

RTU Course "Audio and Video Data Processing"**33000 Faculty of Computer Science, Information Technology and Energy****General data**

Code	DE0814
Course title	Audio and Video Data Processing
Course status in the programme	Compulsory/Courses of Limited Choice
Responsible instructor	Anita Jansone
Academic staff	Bruno Žuga
Volume of the course: parts and credits points	1 part, 3.0 credits
Language of instruction	LV, EN
Annotation	During the study course, students will learn the filmmaking process from conception to publication. Students themselves will deal with the video production, including writing scripts, creating work plans, shooting and editing with the aim of establishing their own short film. Students will learn the basics of film planning, will gain skills in working with portable audio and video equipment, and learn to evaluate the composition, select the appropriate lighting and shoot material. In the post-production stage, students will learn the basics of video editing, they will learn to add graphic material, as well as prepare edited videos for publication on the web. With a view to preparing video of excellent quality, the study course will provide an overview of the latest tools for editing video and graphics and sound processing and effective methods of their application.
Goals and objectives of the course in terms of competences and skills	The aim of the study course is to provide knowledge and skills that allow the participants to create quality video material. The tasks of the study course: 1. to provide basic information on scriptwriting and means of visual expression in the video; 2. to teach planning and developing a video production plan; 3. to acquaint students with the best practice for managing video production 4. to provide information and teach students to select the necessary equipment, video cameras, lighting and sound equipment, video post-processing tools for video the project development; 5. to develop skills of video filming in nature and indoors, under natural and artificial lighting; 6. to develop skills of quality sound recording, processing and mixing; 7. to develop skills of video editing, post-processing and publishing video on the Internet; 8. to develop skills to plan and organize live video streaming.
Structure and tasks of independent studies	Students will study the online study course content (MOOCs, webinars, lecture notes and handouts) and prepare home-works and participate in tests independently. There will be practical workshops where students will work on the preproduction, production and postproduction of a video. During the study course, students have to prepare a production plan for a short film, shoot the video, do post-production activities and publish it on YouTube. All students will have an opportunity to ask questions online and take part in discussion forums. It is expected that students will learn from the online study course content before class. This will thus be allowing them to focus on practical activities and preparation of the film during the face-to-face sessions.

Recommended literature	Obligātā. / Obligatory: Schenk S., Long B.. The Digital Filmmaking Handbook. 7th edition Course Technology. Cengage Learning. (2021), pp. 998 Mark Brindle, Chris Jones. The Digital Filmmaking Handbook: The definitive guide to digital filmmaking. Quercus. (2014), pp. 493 Kūlis, Matīss., Saskaņā māksla : datori, grafika, dizains /Matīss Kūlis ; [zinātniskie recenzenti: Jānis Ķikuts, Raitis Šmits ; literārā redaktore Dace Strelēvica-Ošiņa]. Rīga : Matīss Kūlis, 2015 (Green Print), 344 lpp. : il. ; 24 cm. Eglīte V.. ... gribu uzņemt filmu. Jumava. (2003), pp. 176 Papildu. / Additional: Ascher S., Pincus E.. The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age. Plume. (2012), pp. 832 Mercado, G.. The Filmmaker's Eye: Learning (and Breaking) the Rules of Cinematic Composition. Taylor & Francis. (2013), pp. 208 Block B.. The Visual Story: Creating the Visual Structure of Film, TV and Digital Media. 2nd Edition Focal Press. (2007), pp. 310 Bowen C., Thompson R.. Grammar of the Edit 4th Edition Focal Press. (2017), pp. 298 Dancyger K.. The Technique of Film and Video Editing: History, Theory, and Practice. 5th Edition, Taylor & Francis. (2011), pp. 488 Murch W.. In the Blink of an Eye: A Perspective on Film Editing. 2nd Edition Silman-James Press. (2001), pp. 146 Hollyn N.. The Lean Forward Moment: Create Compelling Stories for Film, TV, and the Web. 1st Edition New Riders. (2009), pp. 384, (learning.oreilly.com) Kenworthy C.. MasterShots Vol 1, 2nd 100 Advanced Camera Techniques to Get an Expensive Look on Your Low-Budget Movie. Michael Wiese Productions. (2012), pp.214 Musburger R. B., Kindem G. A. Introduction to Media Production: The Path to Digital Media Production. Taylor & Francis. (2009), pp. 509 Cinematic Storytelling: . The 100 Most Powerful Film Conventions Every Filmmaker Must Know. Michael Wiese Productions. (2005), pp. 257 Citi informācijas avoti. / Other sources of information: Coffee Break Film School. Short filmmaking courses on Screenwriting; Previsualization; Cinematography; Production; Lighting; Sound; Editing; Colour; Visual Effects;Graphics. https://moviola.com/ Studiobinder blog on Directing; Producing; Scriptwriting and Post-Production. - https://www.studiobinder.com/blog/ http://eprasmes.lv/telecentre-multimedia-academy/projekta-apmacibu-materiali/. Drukājams materiāls, kas satur videomateriāla veidotājiem noderīgas tēmas: skaņas veidošanas pamati, video veidošanas pamati, projektu vadības pamati, digitālo stāstu veidošanas pamati, audiovizuālo darbu veidošana. (interneta resursi) http://elemento.lv/jaunumi/ . Pieejami apkopojumi un atsauces uz skaņas ieraksta un video filmēšanas resursiem. Mācību materiāls par atsevišķām tēmām. (interneta resursi) http://nofilmschool.com/. Regulāri atjaunots resurss veidots ar mērķi palīdzēt radīt labākas filmas. (interneta resursi) http://www.videomaker.com/. Regulāri atjaunots resurss jaunajiem video veidotājiem ar padomiem videomateriāla veidošanai gan īsu video, gan arī aprakstu veidā. (interneta resursi) http://www.lynda.com/. Bieži papildināti, kvalitatīvi kursi, kas saistīti ar grafiku, dizainu, multimediju. Lielā izvēlē ir kursi arī par video un audio tēmu. Kursi ir par maksu. (interneta resursi) https://www.creativelive.com/. Televīzija radošiem cilvēkiem - ir materiāls gan par video uzņemšanu, audio apstrādi un foto. (interneta resursi) http://www.udemy.com/ . Pieejami kursi par video un audio materiāla sagatavošanu. (interneta resursi)
Course prerequisites	Basic skills of working with computers, multimedia and the internet.

Course contents

Content	Full- and part-time intramural studies		Part time extramural studies	
	Contact Hours	Indep. work	Contact Hours	Indep. work
Visual storytelling - opportunities and challenges. Technology enablers. Definition of initial creative idea.	2	1	1	2
A short history of early cinematic editing, fundamentals of montage theory. Developing a new video story from given shots of a movie.	1	2	0	3
Narrative and documentary films. Introduction to scriptwriting using story structure models.	2	1	1	2
Preproduction stage. Preparing the production plan, scheduling, planning and budgeting.	1	6	0	8
Storyboard. Shot types, camera angles, composition and framing, movement of the camera.	1	2	1	2
Introduction to sound, use of sound in the movies. Dialogue, sound effects, and music.	2	1	0	2
Production stage. Cameras and lenses, viewfinders and monitors, timecode. Camera settings workshop, including exposure, white balance, zoom and focus.	2	4	1	4
Recording audio for video taking into account environmental factors. Selecting appropriate microphones and recorders. Recording dialogue.	1	4	1	4
Video Lighting Principles and techniques in natural and artificial light conditions.	2	0	0	1
Hands on lighting workshop. Creating lighting diagrams and lighting setups for various purposes.	1	4	0	4
Producing video for individual projects according to the production plan.	0	8	1	10
Timelapse and Hyperlapse techniques for cinematography.	1	1	0	1
Using stop motion animation techniques.	1	1	0	1
Elements of successful video interviews. Hands on interview filming workshop.	1	2	1	2
TV production principles and technology, real-time editing and video streaming.	1	2	1	2
Postproduction workflow - process and tools. Video editing using non-linear video editing systems.	2	2	2	2

Editing techniques for documentary films and unscripted television.	1	1	0	1
Primary colour correction principles and practice.	2	1	1	4
Secondary colour correction (grading) process.	2	1	1	1
Sound post processing workflow, sound clean-up, sound effects an Foley, music, sound mix.	3	1	2	2
Titles and motion graphics, effects.	2	1	1	2
Finalizing and publishing individual project.	1	2	1	4
Total:	32	48	16	64

Learning outcomes and assessment

Learning outcomes	Assessment methods
Understands video production process and its main stages.	Participation in relevant workshops, preparing and submitting homework and taking course tests. The average of all these activities will be calculated according to 10-point evaluation scale and will constitute 0.4 weighted contributions toward the final grade.
Is able to plan video creation process.	Creation of video production plan assessed with 10-point evaluation scale and will constitute 0.3 weighted contribution towards the final grade.
Is able to plan and organize a live video event.	Planning and development of an individual live video event assessed 10-point rating scale – as one of the homework.
Is able to carry out production and post-production stages and create a quality video.	Evaluation of individual video projects in three subcategories - meeting the formal requirements, production quality and post-production quality. The resulting 10-point assessment will constitute 0.3 weighted contributions toward the final grade.

Evaluation criteria of study results

Criterion	%
Participates in workshops, prepares and submits homework, takes tests	40
Drafts and submits a video production plan	30
Uploads a video produced following the production plan	30
Total:	100

Study subject structure

Part	CP	Hours			Tests		
		Lectures	Practical	Lab.	Test	Exam	Work
1.	3.0	32.0	0.0	0.0			*