



## PAPER OUTLINE 2011

<b>Paper Code &amp; Title:</b>	<b>CMPO 381</b> <i>Interface Design for Live Electronics</i>		
<b>Year:</b>	2011	<b>Points:</b>	20
<b>CRN:</b>	19772	<b>Trimester:</b>	1/3
<b>Campus:</b>	NZSM - VUW Kelburn		
<b>Key dates:</b>	Teaching dates: 28 February–3 June 2011		
	Mid-trimester break: 18 April–1 May 2011		
	Study week: 6–10 June 2011		
	Exam/Assessment period: 10 June–2 July 2011		
	<i>(where applicable)</i> NB: For courses with exams, students must be available to attend the exam at any time during this period.		
	Withdrawal dates: Information on withdrawals and refunds may be found at: <a href="http://www.victoria.ac.nz/home/admisenrol/payments/withdrewalsrefunds.aspx">http://www.victoria.ac.nz/home/admisenrol/payments/withdrewalsrefunds.aspx</a>		
<b>Prerequisites:</b>	CMPO 211		
<b>Corequisites:</b>	None		
<b>Restrictions:</b>	PERF 345		

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**Paper Co-ordinator:** Ajay Kapur  
**Contact phone:** 04 463 7426 **Email:** [ajay@karmetik.com](mailto:ajay@karmetik.com)  
**Office located at:** Room 203, 92 Fairlie Terrace  
**Office hours:** Monday, 10:30am-12:00pm

**Tutors:** Owen Vallis **Email:** [owenvallis@gmail.com](mailto:owenvallis@gmail.com)  
Jordan Hochenbaum **Email:** [jhochenbaum@gmail.com](mailto:jhochenbaum@gmail.com)  
**Class times/rooms:** Monday, Wednesday, 9:00am–10:20am (Room MS EMS4)  
**Workshop times/rooms:** TBA  
**Tutorial times/rooms:** TBA

### Classes with tutorials:

*Tutorials commence in the second week of the trimester. Groups will be posted on Blackboard and/or on the noticeboard outside the office on the NZSM Kelburn campus at the start of Week 2.*

## PAPER PRESCRIPTION

*Designing and building a custom digital interface for musical expression. No prior experience in electronic engineering is expected.*

## LEARNING OUTCOMES

Students successfully completing this paper will:

1. Have demonstrated an understanding of the context and history of live electronics
2. Be able to plan, design, and implement a custom digital interface for musical expression
3. Have given a performance using the custom digital interface.

## EXPECTED WORKLOAD

A 20-point first-trimester paper should require at least 200 hours work (including class time). This means that in term time, the midterm break and study week you should be prepared to spend on average 13 hours per week involved in activities such as attending classes, reading, listening to recommended recordings and preparing assignments.

## COURSE CONTENT & DELIVERY

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This course comprises two 1.5-hour lectures per week.

See attached course syllabus for more information.

## READINGS, MATERIALS & EQUIPMENT

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D. O'Sullivan and T. Igoe, *Physical Computing*. Boston: Thomson Course Technology, 2004.

**(Do NOT BUY!!! – In Library)**

Kapur, A. "Digitizing North Indian Music: Preservation and Extension using Multimodal Sensor Systems, Machine Learning and Robotics." VDM Verlag Dr. Muller, Germany, 2008.

**(Do NOT BUY!!! – In Library)**

Collins, Nick. "Introduction to Computer Music." Wiley, March 2010. **(Do NOT BUY!!! – In Library)**

Selected Articles from Proceedings of New Interfaces for Musical Expression (NIME)

## ASSESSMENT REQUIREMENTS

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### Approved assessment regime

The following assessment regime for this paper has been approved by the NZSM Academic Committee:

1. *In-class presentation. Related to Learning Outcome 1. (10%)*
2. *Online review. Related to Learning Outcome 1. (10%)*
3. *Project proposal. Related to Learning Outcome 2. (10%)*
4. *Between 3 and 6 minor assignments. Related to Learning Outcome 2. (30%)*
5. *Short performance project. Related to Learning Outcome 3. (20%)*
6. *Project report. Related to Learning Outcome 2. (20%)*

### Assessment details for this offering

This course provides an introduction on how to build a custom interface for musical expression. We will discuss basic electronics, and teach how to build a breadboard, with a microcontroller and sensors, from scratch. This class is intended for the novice student to electronics, so don't be afraid! The goal of the class is to have each student build their own custom MIDI interfaces for use with any software program or synthesizer. The final evaluation will be based on a complete working digital musical interface.

<i>Assessment name</i>	<i>Word length / approx. duration</i>	<i>Learning outcome(s)</i>	<i>Due date</i>	<i>% of final grade</i>
History of NIME/Controllers	10-min Presentation	1	March 14, 2011	10%
Short assignment 1: circuit	1 page	2	March 21, 2011	10%
Short assignment 2: LED	demonstration	2	March 28, 2011	10%
Short assignment 3: Sensors	demonstration	2	March 30, 2011	10%
Project Proposal	5-min Presentation	2	April 4, 2011	10%
Online Interview/Review	TBA	1	By May 12, 2011	10%
Creative Project	10-12 minutes	3	June 3, 2011	20%
Project Report	1000 words	2	June 3, 2011	20%

Deposit and collection of written work

*Assignments should be submitted via Blackboard or online.*

**MARKED ASSIGNMENTS WILL BE RETURNED VIA BLACKBOARD OR ONLINE.**

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## **ASSIGNMENT PRESENTATION**

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**Written work** should be presented according to the guidelines set out in the **NZSM Guidelines for Academic Work**, which can be downloaded as a PDF document from the NZSM Website <http://www.nzsm.ac.nz/study/programmes.aspx> (in the right-hand column). Five percent (5%) will be deducted for written work that does not conform to these standards.

**Notated work** must be presented according to the guidelines set down in the **NZSM Composition and Orchestration Style Guide**, available as a PDF document from the NZSM Website: <http://www.nzsm.ac.nz/study/composition.aspx> (in the right-hand column). Five percent (5%) will be deducted for notated work that clearly does not conform to these standards.

**Sonic Arts work** should be submitted as a clearly labelled Audio CD, or, for multimedia works, as a DVD or as a Quicktime data file on a data CD-ROM.

## **MANDATORY PAPER REQUIREMENTS**

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The following mandatory requirements for this paper have been approved by the NZSM Academic Committee:

To gain a pass in this course each student must:

- a) Complete each item of assessment worth at least 10% specified for this course (subject to penalties for late submission of work).
- b) Attend at least 80% of lectures and 80% of tutorials (if relevant) related to this course.

If, for health reasons, you are unable to complete all the work required for assessment purposes for this paper by 2 July, you may, on presentation of a medical certificate, have the date for submission extended by the Director, NZSM.

## **COMMUNICATION OF ADDITIONAL INFORMATION/INFORMATION ON CHANGES**

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Official notices issued after the paper has commenced will be posted on the board outside the NZSM office on the Kelburn campus. Notices concerning a number of papers will also be posted on Blackboard. The Paper Co-ordinator will specify if Blackboard will be used.

## **STUDENT REPRESENTATIVES**

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Student representatives for the NZSM are elected in the first week of the trimester, and their names and contact details will be available to VUWSA and/or MAWSA, the Course Co-ordinator and to each class.

## ACADEMIC INTEGRITY AND PLAGIARISM

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Academic integrity means that university staff and students, in their teaching and learning, are expected to treat others honestly, fairly and with respect at all times. It is not acceptable to mistreat academic, intellectual or creative work that has been done by other people by representing it as your own original work.

Academic integrity is important because it is the core value on which the University's learning, teaching and research activities are based. The NZSM's reputation for academic integrity adds value to your qualification.

The NZSM defines plagiarism as presenting someone else's work as if it were your own, whether you mean to or not. 'Someone else's work' means anything that is not your own idea. Even if it is presented in your own style, you must acknowledge your sources fully and appropriately. This includes:

- Material from books, journals or any other printed source
- The work of other students or staff
- Information from the internet
- Software programs and other electronic material
- Designs and ideas
- The organisation or structuring of any such material.

Find out more about plagiarism, how to avoid it, and penalties, on the NZSM website:  
<http://www.nzsm.ac.nz/about/statutes-policies.aspx#plagiarism>

## GENERAL NZSM POLICIES AND STATUTES

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Students should familiarise themselves with the NZSM's policies and statutes, especially those regarding Personal Courses of Study, Academic Grievances, Staff and Student Conduct. Please see <http://www.nzsm.ac.nz/about/statutes-policies.aspx>

For any statutes relating to the particular qualifications being studied, see either the *Massey University Calendar* or the *Victoria University Calendar*.

Information about Student Services, including Academic Mentoring for Māori and Pacific Students, and support for Students with Disabilities, is to be found in the *NZSM Student Handbook* (available from the NZSM offices on each campus).

## EVENTS

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Regular events are held during trimesters 1 & 2 at all NZSM campuses. These events are for the benefit of all students, and include performances, masterclasses, special lectures and workshops given by staff, students and visiting artists.

All students are expected to read the NZSM website for the latest events listings, and keep time free to attend the weekly lunchtime concert on Friday at 12:10pm, along with other events as required.

**Events & Marketing Co-ordinator:** Stephen Gibbs  
**Phone:** (04) 801 5799 ext 62119    **Email:** [stephen.gibbs@nzsm.ac.nz](mailto:stephen.gibbs@nzsm.ac.nz)  
**Website:** <http://www.nzsm.ac.nz/events/>