MF2019, CAD 3D-modeling and visualization VT 2012
PROJECT

Project selection

Please, *select a physical or mental (an idea) object* that *you* want to model in the project. If you have a hobby, such as fishing, shooting, engines, bikes etc., this might give some ideas. You are encouraged to discuss your chosen object with a teacher or assistant during any regular CAD exercise.

Before you start working with your project, please *e-mail your proposed project* to mf2019@md.kth.se for an evaluation and "approval". Supply a short description and an image in your e-mail.

Please, *decide the purpose/aim for your report*. The purpose may be to present the external shape and appearance of a device to "tease" potential customers, or to describe its function or usage. You can make a more or less exact model of an existing object, with dimensions that you have carefully measured, or you can create your own design. Please note that it is the appearance/function/usage/… of the modelled product that you must describe in the report (with the model) and not the modelling techniques you have used – unless your purpose is to make a modelling tutorial.

If you have difficulties finding a product to model, you can use the following list as an inspiration:

- Drilling machine
- Bicycle, motorcycle, scooter (in whole or a part of)
- Cabriolet hood lift mechanism
- Car generator
- Computer mouse
- Jack, screw jack
- Fishing reel, spinning reel
- Carburettors
- Engine
- Gearbox
- Mechanical watch/clock
- Piston pump or other pumps
- Can opener
- Lock with internal mechanism
- Home appliances, such water boiler, microwave oven, mixer.
- Paint-ball gun
- Skate board
- Vehicle scale model, such as wheel loader, dump truck, fork lift
- Winch

Please, avoid these!

Our experience is that the following objects are less suitable:

- Lego designs
- Humans and animals
- Furniture
- Bridges and houses

Assessment of your project

Grading is based on the attached form. The form can also help you verify that you have not missed something that is assessed and scored! Please observe that ***it is the report that is graded, but the CAD-model must be delivered to get the report graded***!

Modelling

It should be made clear in the project what the purpose of your model is. The extent to which advanced modelling techniques that are used, the communicative elegance in the report, and how well the report meets the stated purpose, are assessed. Does the report describe free form surfaces or other features and structures that it is more appropriate to describe with pictures than with words and formulas? It is crucial that you clearly show and describe how well you have learned to take advantage of the software's modelling capabilities and how well you have carried out a more complex modelling work, that has a specific purpose other than to learn how to model objects in 3D.

Illustrations

The report shall be illustrated with pictures of different types; - Images that are illustrative and explanatory. - A dimensioned detail drawings with at least one cut (choose one moderately severe detail), or an exploded view with balloons and parts list, see course homepage. - At least one rendered exploded view. - Rendered (i.e. more photo realistic) images.
What product features will be shown in the model? Usage of CAD program options (such as material selection and lighting) to describe and communicate the product characteristics. Examples can be found on the course website.
OBSERVE THAT IT IS THE PRODUCT (REAL OR IDEA) THAT SHALL BE DESCRIBED WITH THE AID FROM YOUR CAD MODEL.

Your deliverable – CAD-model and report

The structure of the report is as important as your modelling. The following elements should be included:

1. One digital version and one printed version, please see below.
2. Illustrated title page.
3. Summary.
4. Content list.
5. Explanatory text.

Please note. Does the report really describe the modelled product? Does the report give a pleasing overall impression?

Deadline for Project report work. Friday 1 June 2012. Projects handed in after this will be answered during the autumn term.
Zip your complete model and report and append it to an e-mail to mf2019@md.kth.se. Enter "Project" and your name as subject, e.g. "Project Hagbard Handfaste".
Also deliver your work to the student office or by mail to Stefan Ståhlgren, KTH Machine Design, 100 44 STOCKHOLM. OBS!

Please also hand in your **course evaluation**, which immediately will be removed from your report - it will definitely not influence your grade. Late project deliverables does not influence the grading, but it may influence the time for the project to be assessed and graded.
Projects handed in after June 1, 2012, are treated when considered appropriate by the course coordinator.

Do not forget to write your name and personal number (civic number) on the report.

Project assessment sheet

		Inget	Low level/qvality)	--	High level/ quality	Comments
Modeling	Scope		1 2	3 4	5	
	Modeling complexity, methods		1 2	3 4	5	
Pictures	Detail drawing/exploded drafting	0	1		2	
	Exploded rendered view(s)	0	1 2	3 4	5	
	Relevance, overall impression		1 2	3 4	5	
Report	Illustrated front page		0		1	
	Abstract		0		1	
	Contents list		0		1	
	Introduction, purpose, delimitation	0	1	2	3	
	Descriptive text, description of the product	0	1 2	3 4	5	
	How well the report meets the stated purpose	0	1 2	3 4	5	
	Illustrative pictures in the text body	0	1 2	3 4	5	
	Overall impresssion		1 2	3 4	5	

Sum	
Grade	

Name

Grade E: 15-21

Grade D: 22-27

Grade C: 28-34

Grade B: 35-41

Grade A: 42-48

COURSE EVALUATION HT 2011, MF2019

Remove this page and hand in with your project report!

Mark the number that best reflects your view!

1.	Benefit from the lectures (also see the open question below)	*Very good* 5	4	*Acceptable* 3	2	*Bad* 1
2.	Benefit from the teacher assisted exercises (also see the open question below)	*Very good* 5	4	*Acceptable* 3	2	*Bad* 1
3.	What is your impression of the software SolidEdge (also see the open question below)	*Very good* 5	4	*Acceptable* 3	2	*Bad* 1
4.	Your overall assessment of the course?	*Very good* 5	4	*Acceptable* 3	2	*Bad* 1

Kindly comment the topics below:

5. Course structure

6. The lectures (indicate if you have a specific lecture in mind)

7. Teacher assisted computer exercises

8. Advantages, disadvantages, shortcomings in SolidEdge?

9. Other things that may be important for the teachers to know!

Bedömning av projektet

		Inget	Låg nivå/kvalitet)		--		Hög nivå/ kvalitet	Kommentar
Modellering	Omfattning		1	2	3	4	5	
	Svårighetsnivå, metoder		1	2	3	4	5	
Bildmaterial	Detaljritning/sprängbild med balonger	0	1				2	
	Renderad sprängbild	0	1	2	3	4	5	
	Relevans, helhetsintryck		1	2	3	4	5	
Rapport	Illustrerad titelsida		0				1	
	Sammanfattning		0				1	
	Innehållsförteckning		0				1	
	Inledning, syfte, avgränsning	0	1		2		3	
	Förklarande text, beskrivning av produkten	0	1	2	3	4	5	
	Hur innehållet motsvarar syftet	0	1	2	3	4	5	
	Illustrativa bilder i löpande text	0	1	2	3	4	5	
	Rapportens helhetsintryck		1	2	3	4	5	

Summa	
Betyg	

Namn

Betyg E: 15-21
Betyg D: 22-27
Betyg C: 28-34
Betyg B: 35-41
Betyg A: 42-48

KURSVÄRDERING HT 2010, kurs MF2019

Avskiljs och inlämnas samtidigt med projektet!

Ringa in de betyg som bäst motsvarar din uppfattning!

1.	Utbyte av föreläsningarna (se även öppen fråga nedan)	*Mycket bra* 5	4	*Acceptabelt* 3	2	*Dåligt* 1
2.	Utbyte av lärarassisterade datorövningar (se även öppen fråga nedan)	*Mycket bra* 5	4	*Acceptabelt* 3	2	*Dåligt* 1
3.	Vad tycker du om programvaran SolidEdge (se även öppen fråga nedan)	*Mycket bra* 5	4	*Acceptabel* 3	2	*Dålig* 1
4.	Ditt betyg på kursen som helhet?	*Mycket bra* 5	4	*Acceptabel* 3	2	*Dålig* 1

Här nedan kan du med egna ord ge synpunkter på:

5. Kursuppläggningen

6. Föreläsningarna (ange om du avser någon särskilds)

7. Lärarassisterade datorsalsövningarna

8. Fördelar, nackdelar, brister i SolidEdge?

9. Annat som kan vara till nytta för kursledningen!