

**Important information for all students
enrolled in graduate programs in**

DIGITAL MEDIA and
DESIGN COMPUTING

Interaction Design and Electronic Arts (IDEA)

A new course from 2009 REPLACING Graduate Certificate,
Graduate Diploma and Masters of Design Science in
DIGITAL MEDIA and DESIGN COMPUTING.

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Interaction Design and Electronic Arts (IDEA)

The Interaction Design and Electronic Arts (IDEA) program is the first of its kind in Australia to prepare students in the skills and knowledge of interaction possibilities offered by modern computing technologies.

As technology becomes a greater part of our daily lives, there is a growing need for products, systems and devices that are functional, pleasurable and innovative to fit the needs of the user. The IDEA degree seeks to teach students the possibilities of such technologies and new applications and explore their relation number of emerging fields such as biotechnology, sustainability, social networking, global health and cultural diversity.

The course focuses on four distinct areas:

- Virtual - online immersive cyber worlds and games;
- Screen – from small, mobile devices to architectural media facades;
- Installation - experimental, responsive environments for performance and direct engagement, and;
- Devices - smart artefacts and wearable electronic fashion that sense and inform their wearers; computing embedded in smart everyday objects.

Students will explore how humans behave and interact with computers, and how art, technology and culture have merged in inspiring forms of media and interactive art. Each design studio unit endeavours to develop the student's conceptual design abilities, within the framework of research-based and human-centred design.

Program Coordinators: Dr Kirsty Beilharz and Dr Andrew Vande Moere

More information at:

http://www.arch.usyd.edu.au/programs_of_study/index.shtml

Transition FAQs

For Design Computing and Digital Media students

I do not wish to transfer to the IDEA program. This change does not affect me, right?

WRONG. There are significant changes to the units of study to be offered from 2009. Semester 2, 2008 is the last semester many current units in the Design Computing and Digital Media programs will be offered. You need to plan your studies and choose well in semester 2, 2008 - See the enrolment advice for semester 2, 2008. The timetable will also change significantly – see timetable faq.

Can I transfer to the new program?

Yes. Students in the Graduate Certificate or Graduate Diploma in 2008 will be transferred to the Graduate Diploma or Master of IDEA if they upgrade in 2009. Current Masters of Design Computing and Digital Media students will be treated on a case by case basis but we would expect at least 24 credit points completed in the new program.

What are the names of the new courses?

Graduate Certificate in Interaction Design and Electronic Arts (GradCertIDEA)
Graduate Diploma in Interaction Design and Electronic Arts (GradDiplIDEA)
Master of Interaction Design and Electronic Arts (MIDEA)

Can I complete my Design Computing or Digital Media course?

You can complete your *current enrolled* award course – the Graduate Certificate, Graduate Diploma or Masters. However, if you wish to upgrade from a Graduate Certificate or Graduate Diploma, you will be transferred to the IDEA program.

What timetable changes can be expected? Will classes still be offered at night?

Classes will be offered during the day. The studio classes will be linked as co-requisites to the lab classes, making this a full time load for most students.

Is the fee regime the same as my current course?

Yes, the fees for the IDEA programs in 2009 will be the same as for Design Computing and Digital Media.

Will the current range of units of study be available in 2009?

NO. Please see the transition tables to see how your subject choices will be affected in future years.

Enrolment advice for semester 2, 2008

Digital Media

We recommend the following enrolment plan for students commencing their studies in semester 2, 2008. Continuing students should also note that these units will not be offered in 2009:

<i>Unit Code</i>	<i>Unit title</i>	<i>Running in 2009?</i>
DESC9175	Web Design and Programming	No
DESC9091	Digital Media Production	No
DESC9125	Digital Media Design and Production	No
	Core/option/Elective	

Continuing students who wish to complete any of the following current units on offer should do so this semester:

<i>Unit Code</i>	<i>Unit title</i>	<i>Running in 2009?</i>
DESC9186	Digital Culture	No
DESC9187	Interactive Sound Studio	No
DESC9155	Visual Perception and Digital Imaging	No
DESC9177	Computer Supported Collaborative Design	No
DESC9178	Computer Integrated Design	No
DESC9179	Ambient Visualisation with Devices	No
DESC9180	Designing Virtual Worlds	No

If you remain in the Digital Media program in 2009 the units available to will be as follows.

Digital Media Table of Units 2009

Core

<i>Code</i>	<i>Unit name</i>	<i>CP</i>	<i>Session</i>
DESC9019	3D Computer Graphic Concepts	6	1,2
DESC9092	3D Animation 1*	6	1
IDEA9101	Experimental Interfaces Lab	6	1
IDEA9102	Installation Studio	12	1
IDEA9201	Physical Computing Lab	6	2
IDEA9202	Device Studio	12	2
IDEA9205	Art, Technology and Culture	6	2

Options:

<i>Code</i>	<i>Unit name</i>	<i>CP</i>	<i>Session</i>
DESC9117	Sound Design for New Media	6	1,2
DESC9156	Digital Compositing and Visual Effects*	6	1
IDEA9105	Human Computer Interaction	6	1
IDEA9106	Design Thinking	6	1

**Offered for the last time in 2009.*

Enrolment advice for semester 2, 2008

Design Computing

We recommend the following enrolment plan for students commencing their studies in semester 2, 2008. Continuing students should also note that these units will not be offered in 2009:

<i>Unit Code</i>	<i>Unit title</i>	<i>Running in 2009?</i>
DESC9175	Web Design and Programming	No
DESC9177	Computer Supported Collaborative Design	No
DESC9125	Computer Integrated Design	No
	Core/Option/Elective	

Continuing students who wish to complete any of the following current units on offer should do so this semester:

<i>Unit Code</i>	<i>Unit title</i>	<i>Running in 2009?</i>
DESC9177	Computer Supported Collaborative Design	No
DESC9178	Computer Integrated Design	No
DESC9179	Ambient Visualisation with Devices	No
DESC9180	Designing Virtual Worlds	No

If you remain in the Design Computing program in 2009 the units available to you will be as follows.

Design Computing Table of Units 2009

Core

<i>Code</i>	<i>Unit name</i>	<i>CP</i>	<i>Session</i>
IDEA9101	Experimental Interfaces Lab	6	1
IDEA9102	Installation Studio	12	1
IDEA9105	Human Computer Interaction	6	1
IDEA9106	Design Thinking	6	1
IDEA9201	Physical Computing Lab	6	2
IDEA9202	Device Studio	12	2

Options:

Optional units for the Design Computing Students include any core unit from the Audio and Acoustics or Digital Media programs

Unit Transition Map

<i>Old unit</i>	<i>Old Unit</i>	<i>Offered 2009?</i>	<i>Alternative units</i>
DESC9019	3D Computer Graphics Concepts	Yes	This unit remains on offer into the future
DESC9174	Theory and Practice of Digital Design	No	IDEA9105 Human-computer Interaction, <i>or</i> IDEA9106 Design Thinking <i>or</i> IDEA9205 Art, Technology and Culture
DESC9175	Web Design and Programming	No	IDEA9204 Screen Studio <i>and</i> IDEA9203Time-based Media Lab (2010)
DESC9176	Creative Systems	No	IDEA9101Experimental Interfaces Lab
DESC9177	Computer Supported Collaborative Design	No	Removed from offer due to low demand
DESC9178	Computer Integrated Design	No	Removed from offer due to low demand
DESC9179	Ambient Visualisation with Devices	No	IDEA9202Device studio & IDEA9201Physical Computing Lab
DESC9180	Designing Virtual Worlds	No	IDEA9104 Cyber Studio & IDEA9103Virtual Worlds Lab (2010)
DESC9181	Designing Immersive Spaces	No	IDEA9102 Installation Studio & IDEA9101Experimental Interfaces Lab
DESC9182	Design Computing Graduate Studio	No	IDEA9102, 9104, 9202, 9204 IDEA Studios
DESC9186	Digital Culture	No	IDEA9205 Art, Technology and Culture
DESC9091	Digital Media Production	No	IDEA9203 Time-based Media Lab
DESC9092	3D Animation 1	Yes	Run in 2009 for last time.
DESC9187	Interactive Sound Studio	No	IDEA9102 Installation Studio & IDEA 9101Experimental Interfaces Lab (sem.1 2009) or IDEA9202 Device Studio & IDEA 9201Physical Computing Lab (sem.2 2009)
DESC9188	Modelling and Animation for Games	No	No replacement.
DESC9190	Experimental Games Interfaces Studio	No	IDEA9202 Installation Studio & IDEA9201 Experimental Interfaces Lab
DESC9125	Digital Video Design and Production	No	IDEA9204 Screen Studio & IDEA 9203Time-based Media Lab (2010)
DESC9155	Visual Perception and Digital Imaging	No	Screen Studio & Time-based Media Lab (2010). Recommend intensive available sem.2 2008
DESC9156	Digital Compositing and Visual Effects	Yes	

IDEA Table of Requirements 2009

Table of Requirements	Min core	Min Options	Max Elective
Graduate Certificate	18	0	6
Graduate Diploma	36	6	6
Masters	54	12	6
Masters (Hons)	60	6	6

IDEA Table of Units 2009

Core Units			
<i>Code</i>	<i>Title</i>	<i>Credit Points</i>	<i>Session</i>
<i>Note: Masters students should complete two studios and then the Graduation Studio.</i>			
IDEA9101	Experimental Interfaces Lab C) IDEA9102 <i>Odd numbered years only</i>	6	S1 Intensive
IDEA9102	Installation Studio C) IDEA9101 <i>Odd numbered years only</i>	12	S1
IDEA9201	Physical Computing Lab C) IDEA9202 <i>Odd numbered years only</i>	6	S2 Intensive
IDEA9202	Device Studio C) IDEA9201 <i>Odd numbered years only</i>	12	S2
IDEA9103	Virtual Worlds Lab C) IDEA9104 <i>Even numbered years only</i>	6	S1 Intensive
IDEA9104	Cyber Studio C) 9103 <i>Even numbered years only</i>	12	S1
IDEA9203	Time-based Media Lab C) IDEA9204 <i>Even numbered years only</i>	6	S2 Intensive
IDEA9204	Screen Studio C) IDEA9203 <i>Even numbered years only</i>	12	S2
IDEA9301	IDEA Graduation Studio P) 48 credit points including 24 credit points from IDEA(9102, 9104, 9202 and 9204) C) IDEA (9101, 9201, 9103 or 9203) MIDEA students only.	12	S1, S2
Honours Units			
<i>Note: Masters students should complete two studios and both the following units</i>			
IDEA9302	IDEA Research Project P) 48 credit points including 24 credit points from IDEA(9102, 9104, 9202 and 9204) and a WAM of 75 <i>Permission required for enrolment. MIDEA students only.</i>	12	S1, S2
IDEA9303	IDEA Dissertation P) 48 credit points including 24 credit points from IDEA(9102, 9104, 9202 and 9204) and a WAM of 75 <i>Permission required for enrolment. MIDEA students only.</i>	12	S1, S2
Optional Units			
IDEA9105	Human Computer Interaction	6	S1
IDEA9106	Design Thinking	6	S1
IDEA9205	Art, Technology and Culture	6	S2

IDEA Unit Descriptions

IDEA9101 Experimental Interfaces Lab

6 Credit Points Semester 1 Corequisite: IDEA9102 Odd numbered years only, classes: intensive.

The aim of this subject is to support the Installation Studio concerned with interaction, using installation as the experimental interface. The studio encompasses a wide array of advanced, sensor-based interfaces for responsive environments. It supports the learning of important technical skills required to develop the hardware and software necessary for experimenting with sensor-based interfaces.

IDEA9102 Installation Studio

12 Credit Points, Corequisite: IDEA9101, Semester 1 Odd numbered years only. Classes: weekly.

The aim of this subject is to explore interaction, using installation as the interface. This investigates the relationship between our environments, bodies and technologies in a practice-led fashion. It evolves a discourse on the next generation of mixed-media installations, involving their history, their evolution, and their cultural context. This studio will provide a platform for students to integrate knowledge of interaction design, multimedia, and advanced sensor technologies within the context of installation art and design. Students will have the opportunity to develop in-depth knowledge through practice by developing prototypes of experimental interfaces on a human scale.

IDEA9201 Physical Computing Lab

6 Credit Points, Semester 2, Corequisite: IDEA9202, Semester 2, Odd numbered years only. Classes: intensive.

The aim of this subject is to support the Devices Studio concerned with interaction, using devices, e-fashion/e-jewellery, and ubiquitous computing as the interface. The studio encompasses a wide array of physical computing devices (wearable, mobile, portable, tangible 'things' in which the computational technology is embedded in the device or artefact). The lab teaches students technical skills for operating the devices, microprocessors, sensors, other relevant hardware, and the important industry-standard softwares pertinent to the development of physical computing devices, such as object-oriented real-time responsive audio-visual programming environments (e.g. Max/MSP or Processing). In the lab, students will foster their conceptual and skill knowledge necessary for the implementation of ideas borne out in the studio. Hence it will support a number of modes for visual, sonic, textile or material expression of ideas.

IDEA9202 Device Studio

12 Credit Points, Corequisite: IDEA9201, Semester 2 Odd numbered years only. Classes: weekly.

The aim of this subject is to explore interaction, using miniature devices as the interface. This encompasses a wide array of physical computing devices, such as wearable, mobile, portable or tangible furniture, garments, jewellery or other artefacts in which computational sensor and actuator technology is embedded. Everyday objects that are able to analyse, respond and mediate our user experience are rapidly permeating the expression, monitoring, customisation and personalisation of professional, industrial, personal and daily activities. This studio will investigate a number of modes for the multi-sensory expression of ideas. The kinds of information represented may range from personal to social and external, for applications ranging from entertainment to health. The studio is offered biennially in odd-numbered

years: each time it will revolve around a socially relevant theme. Students will use various computing technologies including sensors, microprocessors and actuators to facilitate the design and development of novel, innovative applications that imbue intelligence, responsiveness and interaction in small-sized physical objects that can be manipulated, worn, used, watched, listened to, in order to communicate physically (in digital or analogue material ways) the message of the interaction.

IDEA9103 Virtual Worlds Lab

6 Credit Points, Semester 1, Corequisite: IDEA9104, Even numbered years only, classes: intensive.

The aim of this subject is to support the Cyber Studio concerned with interaction, using virtual worlds as the interface. This lab introduces design principles and styles, along with virtual world software platforms and their related 3D modelling tools. A range of virtual worlds design styles will be considered with respect to the intended use of the virtual world: collaboration, entertainment, socialising and education. The focus will be on designing for human activities where humans are represented as avatars in interactive, functional, multi-user environments. Students will learn to design an interactive virtual world for a specified activity; to create and compose the 3D models that comprise the world; to program the behaviours of the objects in the virtual world; to critically read research papers; to develop an experimental study on the created virtual world that analyses the behaviour of the avatars.

IDEA9104 Cyber Studio

12 Credit Points, Corequisite: IDEA9103, Semester 1 Even numbered years only. Classes: weekly.

The aim of this Unit of Study is to explore interaction, using the virtual world as the interface. Students will develop an understanding of the unique characteristics of designing in and for virtual worlds, taking into consideration the different types of activities that take place in virtual worlds and how avatars move, talk, and interact in virtual worlds.

IDEA9203 Time-based Media Lab

6 Credit Points, Semester 2, Corequisite: IDEA9204, Semester 2, Even numbered years only. Classes: intensive.

The aim of this subject is to support the Screen Studio concerned with interaction, using screen as the interface. The studio aims to present the principles of narrative and language as metaphors for discursive interfaces. This supporting lab develops competence in working with time-based media including digital video production, editing, post-production, special effects, real-time video processing, and text analysis.

IDEA9204 Screen Studio

12 Credit Points, Corequisite: IDEA9203, Semester 2 Even numbered years only. Classes: weekly.

This studio aims to present the principles of narrative and language as metaphors for discursive interfaces. Students will produce interactive digital video and/or video art which combine multiple screen-based platforms and the viewer(s) as (an) active part of the video work. The works will be informed by theories drawn from film theory and linguistics. The technical aspects of working with time-based media including digital video production, editing, post-production, special effects, real-time video processing, and text analysis are developed in the associated lab.

IDEA9105 Human Computer Interaction

6 Credit Points, Semester 1, classes: weekly.

This unit is a foundation unit that provides a theoretical perspective on the concept of interaction within the Interaction Design and Electronic Arts (IDEA) stream. The aim of this unit of study is to introduce Human Computer Interaction (HCI) design principles and methods. It introduces students to valuable tools, techniques, and sources of information about HCI and provides a systematic approach to the design and evaluation of alternative ways in which people interact with various types of computational environments. The course increases awareness of good and bad design through observation of existing technology, and teaches the basic skills of task analysis, and analytic and empirical evaluation methods. Students will learn to apply knowledge of HCI theory and processes by conducting a case study to different types of interfaces; to critically read and examine research papers; to develop an experimental study on one developed or existing human-computer interface; to analyse the interface issues and effectiveness using HCI evaluation techniques.

IDEA9106 Design Thinking

6 Credit Points, Semester 1, classes: weekly.

The prolific growth of computing and its extensions, including the internet, digital media, interactive entertainment and mobile communication, have stimulated development of new, substantially different design fields. This unit aims to give students, with an interest in this rapidly emerging field, a fuller awareness of designing as both: 1) a holistic but complex cognitive activity by which a designer integrates knowledge and skills, both general and specific to many particular experiences, settings and requirements, to create unique works, and 2) a dynamic process of situated practice in which the designer by intentional acts and unexpected discoveries develops individual "designerly" ways. The subject investigates the mentality of designing, by presenting elements of the theoretical background of creative design, significant issues and the first hand accounts of current practitioners, and by providing the challenge to explore, analyse, reflect upon a diverse array of "designerly" acts. An important aspect of this approach is to enable the arts, technologies, theories and practice of designing in all domains, not only electronic, to be considered as a common discipline.

IDEA9205 Art, Technology and Culture

6 Credit Points, Semester 2, classes: weekly.

This unit is a foundation unit that provides a theoretical perspective on the core concepts underlying the trans-disciplinary discourse of the Interaction Design and Electronic Arts (IDEA) stream. It aims to create a critical dialogue between the fields of aesthetic expression, cultural history, and emerging computing technologies. The course objectives include the development of a deeper understanding of the complex interactions between modern technology and popular culture, and the conceptualisation and formulisation of the issues arising from these interactions in the creative design process. The subject sets out as an investigatory process, investigating a set of artistic, cultural, and social practices that both constitute and reflect the theoretical foundations of aesthetics, culture, and technology. The investigation is shaped and structured as a platform for discussions, readings, screenings, writings, concept proposals and presentations.