Leaving Certificate Examination, 2016

Design and Communication Graphics

Student Assignment

Ordinary Level and Higher Level
160 marks

Details of the Student Assignment for the Leaving Certificate Examination, 2016 are given overleaf.

The Student Assignment must be completed by Friday 15th January, 2016.
The work should be submitted following the issue of candidate examination numbers to schools.
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 or USB flash drive** 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 2016. It is **your** responsibility to ensure that all electronic materials submitted are free from viruses, so that examiners can open all required files for assessment. **Please note that the portfolio and CD/USB flash drive will not be returned at the end of the assessment process.**

2. The **CD/USB flash drive** must contain one main folder. The name of this folder should contain your candidate examination number in the following format “DCG SA 2016 (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/USB flash drive**.

   **(All required CAD files must be in SolidWorks format. The version of SolidWorks used to complete your assignment should be indicated on the front cover of your design portfolio.)**

4. It is your responsibility to ensure that all of the required files are contained on the **CD/USB flash drive** 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 **submitted files** must be retained in your school until the assessment process is complete.

5. For protection during transit, the **CD/USB flash drive** must be placed in a protective sleeve or envelope. This 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 15th January 2016**.
# Ordinary Level Student Assignment - Leaving Certificate 2016

Salt and pepper shakers can be found on most tables at mealtimes. The shakers are often produced as a matching set or their design may reflect a pair of related objects. They can be made from a variety of materials, including plastic, wood, glass, metal, and ceramic. The number of holes on the shakers can differentiate between them as well as influencing the consumption of salt and pepper.

(A) Carry out a design investigation of an existing salt and pepper shaker set in graphic format. Your investigation should include an analysis of physical shape, features, materials, colour, etc. **and**

(B) Show graphically how you would physically modify your chosen salt and pepper shaker set to improve its overall design. **or**

Develop and graphically communicate a new concept design for a salt and pepper shaker set based on a selected theme or target market.

The assignment should follow the structure outlined in the marking considerations below.

## Student Assignment - Ordinary Level

<table>
<thead>
<tr>
<th>No.</th>
<th>Section Heading</th>
<th>Description</th>
<th>Suggested no. of A3</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Design Research</td>
<td>Exploration of brief and presentation of existing artefacts in graphic format, using primary and secondary research.</td>
<td>1-2</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Design Feature Comparison</td>
<td>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.</td>
<td>1-2</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Freehand Graphical Representation</td>
<td>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.</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>SolidWorks Parts, Assembly, Drawing and eDrawing files</td>
<td>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.</td>
<td>Electronic SolidWorks files</td>
<td>60</td>
</tr>
<tr>
<td>5</td>
<td>Hardcopy output from Solidworks</td>
<td>Detailed orthographic views Rendered pictorial view Exploded View</td>
<td>1-3</td>
<td>60</td>
</tr>
<tr>
<td>6</td>
<td>Photorealistic Representation</td>
<td>Computer generated photorealistic image(s) of the artefact</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>7</td>
<td>Graphical exploration of design solutions</td>
<td>Analysis of brief and graphical illustration of possible solution(s) Justification for chosen solution(s).</td>
<td>1-2</td>
<td>60</td>
</tr>
<tr>
<td>8</td>
<td>Presentation of Modification/Concept Design</td>
<td>Detailed graphical presentation of the design Modification/Concept Design. This should include a rendered freehand presentation quality drawing in 3D format.</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>9</td>
<td>Hardcopy output from Solidworks</td>
<td>CAD Model (Part/Assembly, Drawing &amp; eDrawing) and associated hardcopies to include appropriately detailed orthographic and rendered pictorial views to communicate your chosen design</td>
<td>1-3</td>
<td>50 (Plus electronic SolidWorks files)</td>
</tr>
</tbody>
</table>

Total 160
**Student Assignment - Higher Level**

<table>
<thead>
<tr>
<th>No.</th>
<th>Section Heading</th>
<th>Description</th>
<th>Suggested no. of A3 Pages</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Design Research</td>
<td>Exploration of brief and presentation of existing artefacts in graphic format, using primary and secondary research.</td>
<td>1-2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Design Feature Comparison</td>
<td>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.</td>
<td>2-3</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Freehand Graphical Representation</td>
<td>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.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>SolidWorks Parts, Assembly, Drawing, and eDrawing files</td>
<td>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.</td>
<td>Electronic SolidWorks files</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>Hardcopy output from Solidworks</td>
<td>Detailed orthographic views. Rendered pictorial view. Exploded View.</td>
<td>2-4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Photorealistic Representation</td>
<td>Computer generated photorealistic image(s) of the artefact.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Graphical exploration of design solutions</td>
<td>Analysis of brief and graphical illustration of possible solutions. Justification for chosen solution(s) including aesthetics, functionality and environmental sustainability.</td>
<td>2-4</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Presentation of Modification/Concept Design</td>
<td>Detailed graphical presentation of the design Modification/Concept Design. This should include a rendered freehand presentation quality drawing in 3D format.</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>9</td>
<td>Hardcopy output from Solidworks</td>
<td>CAD Model (Part/Assembly, Drawing &amp; eDrawing) and associated hardcopies to include appropriately detailed orthographic, rendered pictorial and photorealistic views to communicate your chosen design.</td>
<td>2-4</td>
<td>(Plus Electronic SolidWorks files)</td>
</tr>
</tbody>
</table>

**Total** 160
Tasc an Dalta – Ardleitheáil – An Ardleithinimeachta, 2016

1. Teideal na Roinne Tuairisc Líon A3 a mholtar Mar c

2. Taighde Dearaidh

Na treoracha dearaidh a thaiscealadh le taighde príomhúil agus tánáisteach, agus déantúsáin atá ann cheana féin a chur i láthair i bhformáid ghrafach.

3. Comparáid idir na Gnéithe Dearaidh

Roghnaigh 2 íomhá agus léirigh/mínigh na príomhghnéithe dearaidh. Cuir isteach na príomhthoisí. Cuir príomhghnéithe dearaidh an dá cheann i gcomparáid agus i gcodarsnacht le chéile agus úsáid á baint as sceitís saorláimhe oiriúnacha agus as teicnící cur i láthair eile.

4. Léiriú Grafach Saorláimhe

Roghnaigh ceann amháin de na déantúsáin agus déan léiriú mionsonraithe grafach den déantúsán sin. Ba chóir go mbeadh líníocht scáthaithe saorláimhe 3T d'ardchaighdeán san áireamh sa léiriú.

5. Comhaid SolidWorks Parts, Cóimeáil, Líníocht agus eDrawing

Samhail mionsonraithe ríomhaireachta ina mbeidh 5 pháirt ar a laghad, Cóimeáil, Líníocht agus eDrawing den déantúsán roghnaithe. Cuirfear barainne maidir le dearadh, rún an dearaidh agus an struchtúr riachtanach comhdúcháin san áireamh sa próiseas marcála.

6. Léiriú Fótairéalaíoch

Immhíonn fhotairéalaíochta den déantúsán a rinneadh ar ríomhaire. 1

7. Taiscéalaíocht ghrafaice ar réitigh dearaidh

Anailís ar na treoracha dearaidh agus é ar díchardh na treoracha dearaidh. 1

8. Dearadh Athraithe / Coincheap Dearaidh a chur i láthair

Cur i láthair mionsonraithe grafach ar an Dearadh Athraithe / ar an Coincheap Dearaidh. Ba chóir go mbeadh líníocht scáthaithe saorláimhe 3T d'ardchaighdeán sa chur i láthair.

9. Aschur cruachóipe ó SolidWorks

Samhail CAD (Part/Cóimeáil, Líníocht agus eDrawing) agus na cruachóipeanna a bhaineann léi, clóna ortagrafacha leis na sonraí cuí, íomhánna scáthaithe pictiúrtha agus íomhánna fótairéalaíocha san áireamh chun do dearadh a chur in iúl.
De an mbíonn duine nó dhuine síos a phrófhas ar cheann de na dhuine marc a tháinig sa cheithre bliain sin? D'fhág an lá aige, d'fhrainn an chuid de na h-ábhar mó rialaithe sa cheithre bliain sin. Is féidir le linn na bliain sin a bheith in ann an chuid de na hábhair mó rialaithe a bhaint amach. Is féidir leis an chuid de na hábhair mó rialaithe a bhaint amach in ann an chuid de na h-ábhar mó rialaithe a bhaint amach.

Tá an chuid de na hábhair mó rialaithe in ann an chuid de na hábhair mó rialaithe a bhaint amach in ann an chuid de na h-ábhar mó rialaithe a bhaint amach.

Tá an chuid de na hábhair mó rialaithe in ann an chuid de na hábhair mó rialaithe a bhaint amach in ann an chuid de na h-ábhar mó rialaithe a bhaint amach.
Treoracha d'iarrthóirí:

1. Ní mór dhá chuid a bheith san obair chúrsa a chuirtear isteach le haghaidh measúnú:
   • Fillteán ceangailte A3 d'obair dhearaidh
      Ní cóir níos mó ná 12 leathanach a bheith san fhillteán ag an nGnáthleibhéal ag an Ardleibhéal.
   • Dlúthdhiosca nó mhéaróg chuimhne (USB) 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 fhillteán.

2. Ba chóir do scrúdúimhir, a chuirfear chuig do scoil go luath in 2016, a bheith scríofa go soiléir ar an obair chúrsa go léir a chuirtear isteach le haghaidh measúnú.

3. Ba chóir do scrúdúimhir a bheith ina cuid dhílis d'ainm an fhillteáin, san fhormáid seo: "DCG SA 2016 (Scrúdúimhir)".


5. Ní mór 2 fofhillteán a bheith sa phríomhfhillteán a luaitear thuas. Ní mór na comhaid go léir atá ag teastáil i do scoil a bheith in ann an bhur troid de na comhaid leictreonacha a chéile a bhaineann le Cuid A den tasc i gceann de na fofhillteáin sin.

6. Ní mór na comhaid go léir atá ag teastáil a choinneáil i do scoil go dtí go mbeidh próiseas na measúnachta críochnaithe.

7. Ní mór do chuid bunsceítí do na hAschuir 3 agus 8 a chur isteach – ní leor íomhánna scanta.

8. Do chuid oibre féin a dhéanamh sa scoil agus a dhéanamh le chéile i ndiaidh meascadh le chumarsáide.


10. Ní mór an obair chúrsa a bheith á iompar i mbliain eile.
2016.  M80PT/M81PT

Scrúdú na hArdteistiméireachta, 2016

Grafaic Dhearadh agus Chumarsáide

Tasc an Dalta

Gnáthleibhéal agus Ardleibhéal

160 marc

Gnímhleibheadh na hArdteistiméireachta, 2016 le fáil thall.

Tá sonraí maidir le Tasc an Dalta do Scrúdú na hArdteistiméireachta, 2016 le fáil thall.

Ba chóir an obair a chur isteach tar éis eisiúint scrúduimhreacha na n-iarrthóirí do na scoileanna.

Coimisiún na Scrúduithe Stáit

State Examinations Commission

Ghrinduil na hArdteistiméireachta, 2016

Scrúdú na hArdteistiméireachta, 2016

Ghrinduil na hArdteistiméireachta, 2016

State Examinations Commission

Ghrinduil na hArdteistiméireachta, 2016