

SOFTWARE DESIGN
AND DEVELOPMENT

Specific answers show knowledge

Pay attention to keywords and avoid generalising by giving examples to demonstrate your ideas.

The aim of the Software Design and Development (SDD) course is to develop knowledge, understanding and skills in problem-solving through the creation of software solutions. The HSC written examination requires students to analyse and interpret scenarios and apply their knowledge to these situations.

The SDD course includes the core components Development and Impact of Software Solutions; Software Development Cycle; and Developing a Solution Package. One option topic is chosen from Evolution of Programming Languages; and The Software Developer's View of the Hardware.

The HSC SDD examination paper

The HSC examination will consist of a written paper worth 100 marks. The time allowed is three hours plus five minutes reading time.

The examination paper is divided into three sections:

- ▶ Section I: Core (20 marks). There will be objective-response questions to the value of 20 marks.
- ▶ Section II: Core (60 marks). There will be three questions consisting of short-answer parts, each worth 20 marks.
- ▶ Section III: Options (20 marks). There will be two questions, one for each of the options. Choose

only the question that relates to the option topic you have studied. Both questions will consist of eight short-answer parts.

There is a range of resources available to support your study: ▶ The SDD section of NSW HSC Online (hsc.csu.edu.au/sdd) has a wealth of material that will assist you in your preparation for the HSC examination.

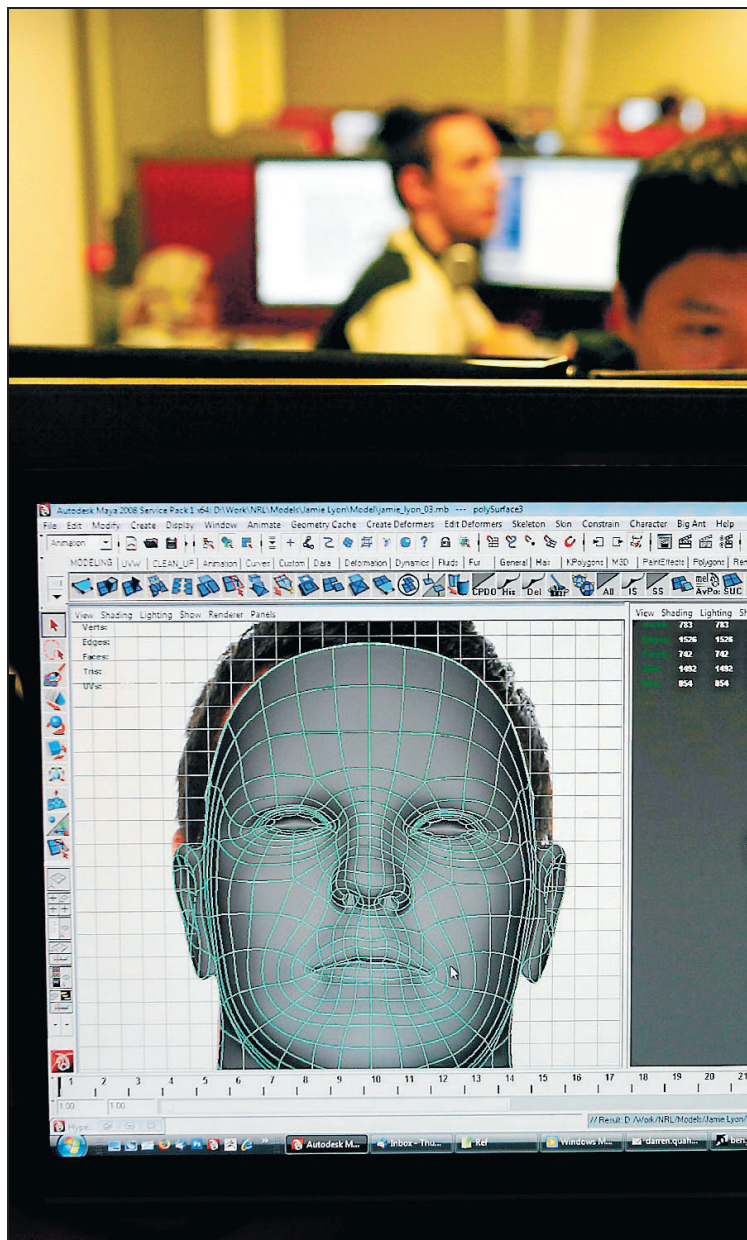
The Board of Studies NSW website (boardofstudies.nsw.edu.au) has many resources, including:

- ▶ The SDD syllabus.
- ▶ Past examination papers, which show the layout and demonstrate the type of questions asked.
- ▶ Notes from the Marking Centre, which contain comments about the student responses to the examination papers, highlighting relative strengths and weaknesses. These also include the marking guidelines and sample answers, indicating the approach taken in the marking of the questions.
- ▶ The Software and Course Specifications document, which provides information and guidelines about how to represent the course tools, metalanguage and algorithms.
- ▶ Multiple-choice online test questions (www4.boardofstudies.nsw.edu.au) from past HSC papers. Feedback is provided.

Preparing for the examination

It is important to understand not only all the concepts in the syllabus but also how to apply the knowledge appropriately. Students often give general answers, or answers not directly related to the situation in a question. If a scenario is given in the question, it should be referred to in your response.

The questions in sections II and



Real ... computer game designers at Big Ant Studios. Photo: Rodger Cummins

III will consist of parts that will be sequenced in order of difficulty. For the parts with more marks, spend some time planning the structure of your answer before starting your response.

Pay particular attention to the keywords used, e.g. "explain", "compare", "discuss". These words assist you in determining

the depth required in your answer. The Board of Studies NSW website has a glossary of keywords (hsc.csu.edu.au/glossary/keywords.html).

During your course you will have completed a project requiring you to design and develop a software solution. Referring to specific examples

drawn from your project work can often enhance your answers to questions. This can help to illustrate concepts more clearly and demonstrate to the examiner your depth of understanding of the subject material. Support material is available on the NSW HSC Online website (hsc.csu.edu.au/sdd/core/package/solution_package/index.html).

Diagrams should be neat and clearly labelled. They should follow the conventions described in the Software and Course Specifications document (boardofstudies.nsw.edu.au/syllabus_hsc/pdf_doc/softwaredesign_specs.pdf).

Writing and interpreting algorithms will feature in the examination. Students are expected to know both pseudocode and flowchart methods of algorithm description. When creating algorithms, ensure you correctly use the three control structures and include enough detail to demonstrate understanding of the processes being described. Flowchart templates may be used. See NSW HSC Online for support material (hsc.csu.edu.au/sdd/core/cycle).

During the examination

- ▶ Read the question carefully.
- ▶ Underline the important aspects of given scenarios.
- ▶ Identify the keywords and determine what the question is asking you to do.
- ▶ Use the marks on the paper as an indication of the depth and length required. You can use diagrams, tables and bullets to present your information or to enhance your answers.
- ▶ Avoid generalisations and unsubstantiated jargon. Where appropriate, demonstrate your ideas by giving examples.

Writer: Phillip Cooke is the learning co-ordinator Information Technology at Bradfield Senior College and co-ordinator of the SDD section of NSW HSC Online.

EXAM DETAILS

Date: Thursday, October 21

Time: 1.55pm-5pm

Duration: 3 hours and 5 minutes (including reading time).

For the composition of the exam go to HSC Syllabuses on the Board of Studies website.