MASSEY UNIVERSITY
College Of Sciences

Paper Number and Title: 159.776 Special Topic: Visual Languages & Computer Graphics

Points value: 12.5 Semester: 2

Campus: Turitea Mode: Internal

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Calendar Prescription:
Visual Languages: Definitions and examples of visual languages. Languages for building visual interfaces: output models; visual object hierarchies. Languages with visual input: special and general-purpose languages; syntax directed manipulations. Evaluation of visual languages.

Computer Graphics: An introduction to the principles of Computer Graphics. Topics include algorithms, interaction, geometric objects and transformations, viewing, shading and working with models

Learning Outcomes:
Students will explore the concepts of Visual Programming Languages, and gain an appreciation of current development, in particular, the research being undertaken at Massey under the auspices of the Human Computer Interaction Group.

Students will: develop practical experience in writing a large object oriented system; learn about how programming languages are interpreted; understand the principles of Computer Graphics and be able to program in a modern graphic environment; understand and be able to implement interaction, geometric objects and transformations, viewing, shading, and know how to work with models.

Pre- and Co-requisites:
Not specified. However, students should have, or be prepared to develop an appreciation of the design and analysis of programming languages, and facility in programming object-oriented graphical user interfaces. The visual languages section of the course will use Delphi. The graphics section of the paper will be taught in C++. They should also be mathematically competent and ideally they should know about C++.

Assessment:
100% internal. (50% VL, 50% Computer Graphics) Assessment will be based on practical work that will be set during the semester. This will be discussed further during the first week of lectures.

Learning Programme and Schedule:
The course structure will be informal; introductory lectures will be followed by consideration of various published papers and practical work.

Student Time Budget:
150 hours.

**Timetable:**
Lectures: Wednesday 10.00am – 11.00am AH2.36  
Friday 4.00am – 5.00am AH2.36

**Requirements to Complete the Paper:**
A total mark of =50% in the practical work is a requirement for a pass in this paper.

**Deadlines and Penalties:**
Deadlines TBA. Penalty of 10% per day late; assignments that are 6 or more days late will not be marked.

**Conditions for Aegrotat Pass and Impaired Performance:**
As per University guidelines.

**Proposed Feedback and Support for Student Learning:**
The semi-tutorial nature of the lectures will provide opportunities for feedback.

**Textbook and Other Recommended Reading:**
Reference will be made to papers in JVLC (Journal of Visual Languages and Computing), in the library Periodicals section (ground floor) under Dewey call no 006.66. Papers in other publications may also be referenced.


**Additional Costs:**
Some copied material may be available at a cost set so as to defray the expenses of copying.

**Additional Information and Advice:**
Through contact with the lecturer at times outside regularly scheduled lectures. The lecturer does not guarantee to be available at all times.