Review of the New Academic Structure –
School Survey on New Senior Secondary Curriculum and Assessment

PART 2:
Initial Recommendations on Subject-level Issues

Questionnaire to be completed by the Subject Panel Head

Design and Applied Technology

Please make reference to the school-level recommendations in Part 1 (can be accessed from the EDB website at http://www.edb.gov.hk/nas/review), C&A Guides and the 2012 HKDSE Examination Report before responding to the subject-level recommendations as the issues are interrelated and should be considered as a whole.

Purpose of questionnaire

Your views and other suggestions on the subject-level recommendations in Part 2 would help fine-tune the recommendations further for consideration by the Joint CDC-Public Examinations Board meeting in early 2013. The relevant CDC-HKEAA Committees and the HKDSE Subject Committees would study the feedback collected, and decide on the short-term recommendations for addressing the related issues and concerns as well as explore suggestions to be deliberated further at a later stage. Recommendations for the short-term stage are expected to be announced in early 2013 following the Joint CDC-Public Examinations Board meeting.

Design of questionnaire

Considering the scale of the survey, this questionnaire is designed to encompass the major considerations and recommendations (as deliberated at the CDC-HKEAA Committees and the HKDSE Subject Committees on the NSS subjects and based on feedback from other stakeholders) without overloading the respondents. The recommendations are by no means exhaustive, and those that are not included can be discussed through other channels, e.g. written submissions, forums and interviews. Further, subject panel heads and teachers are also welcome to express their views under ‘Other comments’ in this questionnaire.

Return of completed questionnaire

For each NSS subject questionnaire, schools are expected to return ONE reply only. While school principals, subject panel heads and teachers should exchange views on all the key issues in the staff meeting, the subject panel heads should also discuss subject-specific issues with the subject teachers concerned, collate all their views on the subject-level recommendations and submit a consolidated reply to the principal/coordinator before 19 December 2012.
Schools are advised to complete this hard copy of the questionnaire and your views can be expressed in either English or Chinese. The Chinese version of this questionnaire will also be uploaded on the EDB website in late November 2012 for schools’ reference.

Your views, if any, are welcome even if your school does not offer this subject. For enquiries, please contact Mr Eric Tam of CDI at 2892 5882 and Ms Maria Fung of HKEAA at 3628 8070.

Confidentiality

All information provided will be kept strictly confidential and will only be used for the purpose of the NAS review. No information on individual schools/teachers will be revealed.
School Name: _______________________________________________
HKDSE School Code: ______________________________________

Design and Applied Technology (DAT)

BACKGROUND
The EDB, CDC and HKEAA have joined hands to review the first cycle of curriculum implementation, the HKDSE Examination, and their impact. Based on the feedback collected, some initial recommendations on addressing the concerns and enhancing the implementation of the curriculum and assessment at school level (Part 1) as well as subject level (this questionnaire in Part 2) are proposed.

ISSUES AND CONSIDERATIONS
The following feedback and concerns with respect to the implementation of the Design and Applied Technology curriculum and assessment framework are noted:

- teachers’ difficulty in mastering the breadth and depth of the topics in the curriculum
- insufficient lesson time for teachers to cover the curriculum
- teachers’ uncertainty about the scope of the curriculum and the arrangement of examination papers
- teachers’ and students’ workload in SBA

In making recommendations to address the concerns above, our major considerations are:

- Introducing major changes in the short term would require further intensive preparation as teachers have just familiarised themselves with the subject. More data collection and deliberations are required to explore suggestions that may have major impact on the curriculum and assessment design.
- The workload issue is related to teachers’ uncertainty about the scope and depth of the subject, and more support measures should be adopted to enhance teachers’ understanding of the curriculum and assessment, especially on topic under Module 4 – Electronics.
- Establishing a pool of project titles could also help to ease teachers’ workload.

Based on the above considerations, please answer the following questions.

ACTION REQUESTED
Please make reference to the school-level recommendations in Part 1, and let us know your views and other suggestions on the subject-level recommendations in Part 2, so that we can fine-tune the recommendations further for consideration by the Joint CDC-Public Examinations Board meeting in early 2013.

(1) Please fill in the school name and school code at the top of this page.

(2) Please blacken the appropriate circle and/or state your views in the space provided.
## (A) Short-term Recommendations

**Teaching at S4 in the 2013/14 school year, leading to the 2016 HKDSE Examination**

### Curriculum

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<table>
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<tr>
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<tbody>
<tr>
<td>1.</td>
<td>It is recommended that the curriculum framework (including the compulsory and elective parts) remain unchanged, subject to regular review and continuous provision of support measures for schools.</td>
</tr>
<tr>
<td></td>
<td>○ Agree</td>
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<tr>
<td></td>
<td>○ Disagree</td>
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<tr>
<td></td>
<td>○ No opinion</td>
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<td></td>
<td>Other comments: _____________________________________________________________________________</td>
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<td>______________________________________________________________________________________________</td>
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<td>2.</td>
<td>In the elective part, module 4 – Electronics, the requirement of the topic of micro-controller is to be confined to using flowchart or pseudo codes in programming. Explanatory notes would be provided to illustrate the requirement.</td>
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<tr>
<td></td>
<td>○ Agree</td>
</tr>
<tr>
<td></td>
<td>○ Disagree</td>
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<tr>
<td></td>
<td>○ No opinion</td>
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<tr>
<td></td>
<td>Other comments: _____________________________________________________________________________</td>
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<tr>
<td>3.</td>
<td>Do you agree that the following support measures should be provided to help your planning and implementation of the senior secondary Design and Applied Technology curriculum and assessment?</td>
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<tr>
<td></td>
<td>(A) Developing theme-based learning and teaching materials to supplement the thematic learning and teaching of Design and Applied Technology.</td>
</tr>
<tr>
<td></td>
<td>○ Agree</td>
</tr>
<tr>
<td></td>
<td>○ Disagree</td>
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<tr>
<td></td>
<td>○ No opinion</td>
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<td></td>
<td>Other comments: _____________________________________________________________________________</td>
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<td></td>
<td>(B) Disseminating exemplars of good practices in teaching Design and Applied Technology.</td>
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<tr>
<td></td>
<td>○ Agree</td>
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<td></td>
<td>○ Disagree</td>
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<tr>
<td></td>
<td>○ No opinion</td>
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<td></td>
<td>Other comments: _____________________________________________________________________________</td>
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</table>
### (C) Organising professional development programmes on curriculum leadership for panel heads and teachers

- [ ] Agree
- [ ] Disagree
- [ ] No opinion

Other comments: __________________________________________________________

### (D) Setting up networks among panel heads and teachers for the sharing of good practices in planning and implementing the senior secondary Design and Applied Technology curriculum.

- [ ] Agree
- [ ] Disagree
- [ ] No opinion

Other comments: __________________________________________________________

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4. Other comments on the curriculum of this subject:

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## Public Examination

With the completion of the first conduct of the HKDSE DAT Examination, feedback on the Assessment Framework and Examination Papers of the 2012 HKDSE Examination is gathered from various channels. Teachers’ views on the Assessment Framework for DAT, including examination paper structures, weightings and examination durations, are all positive. Please refer to Annex 19 for the proposed assessment framework for the 2016 HKDSE Examination.

5. In the light of the support from schools, no changes to the design of the public examination are proposed, subject to regular review and continuous improvement in light of feedback from live examinations.

- [ ] Agree
- [ ] Disagree
- [ ] No opinion

Other comments: __________________________________________________________

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6. Other comments on the public examination of this subject:
School-based Assessment (SBA)

7. A year-specific project list would not be provided by the HKEAA starting from the 2014 HKDSE Examination (S5 in 2012/13). Instead, a list of project titles on SBA would be provided for reference of teachers.

- Agree
- Disagree
- No opinion

Other comments: ________________________________________________________________
__________________________________________________________________________

8. Other comments on the SBA of this subject:


(B) Medium- or Long-term Recommendations
Teaching at S4 beyond the 2013/14 school year, leading to sittings beyond the 2016 HKDSE Examination

9. Medium- or long-term recommendations on this subject:


10. Background Information: Please indicate the provision of this subject in your school:

- This subject has been offered in the 2012/13 school year and/or in previous school year(s)
- This subject has not been offered
PROPOSED 2016 HKDSE
DESIGN AND APPLIED TECHNOLOGY ASSESSMENT FRAMEWORK

INTRODUCTION

The public assessment of this subject is based on the Curriculum and Assessment Guide (Secondary 4–6) Design and Applied Technology (DAT), jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. Candidates have to refer to the Guide for the knowledge, understanding and skills they are required to demonstrate in the assessment.

The 2016 Assessment Framework may be subject to change based on the experience of the first administration of the HKDSE Examination. Schools and the public will be informed of any changes with adequate advance notice.

ASSESSMENT OBJECTIVES

The objectives of this assessment are to evaluate candidates’ abilities in the following:
- Application of research, graphical communication and information processing skills to the design process.
- Response to identified needs, wants and opportunities of technological products and processes, while being aware of the impacts of technology and design on society.
- Use of the design process to develop design solutions to student-generated design problems in a range of contexts.
- Selection and use of appropriate technology and relevant resources for designing, manufacturing and marketing a product.
- Evidence of appropriate design decisions based on knowledge and understanding of design practices and relevant technological systems and processes.

Mode of assessment

The public assessment will consist of a public examination component and a school-based assessment component as outlined in the following table:

<table>
<thead>
<tr>
<th>Component</th>
<th>Part</th>
<th>Weighting</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Public Examination</td>
<td>Paper 1 Compulsory Part</td>
<td>30%</td>
<td>2 hours</td>
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<tr>
<td></td>
<td>Paper 2 Elective Part – Each candidate is</td>
<td>30%</td>
<td>2 hours</td>
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<tr>
<td></td>
<td>required to choose any two of the</td>
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<tr>
<td></td>
<td>following five modules:</td>
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<tr>
<td></td>
<td>2A: Automation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2B: Creative Digital Media</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2C: Design Implementation and Material</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Processing</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2D: Electronics</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2E: Visualisation and CAD Modelling</td>
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<td></td>
</tr>
<tr>
<td>School-based Assessment (SBA)</td>
<td>Design Project</td>
<td>40%</td>
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</table>
PUBLIC EXAMINATION

The overall aim of the public examination is to assess candidates’ abilities to demonstrate their knowledge and understanding in different areas of technology and to apply them to their daily living.

Paper 1 (2 hours)
This paper is compulsory with Sections A and B. This paper will carry 30% of the subject mark.

Section A
Compulsory (60 marks)
One major design question.

Section B
Optional questions (40 marks)
Three questions will be set and candidates are required to answer two questions.

Paper 2 (2 hours)
This paper consists of the following 5 elective modules. Candidates are required to choose two modules when they registered for the examination. This paper will carry 30% of the subject mark.

2A: Automation
2B: Creative Digital Media
2C: Design Implementation and Material Processing
2D: Electronics
2E: Visualisation and CAD Modelling

Three questions will be set for each of the five modules. Candidates are required to answer two questions in each of the two registered modules.

SCHOOL-BASED ASSESSMENT (SBA)

SBA is compulsory for all school candidates. In the context of public assessment, SBA refers to assessments administered in schools and marked by the student’s own teachers. The primary rationale for SBA in DAT is to enhance the validity of the overall assessment and extend it to include the assessment of students’ skills in the following aspects:

- Identification and analysis of design problems
- Collection of data
- Conducting research and investigation
- Generation and development of design ideas
- Making proposed final solution
- Presentation of solution with suitable media
- Evaluation of final solution

Design Project (25-35 hours)
Candidates are required to complete a design project in the SBA, which carries 40% of the subject mark. The project is to be completed in two stages:

Stage 1 Research, investigation and data collection (10%)
Stage 2 Design and make (30%)

Candidates are required to keep good custody of their work for inspection and authentication purposes until the release of the HKDSE results.

The detailed requirements, regulations, assessment criteria and guidelines will be provided in the SBA Handbook for HKDSE Design and Applied Technology (DAT) published by the Hong Kong Examinations and Assessment Authority.

- End of Appendix 19. Thank you very much! -