



DISCIPLINE ACADEMIC SHEET ACADEMIC YEAR 2025 – 2026

1. PROGRAMME DATA

1.1. Higher Education Institution	UNIVERSITY OF CRAIOVA
1.2. Faculty	Automation, Computers and Electronics
1.3. Department	Computers and Information Technology
1.4. Field of Study	Computers and Information Technology
1.5. Study level	L(License / Undergraduate)
1.6. Organizational form	IF
1.7. Study Program (name/code) /Qualification	Computers / L2060101010

2. Discipline data

2.1 Discipline Name	Computer Aided Graphics						
2.2 Course Activities Holder	Adrian Sorin ROȘCA, Ph.D., Senior Lecturer						
2.3. Practical Activities Holder	Adrian Sorin ROȘCA Ph.D. Senior Lecturer, Cristina TEIȘANU Ph.D. Senior Lecturer, Ionuț GEONEA Professor Ph.D. Anca OPREA Ph.D.Lecturer						
2.4. Study Year	1	2.5. Semester	2	2.6. Evaluation type	V	2.7. Discipline regime	DOB

3. Estimated total time (hours per semester of teaching activities)

3.1. Number of hours per week	3	in which: 3.2 course	1	3.3. sem./lab./pr.	2
3.4. Total hours of curriculum	42	in which: 3.5 course	14	3.6. sem./lab./pr.	28
3.7 Time distribution - hours/week					hours
Study after manual, course support, bibliography and notes					14
Additional documentation in library, on specialized electronic platforms and field					10
Training seminars / labs, homework, portfolios and essays					24
Tutorial					-
Examinations					3
Other activities consultations, student meetings					7
Total hours per individual activities					58
3.8. Total hours per semester					100
3.9. Number of credits					4

4. Preconditions (where appropriate)

4.1. of curriculum	- Applied Informatics - Computer programming - Linear algebra - Analytical Geometry
4.2. of competence	Not applicable

5. Conditions (where appropriate)

5.1. of the course	Teaching activities are carried out using a video projector. It is provided access to course materials (lecture notes in electronic format and others course documentation). The teaching process has the following structure: • 70% activity of theoretical presentation using lecture slides • 30% interactive activity (talks with students)
5.2. of seminar/ laboratory/project	Laboratory activities use a computer network. On each computer several CAD software are installed, such as: Inventor Professional, Autodesk Fusion and Autocad. The main task that can be approached are: • Virtual 3D models • Virtual assemblies with virtual reality scenes and animation of these assemblies

6. COURSE OBJECTIVES – expected learning outcomes that are supported by completing and passing the course

Knowledge	Student/Graduate: 1. The student/graduate identifies and describes basic concepts, principles, and methods in mathematics, physics, chemistry, technical drawing, economics, and computer science. 2. The student/graduate explains and interprets theoretical and experimental results in mathematics, physics, chemistry, economics, technical drawing and computer science.
Skills (Abilities)	Student/Graduate: 1. The student/graduate operates with basic concepts, principles, and methods from mathematics, physics, chemistry, technical drawing, economics, and computer science. 2. The student/graduate solves problems of mathematics, physics and chemistry with applicability in engineering and validates the solution obtained. 3. The student/graduate performs engineering and economic calculations of medium complexity and associates them with graphic representations of letters or specific to computer-aided design. 4. The student/graduate describes physico-chemical and economic phenomena and processes.
Responsibility and autonomy	Student/Graduate: 1. The student/graduate operates with basic concepts, principles, and methods from mathematics, physics, chemistry, technical drawing, economics, and computer science. 2. The student/graduate solves problems of mathematics, physics and chemistry with applicability in engineering and validates the solution obtained. 3. The student/graduate performs engineering and economic calculations of medium complexity and associates them with graphic representations of letters or specific to computer-aided design. 4. The student/graduate describes physico-chemical and economic phenomena and processes.

7. Content

7.1. Course	The method of implementation	Teaching methods	Allocated time (hours)
1. Role and capabilities of a CAD	face to face	Teaching activities are carried	1

software		out using a video projector:	
2. Wireframe objects and sketches for parametric models	face to face	• 70% theoretical presentation using lecture slides	3
3. Solid features and i-features	face to face	• 30% interactive activity (talks with students)	3
4. Rules for generalization of geometrical models	face to face	Students have access to course materials in electronic format. <i>If necessary for on-line approach a Google Meet & Classroom is used</i>	1
5. Free shape modelling	face to face		2
6. Surface modelling	face to face		1
7. Virtual assembly and their animation	face to face		2
8. Libraries for standard elements and deriving the documentation	face to face		1

Bibliography:

1. Grafică asistată de calculator - Aplicații în Autodesk Inventor, A., S., Roșca, O., V, Oțat, Craiova 2019 , Ed. Universitaria, ISBN 978-606-14-1495-6
2. Up and Running with Autodesk Inventor Simulation, Y., Wasim, Elsevier, 2010
3. Mastering Autodesk Inventor, C., Waguespack, John Wiley & Sons, 2014 (disponibil în bibliotecă și în format pdf)

7.2. Seminar/laboratory/project	The method of implementation	Teaching methods	Allocated time (hours)
1. Parametric model based on solid modelling technique	face to face	Laboratory sessions are made on a computer network, where there are installed Autodesk Inventor Professional, Autodesk Fusion and Autocad, using tutorials especially elaborated for this course	2
2. Generalization of a model based on rules	face to face		3
3. Rim model based on surface modelling approach	face to face		3
4. Mouse housing based on free shape modelling	face to face		6
5. Wankel assembly and animation using predefined components and libraries	face to face	<i>For on-line approach the students can have access to free educational licenses for all Autodesk products</i> <i>The activities in weeks 1 to 4 from the second semester are delivered in on-line manner, using Google Meet classes with specific assignments for each laboratory application</i>	6
6. Animation techniques in Inventor Studio	face to face		6
7. Vectorial graphics for web pages	face to face		2
8. Model support hard-disc with i-feature	face to face		Optional applications
9. Support assembly with new components generated in the environment			

Bibliography:

1. Same as 8.1

8. Correlating the content of the discipline with the expectations of representatives from the epistemic community, professional associations and representative employers in the field related to the program

The course content and its applications are consistent with similar disciplines from others universities in the country and abroad.

9. Evaluation

Activity Type	9.1. Evaluation criteria	9.2. Evaluation methods	9.3. Final mark weight
9.4. Course	Questions from course support, correlated to the percentage of correct answers	Multiple choice test (for on-line evaluation a Google Form it is used)	35%: Final exam
9.5. Seminar/laboratory/project	L: Involvement at laboratory, courses activities		10%
	Degree of finishing each laboratory application (marks from 1-10 at each one of the 7 mandatory applications) The accomplish of other 2 optional applications will be appreciated to increase the final mark	Degree of accuracy related to the requirements	55%: Laboratory
9.6. Minimum standard of performance			
- Minimum 50% of correct answers at multiple choice test - Minimum 5 mark as an average for laboratory applications			

Date of Completion	Signature of the Course Activities Holder,	Signature of the Practical Activities Holder,
23.08.2025	Conf.dr.ing. Adrian Sorin ROȘCA,	Conf.dr.ing. Cristina TEIȘANU Prof.dr.ing. Ionuț GEONEA S.l.dr.ing. Anca OPREA

Date of Approval in the Department	Signature of the Department Director,
25.08.2025	Ș.l.dr.ing. Nicolae ENESCU

Date of Approval in the Faculty	Signature of the Dean,
	Prof.dr.ing. Dorin ȘENDRESCU

