



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2013

Design and Communication Graphics

Student Assignment

Ordinary Level and Higher Level
160 marks

Details of the Student Assignment for the Leaving Certificate Examination 2013 are given overleaf.

The Student Assignment must be completed by Friday 18th January 2013.
The work should be submitted following the issue of candidate examination numbers to schools.

Design and Communication Graphics (DCG) Student Assignment Leaving Certificate 2013

Instructions to candidates:

1. Your coursework submitted for assessment must consist of two components:
 - A bound A3 design portfolio
 - The portfolio should contain a maximum of 12 pages at Ordinary Level and a maximum of 14 pages at Higher Level.
 - An individual CD containing:
 - All of the SolidWorks files relating to the completed assignment
 - An electronic copy of the completed portfolio in **PDF format**.

All coursework submitted for assessment must be clearly identified with your examination number which will be issued to your school early in 2013.

2. The CD must contain one main folder. The name of this folder should contain your candidate examination number in the following format “DCG SA 2013 (Exam number)”.
3. The main folder, referred to above, must contain 2 sub-folders. One of these sub-folders will contain all the pages from the completed assignment in **PDF format**. The other sub-folder must contain 2 sub-folders. One of these sub-folders must contain all of the SolidWorks electronic files associated with Part A of the assignment and the second subfolder must contain all of the SolidWorks electronic files associated with Part B of the assignment. No other files should be included on the CD.
(All required CAD files must be in SolidWorks format)
4. It is your responsibility to ensure that all of the required files are contained on the CD prior to submission of the work. You will **lose marks** under the relevant headings in the marking scheme if required files are omitted. Marks will be awarded for conforming to the filing structure outlined above.
A backup copy of the files on the CD should be retained in your school until the assessment process is complete.
5. For protection during transit, the CD should be placed in a protective sleeve. This sleeve should be fixed close to the bound edge on the inside cover of the design portfolio.
6. You must submit your **original sketches** for Outputs 3 and 8 – scanned images will not suffice.
7. The coursework submitted for assessment must be **your own individual work** and must be **completed in school** under the supervision of the class teacher.
8. When using research sources, including the Internet, the sources must be acknowledged. Research material copied directly from the Internet or from other sources and presented as your own work will not receive marks.
9. The coursework presented for assessment must be displayed in an attractive manner and marks will be awarded for presentation.
10. The coursework must be completed by **Friday 18th January 2013**.

Ordinary Level Student Assignment - Leaving Certificate 2013

Practically every household and workplace has at least one wall clock.

Since the invention of the clock in the mid 1600's, these artefacts have become more compact and are now manufactured from a wide range of materials. Many of the existing designs are novel in terms of their shape and form.

(A) Carry out a design investigation of existing wall clocks in graphic format. Your investigation should begin with a brief exploration of the historical development of wall clocks and should include an analysis of shape, features, colour, materials, etc.

and

(B) Show graphically how you would physically modify a chosen wall clock to improve its overall design.

or

Develop and graphically communicate a new concept design for a wall clock based on a selected theme.

Student Assignment - Ordinary Level

		No.	Section Heading	Description	Suggested no. of A3	Marks
Presentation, thought process, reflection and factor of difficulty will be considered throughout.	Part (A) - Existing Artefacts	1	Design Research	Exploration of brief and presentation of existing artefacts in graphic format.	1-2	50
		2	Design Feature Comparison	Select 2 images and illustrate/explain the main design features. Insert the main dimensions. Compare and contrast the main design features of both using suitable freehand sketches and other presentation techniques.	1-2	
		3	Freehand Graphical Representation	Choose one of the artefacts and make a detailed graphical presentation of this artefact. This should include a rendered freehand presentation quality drawing in 3D format.	1	
		4	SolidWorks Parts, Assembly, Drawing and eDrawing files	Detailed computer model, comprising at least 3 Parts, an Assembly, Drawing and an eDrawing of the selected artefact. The required filing structure will be considered in the marking process.	Electronic SolidWorks files on CD	60
		5	Hardcopy output from Solidworks	Detailed orthographic views Rendered pictorial view Exploded View	1-3	
		6	Photorealistic Representation	Computer generated photorealistic image(s) of the artefact	1	
	Part (B) Design Modification or Concept Design	7	Graphical exploration of design solutions	Analysis of brief and graphical illustration of possible solution(s) Justification for chosen solution(s)	1-2	50
		8	Presentation of Modification/ Concept Design	Detailed graphical presentation of the design Modification/Concept Design. This should include a rendered freehand presentation quality drawing in 3D format.	1	
		9	Hardcopy output from Solidworks	CAD Model (Part/Assembly, Drawing & eDrawing) and associated hardcopies to include appropriately detailed orthographic and rendered pictorial views to communicate your chosen design	1-3 (Plus electronic SolidWorks files on CD)	
					Total	160

Higher Level Student Assignment - Leaving Certificate 2013

Modern lecterns are available in a wide range of shapes, forms and materials. Originally they consisted of a sloping surface with a ledge to hold a book, dictionary or other papers while its user read or lectured from a standing position. More recently many lecterns facilitate multimedia presentations with built in sound systems, auto cue, etc.

(A) Carry out a design investigation of the physical form and features of modern lecterns. Your design investigation should include a brief exploration of the development of the lectern over the ages.

and

(B) Show graphically how you would physically modify an existing lectern to improve its overall design.

or

Develop and graphically communicate a new concept design for a lectern based on a selected theme, target market or specified location.

Student Assignment - Higher Level

		No.	Section Heading	Description	Suggested no. of A3 Pages	Marks
Presentation, thought process, reflection and factor of difficulty will be considered throughout.	Part (A) - Existing Artefacts	1	Design Research	Exploration of brief and presentation of existing artefacts in graphic format.	1-2	50
		2	Design Feature Comparison	Select 2 images and illustrate/explain the main design features. Insert the main dimensions. Compare and contrast the main design features of both using suitable freehand sketches and other presentation techniques.	2-3	
		3	Freehand Graphical Representation	Choose one of the artefacts and make a detailed graphical presentation of this artefact. This should include a rendered freehand presentation quality drawing in 3D format.	1	
		4	SolidWorks Parts, Assembly, Drawing, and eDrawing files	Generate computer model, comprising at least 5 parts, an Assembly, Drawing and an eDrawing of the selected artefact. Economy of design, design intent and the required filing structure will be considered in the marking process.	Electronic SolidWorks files on CD	50
		5	Hardcopy output from Solidworks	Detailed orthographic views. Rendered pictorial view. Exploded View.	2-4	
		6	Photorealistic Representation	Computer generated photorealistic image(s) of the artefact.	1	
	Part (B) Design Modification or Concept Design	7	Graphical exploration of design solutions	Analysis of brief and graphical illustration of possible solutions. Justification for chosen solution(s) including aesthetics, functionality and environmental sustainability.	2-4	60
		8	Presentation of Modification/ Concept Design	Detailed graphical presentation of the design Modification/Concept Design. This should include a rendered freehand presentation quality drawing in 3D format.	1	
		9	Hardcopy output from Solidworks	CAD Model (Part/Assembly, Drawing & eDrawing) and associated hardcopies to include appropriately detailed orthographic, rendered pictorial and photorealistic views to communicate your chosen design.	2-4 (Plus Electronic SolidWorks files on CD)	
					Total	160

Tasc an Dalta – Gnáthleibhéal – An Ardteistiméireacht, 2013

Tá clog balla amháin ar a laghad i mbeagnach gach áit chónaí agus áit oibre. Ó rinneadh an clog den chéad uair i lár na 1600-ta, tá na déantúsáin seo éirithe níos dlúithe agus déantar as raon leathan ábhar anois iad. Tá mórán de na dearaí atá ann faoi láthair níos sábháilte agus lena gcruth agus lena gcuimríocht.

(A) Déan imscrúduithe dearaí i bhformáid ghráfach ar chloig bhalla atá ann cheana féin. Bá chóir go dtosódh d'imscrúduithe le taiscéalalocht ghairid faoi thorbairt stairiúil na gclóg balla agus ba chóir go mbeadh anailís ann ar an gcruth, ar na gnéithe, ar an dath agus ar na hábhair, etc.

agnus

(B) Taispeáin go ghráfach conas a dhéanfa athru fisiciúil ar chlog balla roghnaithe chun a dhearadh foriomlán a theabhsú.

nó

Déan coincheap nua dearaí do chlog balla, bunaithe ar théama roghnaithe, a thorbairt agus a chur in iúl go ghráfach.

Tasc an Dalta - Gnáthleibhéal

Taisce		Teideal na Roinne	Cuid (A) - Déantúsáin atá ann cheana féin		Cuid (B) - Athru Dearaidh nó Coincheap Dearaidh		Iomlán	
160	50	Tuarisc	1	Na teoracha dearaí a thaiscéaladh agus déantúsáin atá ann cheana féin a chur i láthair i bhformáid ghráfach.	1-2	Na teoracha dearaí a thaiscéaladh agus déantúsáin atá ann cheana féin a chur i láthair i bhformáid ghráfach.	7	Taiscéalalocht ghráfach ar réitigh dhearaidh
			2	Roghnaigh 2 ionhá agus léirigh/minigh na príomhghnéithe dearaí. Cuir isteach na príomhthoisí. Cuir príomhghnéithe dearaí an dá cheann i gcomparáid agus i gcodarsnacht le chéile agus úsáid á baint as sceitís saorláimhe oiriúnacha agus as teicnicí cur i láthair eile.	1-2	Roghnaigh 2 ionhá agus léirigh/minigh na príomhghnéithe dearaí an dá cheann i gcomparáid agus i gcodarsnacht le chéile agus úsáid á baint as sceitís saorláimhe oiriúnacha agus as teicnicí cur i láthair eile.	8	Dearadh Athraithe / Coincheap Dearaidh a chur i láthair mionsonraithe ghráfach ar an Dearadh Athraithe / Coincheap Dearaidh. Ba chóir go mbeadh limocht scáthaithe saorláimhe 3T d'ardchaighdeán san áireamh sa chur i láthair.
			3	Roghnaigh ceann amháin de na déantúsáin agus déan léiriú mionsonraithe ghráfach den déantúsáin sin. Ba chóir go mbeadh limocht scáthaithe saorláimhe 3T d'ardchaighdeán san áireamh sa léiriú.	1	Roghnaigh ceann amháin de na déantúsáin agus déan léiriú mionsonraithe ghráfach den déantúsáin sin. Ba chóir go mbeadh limocht scáthaithe saorláimhe 3T d'ardchaighdeán san áireamh sa léiriú.	6	Anailís ar na teoracha dearaí agus léiriú ghráfach ar réitigh fhéideartha. An réiteach/na réitigh a roghnaíodh a chosaint.
			4	Comhaid SolidWorks Parts, Cóiméil, Limocht agus eDrawing den déantúsáin roghnaithe. Cuirfead an struchtúr riachtanach comhdúchán san áireamh sa phróiseas marcála.	1-3	Comhaid SolidWorks Parts, Cóiméil, Limocht agus eDrawing den déantúsáin roghnaithe. Cuirfead an struchtúr riachtanach comhdúchán san áireamh sa phróiseas marcála.	5	Dearadh Athraithe / Coincheap Dearaidh a chur i láthair mionsonraithe ghráfach ar an Dearadh Athraithe / Coincheap Dearaidh. Ba chóir go mbeadh limocht scáthaithe saorláimhe 3T d'ardchaighdeán san áireamh sa chur i láthair.
			5	Aschur cruachóipe SolidWorks Cló scáthaithe pictiúrtha.	1	Aschur cruachóipe SolidWorks Cló scáthaithe pictiúrtha.	8	Dearadh Athraithe / Coincheap Dearaidh a chur i láthair mionsonraithe ghráfach ar an Dearadh Athraithe / Coincheap Dearaidh. Ba chóir go mbeadh limocht scáthaithe saorláimhe 3T d'ardchaighdeán san áireamh sa chur i láthair.
			6	Léiriú Fótaréalalocht Ionhá(ina) F(h)ótaréalalocht(a) den déantúsáin a rinneadh ar ríomhaire.	1	Léiriú Fótaréalalocht Ionhá(ina) F(h)ótaréalalocht(a) den déantúsáin a rinneadh ar ríomhaire.	9	Aschur cruachóipe SolidWorks do dhearadh a chur in iúl.
			7	Comhaid SolidWorks Parts, Cóiméil, Limocht agus eDrawing	1	Comhaid SolidWorks Parts, Cóiméil, Limocht agus eDrawing den déantúsáin roghnaithe. Cuirfead an struchtúr riachtanach comhdúchán san áireamh sa phróiseas marcála.	9	Aschur cruachóipe SolidWorks do dhearadh a chur in iúl.
			8	Aschur cruachóipe SolidWorks Cló scáthaithe pictiúrtha.	1	Aschur cruachóipe SolidWorks Cló scáthaithe pictiúrtha.	9	Aschur cruachóipe SolidWorks do dhearadh a chur in iúl.
			9	Aschur cruachóipe SolidWorks do dhearadh a chur in iúl.	1	Aschur cruachóipe SolidWorks do dhearadh a chur in iúl.	9	Aschur cruachóipe SolidWorks do dhearadh a chur in iúl.

Beidh an cur i láthair, an próiseas smaointeoireachta, an machnamh & an chéim dheacrachta á mbreithniú i rith an ama.

Grataic Dhearaidh agus Chumarsáide Tasc an Dalta An Ardteistiméireacht, 2013

Treoracha d'iarthóirí:

1. Ní mór dhá chuid a bheith san obair chúrsa a chuirtear isteach le haghaidh measúnú:
 - Fíllteán ceangailte A3 d'obair dhearaidh
 - Ní cóir níos mó ná 12 leathanach a bheith san fhíllteán ag an nGnáthleibhéal agus ní cóir níos mó ná 14 leathanach a bheith ann ag an Ardleibhéal.
 - Dúthdhiosca ar leith ar a mbeidh:
 - Na comhaid SolidWorks go léir a bhaineann leis an tasc críochnaithe
 - Cóip leictreonach i bhformáid PDF den obair go léir san fhíllteán.

2. Ní mór aon phríomhfhillteán amháin a bheith ar an dúthdhiosca. Ba chóir go mbeadh do scrúdúimhir in ainm an fhíllteáin san fhormáid seo a leanas “DCG SA 2013 (Scrúdúimhir)”.
Ba chóir do scrúdúimhir, a eisíofar do scoil go luath in 2013, a bheith scríofa go soiléir ar an obair chúrsa go léir a chuirtear isteach le haghaidh measúnú.

3. Ní mór 2 fhothillteán a bheith sa phríomhfhillteán a bhfuil tagairt dó thuas. Ní mór na leathanaigh go léir ón tasc críochnaithe a bheith i gceann de na fhothillteáin sin i bhformáid PDF. Ní mór 2 fhothillteán a bheith san fhothillteán eile. Beidh gach ceann de na comhaid leictreonacha SolidWorks a bhfuil baint acu le Cuid A den tasc i gceann de na fhothillteáin sin agus beidh na comhaid leictreonacha SolidWorks a bhfuil baint acu le Cuid B den tasc sa dara fhothillteán. Níor cheart comhad ar bith eile a bheith ar an dúthdhiosca.
(Ní mór na comhaid CAD go léir atá ag teastáil a bheith i bhformáid SolidWorks.)

4. Is ortsa atá an fhréagracht a chinntiú go mbeidh na comhaid go léir atá ag teastáil ar an dúthdhiosca sula gcuireann tú an obair isteach. **Caillfidh tú marcanna** faoi na ceamteidil chui sa scéim mharcála mura mbíonn comhaid riachtanacha ann. Bronnfar marcanna as cloí leis an struchtúr comhdúcháin a bhfuil cur síos air thuas.
Ba chóir cóip chúlaca de na comhaid ar an dúthdhiosca a choinneáil i do scoil go dtí go mbeidh an próiseas measúnaithe críochnaithe.
5. Lena chosaint le linn dó a bheith á iompar, ba chóir an dlúthdhiosca a chur i gclúdach cosanta. Ba chóir an clúdach sin a bheith greamaithe den taobh istigh de chlúdach an fhíllteáin dearaidh gar don chiumhais cheangailte.

6. Ní mór do chuid **bunseictsi** d'Aschuir 3 agus 8 a chur isteach – ní leor iomhána scanta.
7. **Do chuid oibre féin** ba chóir a bheith i ngach cuid den obair chúrsa a chuirtear isteach le haghaidh measúnú agus ní mór **i a dhéanamh sa scoil** faoi threoir mhúinteoir an ranga.
8. Ní mór na foinsí taighde a úsáidtear, an tidiríon san áireamh, a admháil. Ní ghnóthófar marc ar bith as ábhar taighde a chóipeáiltear go díreach ón Idirlíon ná ó fhoinsé ar bith eile agus a chuirtear i láthair mar do chuid oibre féin.
9. Ní mór an obair chúrsa le haghaidh measúnú a chur i láthair ar bhealach tarraingteach agus bronntar marcanna as an gcur i láthair.

10. Ní mór an obair chúrsa a bheith críochnaithe faoi **Dé hAoine, 18 Eanáir 2013**.



Grafaic Dhearaidh agus Chumarsáide

Tasc an Dalta

Gnáthleibhéal agus Ardleibhéal
160 marc

Tá sonraí maidir le Tasc an Dalta do Scrúduithe na hArdteistiméireachta, 2013 le fáil thall.

*Ní mór Tasc an Dalta a bheith críochnaithe faoi Dé hAoine, 18 Eanáir 2013.
Ba chóir an obair a chur isteach tar éis eisiúint scrúduithe na hArdteistiméireachta na n-Iarrthóirí do na scoileanna.*