agošton, Boris Petrović, Vanja Srbin, Gabor Mokuš, Danijel Pap, Sonja Vidaković, Stanko Stupar, Gojko Vladić,

Miroslava Jovičić, Nebojša Novković, Andrija

## Published by

University of Novi Sad Faculty of Technical Sciences Department of Graphic Engineering and Design

## Editorial

Prof. PhD Dragoljub Novaković Editor Asst. Prof. Uroš Nedeljković Art Direction MSc Irma Puškarević Graphic Design MA Jelena Vladušić Photo Editor

## Mentorship

Asst. Prof. Goran Jureša Fine Arts and Graphic Culture Milan Aleksić Photography Asst. Prof. Uroš Nedeljković Type and Typography Asst. Prof. Uroš Nedeljković Graphic Design Prof. Boško Ševo Graphic Design 2 Prof. Slobodan Nedeljković Spatial Design

#### Photography MA Jelena Vladušić

MA Jelena Vladušić MSc Irma Puškorević Branko Stojanović (page 5, 13, 17, 18, 27, 28, 31) Darko Novaković (page 7)

## Contributors

Asst. Prof. PhD Igor Karlović MSc Neda Milić

## Typefaces

Grid Sans Grid Sans Bold

## Print&Production

Graphic Center Grid - Graphic Engineering and Design