01 E-Fashion display by Andrew Vande Moere & Monika Hoinkis
02 Art installation by Dr onadivo
03 Designing virtual worlds, student work
04 Electronic shadow, student work
05 Data Scratching Visualization by Sheryl Soo
06 Physical interaction with live 3D creature sonification by Kirsty Beilharz
07 Student project presentation
08 Motion sensing display, student work
Technology is becoming more and more pervasive in our lives, from iPhones to interactive art installations. The new Interaction Design and Electronic Arts (IDEA) degree is a unique program responding to the changing needs of our world. The program seeks to move away from traditional notions of computational designing and utilise digital technology in a way that engages, challenges and changes the way we experience our lives.

IDEA has been devised by the Design Lab, the innovative centre for digital design based in the Faculty of Architecture, Design and Planning. Interactive technology has liberated computing from the desktop and now is all around us, from the mega to the nano scale. Anything might be, or contain, a computer that could transform the way we live. Interactive design is becoming as influential and important as the design of physical artefacts.

Opportunities are opening up for a new generation of interactive designers and artists, who want to participate in this great adventure and aspire to be as good as the worlds best.

The IDEA program exposes students to a diverse range of creative opportunities utilising different technologies, concepts and focus. This is highlighted by the strength of the teaching staff, as Dr Vande Moere highlights: “Our staff is a unique mix of different nationalities and diverse backgrounds; we have engineers, we have architects, we have designers, we have artists. What we all have in common is ‘interaction design’. the combination of creativity with state-of-the-art technology.”
For Dr Petra Gemeinboeck, an electronic artist and lecturer at the Design Lab, this program brings together the fields of computing and engineering with the playful and critical practice of electronic arts. “We want to inspire students to look at technology differently so that they can develop and use it in new and creative ways. Electronic arts will play an important role in establishing this playground; a place to experiment and to turn things up side down.”

The IDEA program is a response to the 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 awaken students to the possibilities of such technologies and new applications and to explore their relation to a number of emerging fields such as biotechnology, sustainability, social networking, global health and cultural diversity.

The program aims to collaborate with local industry partners in interaction design, offering students a chance to experience and engage with commercial clients or enrol in competitive internship opportunities.

Students will explore how art, technology and culture can be merged in inspiring forms of interactive media and electronic art. Each design studio endeavours to develop the student’s conceptual design abilities as well as augments one’s technical skills, within the framework of a highly creative, research-based and human-centred design process. For students coming from a commercial environment or an undergraduate degree, this will be a rare opportunity to be given the space, knowledge and technology to design and create their own design projects at a high level.
As Lecturer and creative system specialist Dr Rob Saunders elaborates, “The IDEA program is based around a set of design studios. They take our environment and split it into four parts: the environment; the things that we carry; what we look at; and what’s behind that. That’s the basis of the studios which replicate the continuum through our electronic world.”

Each semester will be based around one of these studios, which allows for the curriculum to evolve with changes in technology. As Dr Saunders points out, “For us, the great thing about setting up these studios like this (because they are fixed and we’re teaching them every other year) is that we can really get our teeth into serious pieces of leading edge technology, bring that into class and run a great studio with large projects.”
The interaction design installation in the VIP section of the Lexus booth at the Detroit Auto show (pictured below) enables passers-by to use a carton board “mouse” on sleek plexiglass plinths to capture the personal interests in the Lexus brand by interacting with a dynamic interface on a series of large LCD screens. The installation makes use of innovative image capturing algorithms to track the unique ID and dynamic movements of the carton board mouse through the glass.

Lexus Booth at the Detroit Auto Show. Design and Photos by Spinifex Ltd Sydney.

// Interaction Designer
A developer who defines the behavior of innovative products and systems that a user can interact with, by designing novel interfaces embedded within our physical environment that helps us live, work, and play. Other names include: media exhibit designer, multimedia specialist, technical art director, media architecture engineer, interface developer.

// Usability Engineer
A specialist in designing and evaluating human-computer interfaces that are pleasurable and easy to use, who is knowledgeable about how an electronic product is perceived, learned and used. Other names include: user experience designer, user interface developer, user researcher, human factors design engineer, usability consultant.

// New Media Artist
An artist in the field of interactive art who defines new interfaces that challenge our notion of what is possible when interacting with electronic machines. Other names include: visual designer, electronic artist, digital design manager.

// Creative Director
A creative person within the advertising, media or entertainment industry who oversees the design of engaging electronic artifacts and interactive installations that augment the communication or awareness of a brand. Other names include: graphic designer, art director.
//Elective Installation Studio
IDEA 9101 (6 Credit Points), Semester 1, Corequisite: IDEA 9102, Classes: intensive.
This lab complements 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.

//Installation Studio
IDEA 9102 (12 Credit Points), Semester 1, Corequisite: IDEA 9101 (6 Credit Points), Semester 2, Classes: weekly
This studio explores interaction, using installation as the interface. This investigates the relationship between our environments, bodies and technologies in a practice-led fashion. It evokes 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.

//Experimental Interfaces Lab
IDEA 9201 (6 Credit Points), Semester 2, Corequisite: IDEA 9202, Classes: intensive
This lab supports the Device 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 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.

//Virtual Worlds Lab
IDEA 9103 (6 Credit Points), Semester 1 (Available 2010), Corequisite: IDEA 9104, Classes: intensive
This lab supports 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.

//Cyber Studio
IDEA 9103 (6 Credit Points), Semester 1 (Available 2010), Corequisite: IDEA 9104, Classes: intensive
This studio explores 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.

//Screen Studio
IDEA 9204 (12 Credit Points), Semester 2 (Available 2010), Corequisite: IDEA 9203, Classes: weekly
This studio explores 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.

+ CORE UNITS +

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<tr>
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+ OPTION UNITS +

Human Computer Interaction
IDEA 9105 (6 credit points), Semester 1

//Design Thinking
IDEA 9106 (6 credit points), Semester 1

//Art, Technology and Culture
IDEA 9301 (6 credit points), Semester 2

//IDEA Graduation Studio
IDEA 9301 (48 credit points), Semester 1 & 2
Permission is required for enrolment and only available to MIDEA students who have passed 48 Credit Points with including 24 credit points from IDEA9102, IDEA9104, IDEA9202 and IDEA9204.

//IDEA Research Project (Honours)*
IDEA 9302 (48 credit points), Semester 1 & 2

//IDEA Dissertation (Honours)*
IDEA 9303 (48 credit points), Semester 1 & 2
*Permission is required for enrolment and only available to MIDEA students who have passed 48 Credit Points with a Weighted Average Mark of 70.

+ ELECTIVE UNITS +

Students may choose electives from any graduate program from the Faculty.

+ HONOURS +

Permission is required for enrolment and only available to MIDEA students who have passed 48 Credit Points with a Weighted Average Mark of 70.
**Course Information**

**Total credit points required**
- Graduate Certificate: 24
- Core: 18, Options: 0, Electives: 6
- Graduate Diploma: 48
- Core: 36, Options: 6, Electives: 6
- Master: 72
- Core: 54, Options: 12, Electives: 6

**Application Deadlines**
- **LOCAL**
  - 30 November (March semester)
  - 31 May (July semester)
- **INTERNATIONAL**
  - 31 October (March semester)
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**Scholarships**
Please see: www.arch.usyd.edu.au/programs_of_study/scholarships.shtml

**Course Fees**

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**How to Apply**

**Who is eligible to apply?**
Masters and Graduate Diploma applicants should hold a bachelors degree. Graduate Certificate applicants should hold a bachelors degree or possess experience which is considered to demonstrate the knowledge and aptitude required to undertake the course.

**Offer of admission**
The result of your application will be a formal response sent by the Faculty. You will also receive information on fee payments and orientation material. If, for any reason, you are unable to take up an offer, please notify the Faculty immediately.

**// Local Students**
If you are an Australian citizen, a permanent resident of Australia or a citizen of New Zealand, you will be considered a local student and will be required to pay compulsory subscriptions to the appropriate associations.

You can download a local application form from: www.arch.usyd.edu.au

**Admission Requirements**
Applications must be accompanied by a certified copy of your academic transcripts listing course results and the date of conferring of your qualifications. The original transcripts must be brought to enrolment. If you completed your bachelor degree at The University of Sydney this is not necessary. Applicants are required to show original evidence of their Australian citizenship, New Zealand citizenship or permanent residency status. This can be brought to enrolment.

**// International applicants**
If you are NOT an Australian citizen, a permanent resident, or a citizen of New Zealand, you will be considered an international student and accepted into the University only on a full-fee basis.

Application Processing Fee: AUD$100

Applications must be lodged to the International Office. For more details, see: www.usyd.edu.au/internationaloffice/

**English Language Requirements**
If your qualifications were from a university or other recognised institution where the medium of instruction was not English, you must provide evidence of proficiency in the English language. Applicants whose first language is not English may also be asked to provide evidence of English proficiency. The Faculty accepts the following tests: IELTS: 7.0 overall (min 6.0 each component); TOEFL: 600+ (TWE 4.5+) CBT 250+ (essay 4.5+) IBT 100+

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