FIȘA DISCIPLINEI

1. Date despre program

1.1 Instituția de învățământ superior	Universitatea de Vest Timisoara
1.2 Facultatea / Departamentul	Facultatea de Arte si Design
1.3 Departamentul	Departamentul Design şi Arte Aplicate
1.4 Domeniul de studii	Arte vizuale
1.5 Ciclul de studii	Masterat
1.6 Programul de studii / Calificarea	Game Art / Digital artist for video games

2. Date despre disciplină

2.1 Denumirea disciplinei				Hard surface modeling I (FADMGA 1106)			
2.2 Titularul activităților de curs				Lect. univ. dr. Bunii Alexandru			
2.3 Titularul activităților de seminar				Lect. univ. dr. Bunii Alexandru			
2.4 Anul de studiu	I	2.5 Semestrul	1	2.6 Tipul de evaluare	V	2.7 Regimul disciplinei	DSi, DOP

3. Timpul total estimat (ore pe semestru al activităților didactice)

3.1 Număr de ore pe săptămână	2	din care: 3.2 curs	1	3.3 seminar/laborator	1
3.4 Total ore din planul de învățământ	28	din care: 3.5 curs	14	3.6 seminar/laborator	14
Distribuția fondului de timp:					ore
Studiul după manual, suport de curs, bibliografie și notițe					30
Documentare suplimentară în bibliotecă, pe platformele electronice de specialitate / pe teren					30
Pregătire seminare / laboratoare, teme, referate, portofolii și eseuri					30
Tutoriat					17
Examinări					15
Alte activități					
3.7 Total ore studiu individual	**122**				
3.8 Total ore pe semestru	**150**				
3.9 Numărul de credite	**6**				

4. Precondiții (acolo unde este cazul)

4.1 de curriculum	• Completion of the other mandatory subjects related to the field of design
4.2 de competențe	• It is considered that the students have, from previous stages of schooling, terminological notions and skills in artistic drawing, artistic anatomy and computer-aided graphics.

5. Condiții (acolo unde este cazul)

5.1 de desfășurare a cursului	• Course attendance: min. 60% • Video Projector/Interactive WhiteBoard, Internet Access • Google Classroom, Google Meet
5.2 de desfășurare a seminarului / laboratorului	• Laboratory attendance: min. 60% • Video Projector/Interactive WhiteBoard, Internet Access • Google Classroom, Google Meet

6. Obiectivele disciplinei - rezultate așteptate ale învățării la formarea cărora contribuie parcurgerea și promovarea disciplinei

Cunoștințe	• The Graduate has specialized knowledge of 3D object reproduction using 3D printing technologies. • The Graduate has specialized knowledge of the process of digital painting and applying a type of texture to a 2D, 3D image • The Graduate is able to propose advanced 3D implementation methods specific to the creation of spaces, landscapes, objects and vehicles. • The Graduate researches information to develop new ideas and concepts for the design of a particular production.
Abilități	• The Graduate uses specialized graphics tools that enable digital editing, modeling, rendering, and graphic compositing. These tools are based on the mathematical representation of three-dimensional objects. • The Graduate develops new artistic concepts and creative ideas. • The Graduate develops 3D models by transforming and digitizing previously designed characters and objects using specialized 3D tools. • The Graduate develops a computer-generated 3D representation of a set, such as the simulated environment in which users interact. • The Graduate develops 3D models using line segments to connect points and edges to create a polygonal network of surfaces. • The Graduate creates and processes two-dimensional and three-dimensional digital images depicting animated objects or illustrating a process, using computer animation or modeling programs. • The Graduate proposes optimized models for their subsequent use within a large-scale project.

Responsabilitate și autonomie	• The Graduate changes approach in unpredictable situations such as unexpected and sudden changes in needs or trends, by changing strategies and adapting naturally to these circumstances. • The Graduate specifies the useful resources for the documentation related to the project. • The Graduate respects the previously established deadlines related to the elaborated project. • The Graduate deduces from his own experience the consumption of time necessary to achieve the result. • The Graduate maintains an art portfolio to showcase his own styles, interests, skills, and accomplishments.

7. Conținuturi

7.1 Curs	Metode de predare	Observații
• Introduction to 3D modeling (solid model concept); • 3D space and interface, using the GUMBALL tool; • Modeling based on primitive solids and their derivatives; • Modeling based on surfaces - differences between NURBS and HARD SURFACE modeling;	Interactive teaching, visual support and tutorial. Lecture, through image projections and debates (Case Study) • development of modeling skills A special place is given to practical works during which corrections and discussions with the students are constantly carried out. The course will be taught permanently using a very rich documentary material, exemplifying with personal works and works from the school archive, magazine collections and specialty books.	The course is correlated, in order to meet the established objectives, the lecture will be interactive Teaching activities are conducted exclusively **face to face** Videoconferencing platform used: Google Meet (link available from Google Classroom – code found in the timetable)

Bibliografie:

- Bolognesi, Cecilia., Villa, Daniele., From Building Information Modelling to Mixed Reality. Ed. Springer, Cham, 2021, p.103 (https://books.google.ro/books?id=tBrxDwAAQBAJ&pg=PA103&dq=twinmotion&hl=en&sa=X&ved=2ahUKEwiWstOz75b6AhXJ1qQKHW4VCx0Q6AF6BAgKEAI#v=onepage&q=twinmotion&f=false)
- Bunii, Alexandru-Cristian., *Digital Designer,* 6/2018 (Caiete de Arte și Design - https://www.ceeol.com/search/article-detail?id=922842)
- Bunii, Alexandru-Cristian., *Democratizing creativity*, 7/2019 (Caiete de Arte și Design - https://www.ceeol.com/search/article-detail?id=922674)

<table>
<tr><td colspan="3">• Bunii, Alexandru-Cristian., Democratizing creativity II, 8/2020 (Caiete de Arte și Design - https://www.ceeol.com/search/article-detail?id=924535)</td></tr>
<tr><td>7.2 Seminar / laborator</td><td>Metode de predare</td><td>Observații</td></tr>
<tr><td>• Modeling methods based on surfaces; modeling by transformations of points, lines, polygons, materials, objects;
• Modeling based on 2D curves for 3D construction (extrude, path, revolve, etc.) ;
• Booleans type operations both in 2D plane and in 3D volumes (union, subtract, intersect);
• 3D models and the specific interface for viewing and editing the geometry;</td><td>The learning method involves both the classic way of studying based on course notes and bibliography, as well as the use of practical applications through different concrete topics.</td><td>The course is correlated, in order to meet the established objectives, the lecture will be interactive

TUTORIALS multiple examples

Teaching activities are conducted exclusively face to face
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<tr><td></td><td></td><td></td></tr>
<tr><td colspan="3">Bibliografie:
• Bernier, Samuel N,. Luyt, Bertier., Reinhard, Tatiana, Design for 3D Printing: Scanning, Creating, Editing, Remixing, Ed. Maker Media Inc., San Francisco, 2015. (https://books.google.ro/books?id=29GqCgAAQBAJ&printsec=frontcover&dq=3d+printing+future+design&hl=en&sa=X&ved=2ahUKEwjTmIOd_O3rAhXLplsKHQ70DBQQ6AEwBHoECAYQAg#v=onepage&q=3d%20printing%20future%20design&f=false)
• Buscaglia, Dana., Rhino 5.0 for Jewelry, Ed. Lulu Publishing services, Morrisville, 2016.
• Cheng, Ron., Inside Rhinoceros 5, Editura Cencage Learning, Stamford, 2014.
• Canal oficial BLENDER https://www.youtube.com/@BlenderOfficial/videos
• Canal oficial 3DCoat https://www.youtube.com/@PILGWAY3DCoat/videos
• Canal oficial MAYA https://www.youtube.com/@Autodesk_Maya/videos
• Canal oficial 3DS MAX https://www.youtube.com/@Autodesk3dsMax/videos</td></tr>
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8. Coroborarea conținuturilor disciplinei cu așteptările reprezentanților comunității epistemice, asociațiilor profesionale și angajatori reprezentativi din domeniul aferent programului

Conţinutul cursului va fi în concordanţă cu nomenclatorul de meserii – COR – oferind studenţilor abilitatea de a se angaja la finalizarea studiilor pe unul dintre posturile existente. Astfel studentul va fi capabil să acopere cerinţele existente pe piaţa de muncă în diversele domenii, sau va putea continua activitatea de cercetare prin etapele superioare de studiu.

9. Evaluare

Tip activitate	9.1 Criterii de evaluare	9.2 Metode de evaluare	9.3 Pondere din nota finală

9.4 Curs	Use of specialized terminology, assimilation and understanding of the concepts presented in the course (correct understanding and application, not memorization).	Attendance at course activities - minimum 60% attendance. Examination – solving a practical task with the course and bibliography at your disposal.	50%
9.5 Seminar / laborator	Originality in the application of assimilated notions and fitting into the theme	Attendance at laboratory activities - minimum 60% of attendance. Testing continues throughout the semester. Completion of semester assignments, examination - solving a design project with theoretical notions and practical skills at your disposal.	50%
9.6 Standard minim de performanță			
Solving a real/hypothetical problem at work in real time, under conditions of qualified assistance, respecting the norms of professional ethics. To access the final exam (examination form E, C or V), the student must attend at least 60% of the laboratory/seminar hours. Also, the student must solve at least 50% of the volume of tasks drawn by the practical applications. An extra assignment is given to increase the grade.			

Data completării
03.03.2023

Titular de disciplină

Data avizării în departament

Director de departament