

Human Interface Technology Laboratory (Australia)



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WEBSITES FOR FURTHER INFORMATION

Human Interface Technology Laboratory Australia (HIT Lab AU):
www.hitlab.utas.edu.au

HIT Lab US:
www.hitl.washington.edu

HIT Lab NZ:
www.hitlabnz.org

General information about the University of Tasmania and access to University-prepared websites (the UTAS home page):
www.utas.edu.au

Information for prospective UTAS students:
www.utas.edu.au/futurestudents

Information for international students:
www.international.utas.edu.au

Information on Tasmania:
www.discovertasmania.com.au
www.tas.gov.au/tasmaniaonline/about

Contact us

Australian students

For further information about the University, including undergraduate courses and application processes, please contact the Uni Info Centre.
Phone 1300 363 864
Email Course.Info@utas.edu.au
Web www.utas.edu.au/futurestudents

International students

For further information including application forms and fee schedules visit the University of Tasmania's international website at www.international.utas.edu.au
Phone +61 3 6226 2706

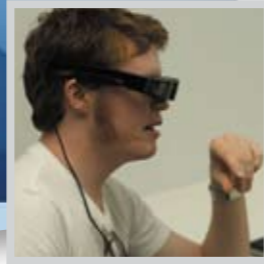


School of Computing & Information Systems



Welcome to UTAS

and to the HIT Lab AU



Welcome to the University of Tasmania and to the Human Interface Technology Laboratory Australia (HIT Lab AU)!

The HIT Lab AU is an immensely exciting development for the University of Tasmania (UTAS) and its Launceston campus. Please take some time to read the information in this booklet on the facilities, courses, research and projects we have planned.

The HIT Lab AU is an initiative that directly supports the UTAS objective to see Tasmania recognised as a global centre of research, advanced scholarship and high-level teaching in our identified areas of strength and competitive advantage. It is an important part of our strategic direction for the Launceston campus, which includes the establishment of distinctive academic models, teaching and research centres that are renowned nationally and internationally, together with new and expanded programs.

UTAS already has a reputation for excellent scholarship in its core academic disciplines and inter-disciplinary areas. The HIT Lab AU is unique in Australia and one of only three similar centres in the world. Our international partnership with the two other centres, the HIT Lab US at the University of Washington and the HIT Lab NZ at the University of Canterbury, will extend these foundations into advanced study, research and research training and industry-linked projects in human interface technologies.

Undergraduate and postgraduate HIT Lab AU students will have exciting opportunities to develop their knowledge and skills to undertake creative and applied projects based on real-world problems and to utilise cutting-edge technologies in an emerging research and teaching centre on the national and international stage.

Opportunities and challenges await you at UTAS and the HIT Lab AU – we look forward to you joining us as part of the UTAS community.

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Vice-Chancellor

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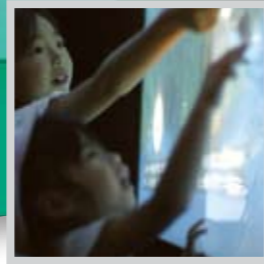


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What is human interface technology (HIT)?



At this point in time human interaction with computers is generally limited to simple input devices like the keyboard or mouse. 'Human interface technologies' (HIT) refers to the natural and humanistic ways that humans interface with digital devices as well as with other people remotely over large distances using the full range of human senses and gestures. Human interface technologies are becoming more and more important because of the increasing demand for intuitive interface tools to enable people to communicate and drive the growing capacity and complexity of digital computing devices.

Examples of human interface technologies include:

- ✦ **Virtual reality (VR)** – a wide variety of applications commonly associated with immersive and highly visual 3D environments. VR technology allows a user to interact visually or to use other senses with a computer-simulated environment, be it a real or imagined one. The simulated environment can be similar to the real world, for example, simulations for pilot or combat training, or it can differ significantly from reality, as in VR games.
- ✦ **Augmented reality (AR)** – is the combination of real-world and computer-generated data, for example use of live video imagery which is digitally processed and 'augmented' by the addition of computer-generated virtual objects.
- ✦ **Mixed reality** – where 3D computer-generated objects inter-mingle with the real-life world. A person in a mixed reality environment is able to see and interact with both real-world and virtual objects.
- ✦ **Magic Book technology** – allows readers to read normal books through a viewfinder and to 'crawl' into virtual worlds.
- ✦ **Virtual retinal display** – scans images directly onto the eye, allowing a person to see digital images and interact without television screens or monitors.

Advanced human-computer interface technologies (including visualisation, simulation, animation, virtual reality and augmented reality) can harness and enhance human intelligence, improve the quality of life and connect people and thinking across the globe.

Human interface technologies have many current and future applications in several fields requiring users to have virtual sensory experiences without actually being in the situation. These applications include design and creative arts, interactive entertainment and games, medical treatment (for example for pain abatement), as well as in training and simulation.

Examples include:

- ✦ Next generation immersive interactive entertainment including games that will bring out entertainment into living rooms from the 'box'
- ✦ Virtual sets for creative arts, including film
- ✦ Simulation of an interactive underwater world or space
- ✦ E-health and remote examination systems for primary health care
- ✦ Virtual cockpit for remotely operated vehicles
- ✦ Briefcase (portable) simulators for maritime or nurse training
- ✦ 3D immersion space for scientific visualisation (nursing, climate, Antarctica, genetics, marine biology)
- ✦ Pain abatement treatment using HIT
- ✦ Virtual blueprint system for shipbuilding and marine architecture
- ✦ Projects in architecture, tourism, education, psychology, engineering, art, bioinformatics

Commercial opportunities in partnership with local industry

With the introduction of cutting-edge technologies in virtual reality and augmented reality through the HIT Lab AU, there is a significant opportunity to collaborate with local industry and businesses or, in fact, to develop a new creative industry in Launceston and northern Tasmania.



The Human Interface Technology Laboratory – Australia (HIT Lab AU)

The Human Interface Technology Laboratory Australia (HIT Lab AU) has been established as a strategic initiative of UTAS within the School of Computing and Information Systems at Launceston. One of only three similar centres in the world, it is a specialist teaching and research centre that provides virtual and mixed reality expertise and technologies with a focus on design, visualisation, simulation and interactive entertainment.

Applications for these high-end technologies are almost without limit. The technologies provide students and staff with exciting opportunities to do creative and applied projects based on real-world problems and to utilise cutting-edge technologies – technologies that can create a new virtual sensory experience for people without actually being in the situation, or that can augment the physical environment with virtual objects.

The aim of the HIT Lab AU is to facilitate trans-disciplinary studies, research and projects involving students and staff from a wide range of other UTAS schools including Architecture and Design, Visual and Performing Arts, Nursing and Midwifery, Human Life Sciences, Human Movement, Education and the Australian Maritime College.

As a flagship centre for research and teaching the HIT Lab AU will conduct a significant research program that will attract the brightest students and researchers from Australia and around the world and generate economic development activity in northern Tasmania and the State of Tasmania as a whole. It will develop as an international showcase for Australian technology with global collaboration in teaching and research.

The mission of the HIT Lab AU is to serve as an economic engine for Tasmania and Australia by tapping into the enormous talent at UTAS and working on projects that empower people by building advanced interface technology to unlock and link minds.

HIT Lab is a trademark of the University of Washington (ranked second in research among all public and private universities in the US, placing it in front of luminaries such as Stanford and Harvard), which established the first HIT Lab in 1989. The HIT Lab NZ was then established in 2002 at the University of Canterbury. The HIT Lab AU at UTAS is now part of a formidable international partnership that will drive the philosophy and growth of human interface technology well into the future.

Hit Lab AU is also connected to the Virtual Worlds Consortium – a collaboration of international businesses and industry enabling an exciting and productive environment for conducting research and projects on a commercial basis.

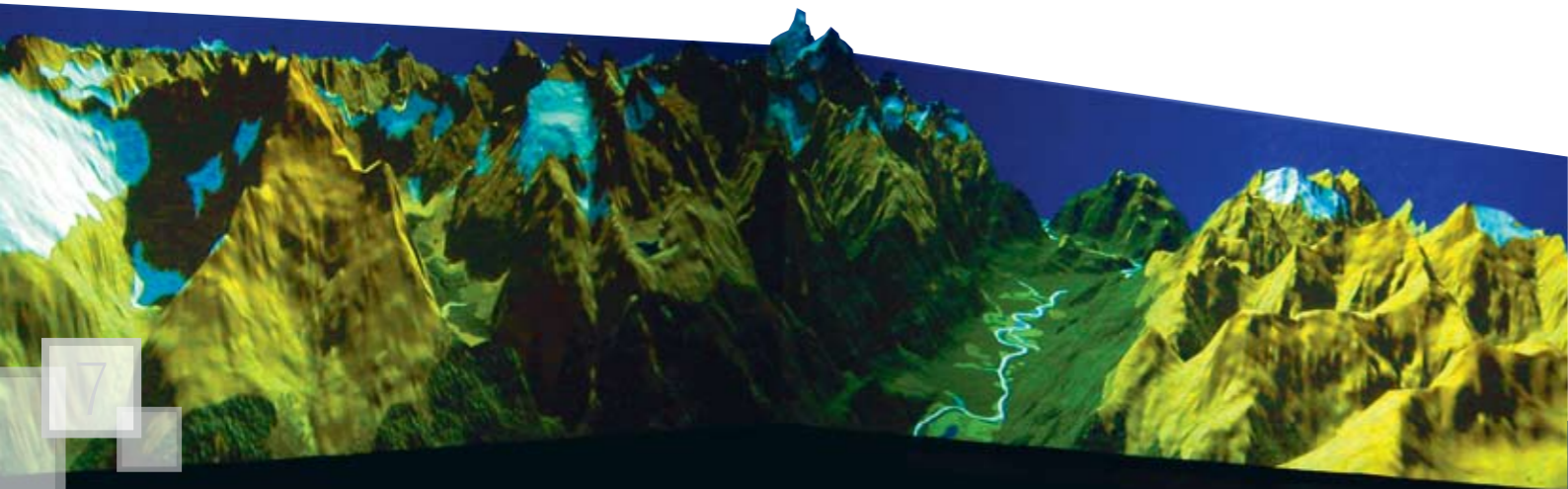
Facilities and equipment

The HIT Lab AU features modern and discrete offices and teaching and research facilities within the Computing and Information Systems Building at Launceston.

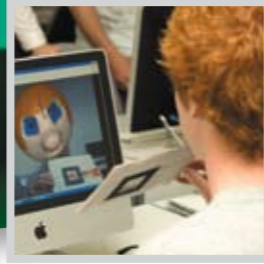
Students have access to state-of-the-art equipment and technology including:

- + **VisionSpace** – a three-screen immersive stereo projection system enabling groups to view and interact intuitively with virtual 3D objects
- + **Access Grid** – a high-end, collaborative communication facility that includes a high-definition videoconferencing facility
- + **Immersive virtual reality** systems to create and experience 'being there' in a synthesised space
- + **Augmented reality** systems for combining bits and atoms, i.e. bringing computer-generated 3D models into the real world
- + **Magic Book technology** that allows readers to 'enter' and explore a book as an immersive virtual world

These facilities play a pivotal role in HIT Lab AU teaching and research because of their capacity to demonstrate and facilitate inter-disciplinary possibilities and collaborations. The VisionSpace is being commissioned with high-end technology (including a state-of-the art tracking system) and is modelled on similar facilities available at HIT Lab NZ utilising newer, more advanced but compatible technologies.



Courses and study opportunities



What courses can I do?

The HIT Lab AU is progressively developing a full range of courses from undergraduate level, honours and postgraduate coursework programs, and research higher degrees. The undergraduate HIT major may be undertaken within the Bachelor of Computing, or in a number of other courses including the Bachelor of Arts and Bachelor of Science. HIT units are also available as electives or as a minor unit sequence in many other programs including the Bachelor of Education and Bachelor of Contemporary Arts.

Major in Human Interface Technology (Bachelor of Computing)		
Student Category	Domestic	International
Mode	Full-time & Part-time	Full-time
Intake	Semester 1 & 2	Semester 1 & 2

Honours in Human Interface Technology (Bachelor of Computing with Honours)		
Student Category	Domestic	International
Mode	Full-time & Part-time	Full-time
Intake	Semester 1 & 2	Semester 1 & 2

Graduate Certificate in Creative Media Technology* (Designed for graduates in any area or students enrolled in another degree program concurrently)		
Student Category	Domestic	International
Mode	Part-time	–
Intake	Semester 1 & 2	–

Graduate Diploma in Creative Media Technology* (Grad cert and grad dip are also available for international students as a pathway to Masters)		
Student Category	Domestic	International
Mode	Part-time	–
Intake	Semester 1 & 2	–

Master of Creative Media Technology*		
Student Category	Domestic	International
Mode	Part-time	Full-time
Intake	Semester 1 & 2	Semester 1 & 2

PhD in Human Interface Technology		
Student Category	Domestic	International
Mode	Full-time	Full-time
Intake	Semester 1 & 2	Semester 1 & 2

*These courses are undergoing UTAS approval processes in early 2009.

Undergraduate courses

The applied nature of human interface technology

Digital technology has brought new media to the modern world for creative expression in almost all fields of study, enterprise and entertainment. The purpose of the HIT degree major is to build a bridge between disciplines associated with science and technology and with those associated with the arts, design and professions in medicine, business and law. The focus is on engineering experiences for people in order to enlighten, delight, inspire and empower. The curriculum is open to all students throughout the University regardless of school association and interest.

The exciting new world of HIT:

- ✦ **Mixed reality technology** – imagine a place where real world and virtual worlds combine
- ✦ **Interactive entertainment applications** – innovation becomes entertainment
- ✦ **Immersive virtual worlds** – innovative, interactive environments for work and play

The undergraduate HIT program concentrates on the design of the digital *medium* and the *message* or content delivered by that medium as well as the human interface to both. Although great progress has been made in developing and networking digital technology, today's human interfaces to those technologies (e.g. mouse and keyboard) are extraordinarily limiting and do not match the power of the human with the power of computing and digital media. Furthermore, the content of these media does not take advantage of the natural, three-dimensional capabilities of humans in relating to the real world.

UTAS and the HIT Lab AU intend to change this by developing and commercialising advanced interfaces that provide high bandwidth from computers to the brain and between brains, all based upon: 1) the natural

abilities and perceptual organisation of the human; and 2) the functional needs for specific applications in medicine, design, education and business. Combined, the UTAS courses and HIT Lab projects will develop *technology capital* to build new industry in Australia along with *human capital* that comes from giving students a project-based, multidisciplinary environment in which to learn and grow.

Description of the HIT major

The broad goal of the HIT major is to equip and inspire students to develop revolutionary interfaces that transform how people interact with computers and improve the human experience. Human interface technologies have current and future applications in many fields requiring users to have virtual sensory experiences without actually being in the situation or augmenting the physical environment with virtual objects. The HIT major introduces cutting-edge visualisation, simulation and virtual reality (VR) and augmented reality (AR) technologies, which underpin many high-quality training, education, research and development programs, as well as commercial development, by linking disciplines.

The undergraduate degree major is composed of instructional and project-based units that emphasise **creative design, visualisation, simulation** and **interactive entertainment**, linking technology and entrepreneurial disciplines. The objective is to bring students together to broaden understanding in all components needed to field marketable products that solve pervasive problems in the world through the use of digital media. Through a schedule of required units and electives, students will be able to connect between 'technology' and 'creative' disciplines while still being able to emphasise either track through the major.

What some of our students think about studying HIT

Vanessa (Bachelor of Contemporary Arts)



"Human interface technology has limitless possibilities and applications through so many disciplines. It is a very holistic field in which the imagination is the only restriction. What would my advice be to prospective HIT students? Just do it."

Niels (Bachelor of Social Science, Bachelor of Social Work)



"The most exciting thing about human interface technology is the way that it can be directly linked to many areas of study. The HIT Lab facilities are world standard and this enables students from all faculties to use this up-to-date technology to research new areas, which they wouldn't have been able to before."

Scott (Bachelor Computing, Bachelor of Science)



"The most exciting thing I found about human interface technology is its potential to realise my own aspirations by interfacing people with technology that can enhance environments. For example, by using augmented reality to enhance education, people may find a greater connection with the subject matter and retain information and ideas better."

James (Bachelor of Arts)



"The most exciting thing about the HIT Lab has been the opportunity to learn from experts in their field. In the couple of years that I have been involved with the HIT Lab, I have had the opportunity to learn from experts in virtual reality, augmented reality, game design, theme park design and computer animation."



Student learning experiences will consist of lectures, laboratories, design studios, field studies, and opportunities to participate in funded research projects in connection with the HIT Lab AU and other HIT Labs in the US and New Zealand. The technology used in the course is cutting-edge, involving the latest developments in virtual and augmented reality, gaming and simulation.

The major begins with a four-unit sequence that embeds 'storytelling' as its core, then explores the creation of human experience through various media including linear (cinema), interactive (simulation, games and toys) and immersive (virtual reality) modalities. Additional units develop an understanding of the technology basis for creating the medium, including mixed reality technology, game engines and computer graphics. Finally, entrepreneurial and business instruction provides a practical foundation for translating technology and content into marketable products. The emphasis throughout the major will be on solving real problems in the world.

The units in the HIT major are:

Introductory (Year One) Available from 2009

KXH141	Virtual Reality Technology
KXH142	Augmented Reality Technology

Intermediate (Year Two) Available from 2010

KXH241	User Interface Design
KXH242	Fundamentals of Interactive Entertainment

Advanced (Year Three) Available from 2011

KXH341	Immersive World Workshop A
KXH342	Immersive World Workshop B
KXH343	Designing Virtual Worlds
KXH344	Innovation and Entrepreneurship

Introductory Units Virtual Reality Technology

This unit will explore the exciting field of virtual reality and the advanced concepts and technologies for interfacing humans to complex machines. The focus will be on virtual interfaces and their potential impact on the way we think about computers and the way we think with them. The VisionSpace will be used for teaching, demonstration and practical applications.

Augmented Reality Technology

This unit will explore the exciting field of augmented reality and the advanced concepts and technologies for interfacing humans to complex machines. Hardware, software and mindware aspects of augmented reality environments will be investigated. Creating content for augmented reality applications for the fields of mobile, outdoor and wearable applications will be discussed.

ARToolKit will be used for teaching, demonstration and practical applications.

Core Intermediate Units User Interface Design

This unit looks at current trends and practices of interface and usability design for interactive entertainment and interactive media technology.

Fundamentals of Interactive Entertainment

This unit will provide students with an understanding and overview of interactive entertainment and new media from the perspective of the developer, storyteller, designer, artist and audience. This unit will provide students with the theories, tools and techniques to create and analyse stories that can be told as digital interactive games, animated films, immersive experiences or various forms of mixed reality design.

Core Advanced Units Immersive World Workshop A & B

Students have the opportunity to work individually and in groups to develop a concept and prototype for presentation and review. This unit will look at some of the practical challenges involved in the creation of immersive worlds such as project management and team dynamics, conceiving and writing a concept proposal, business assessment and analysis, development of marketing and promotional plans, development of prototypes, and the integration of visual, audio and textual elements into the total user experience.

Designing Virtual Worlds

This unit will look at the design and development of world building online. It will explore topics such as what is community (online and offline), game communities, MMOs, and social networks. There will be particular emphasis on communities from both a social and economic perspective. Computer graphics for virtual worlds will also be covered.

Innovation and Entrepreneurship

This unit will provide an overview of current business models in interactive media and games, state of the game industry, future trends, funding and copyright issues. It will also look at some of the practical challenges involved in the creation of intellectual properties such as brainstorming, project management, and team dynamics, conceiving and writing a concept proposal, business assessment and analysis.

Can I study HIT units in other degree courses?

Yes you can! You can create your own 3D world in virtual reality!

Sounds fantastic? This is just one of the many hands-on experiences that students will have in the introductory units being offered by the HIT Lab AU. The units are configured as electives for students across a spectrum of disciplines and are available from 2009 for most UTAS courses.

The introductory units KXH141 Virtual Reality Technology (semester 1) and KXH142 Augmented Reality Technology (semester 2) have no prerequisites, require no previous computing study and are available to students in courses including:

Bachelor of Education (as first or second year liberal studies units)
Bachelor of Arts (as electives, a minor or a major)
Bachelor of Contemporary Arts (as electives in years 2 and 3)
Bachelor of Business (as electives in some specialisations including Business Management, HRM and Marketing)
Bachelor of Science (as electives, a minor or a major)
Bachelor of Health Science (as electives in years 1 and 2)
Bachelor of Human Movement Studies (as electives in years 3 and 4 of the Physical Education specialisation)
Electives in some AMC courses including Bachelor of Applied Science (Marine Environment and Marine Operations)
Electives in other courses as approved by course coordinators

To see and hear feedback from students from a range of courses (including Education, Business, Architecture, Contemporary Arts, and Arts/Social Science) who have completed a similar unit, follow the link at www.hitlab.utas.edu.au/wiki/Student_Profiles

Topics covered in the units include an introduction and history of virtual reality (VR) taught by the original pioneers in VR; the human/machine side of virtual interface design; building virtual worlds; overview and applications of VR and augmented reality (AR) in education, creative arts and design, and in medical applications; and future developments in VR/AR technology and applications. Students can focus on creative design, visualisation, simulation and interactive entertainment relevant to many disciplines.

The units provide exciting opportunities for students to do creative and applied projects based on real-world problems and utilising cutting-edge technologies. These technologies can create a new virtual sensory experience for people without actually being in the situation, or augment the physical environment with virtual objects.

The high-end virtual and mixed reality expertise and technologies of the HIT Lab AU are focused on visualisation, creative design, simulation and interactive entertainment and are relevant to a wide range of teaching programs and courses in Launceston including Computing and Information Systems, Architecture and Design, Visual and Performing Arts (Contemporary Arts), Nursing, Human Life Sciences, Human Movement and Education, and programs at the Australian Maritime College.

Honours in Human Interface Technology

The HIT honours program is available on a full-time or part-time basis to high-achieving students who wish to pursue advanced study in a special area of interest. The program is a pathway to a research higher degree and provides students with exciting opportunities to do creative and applied projects based on real-world problems and using cutting-edge technologies.

Postgraduate programs

The **Graduate Certificate in Creative Media Technology** is a four-unit conversion program. The **Graduate Diploma in Creative Media Technology** is an eight-unit conversion program (based on the graduate certificate, plus an additional four units). Both courses are available on a part-time basis and are aimed at graduates in any area to broaden skills and knowledge already gained in an undergraduate program and to develop new skills and knowledge in human interface technology.

Students may be admitted to these courses based on completion of a bachelor degree or advanced diploma with relevant experience, or on the basis of extensive relevant work experience demonstrating the potential to undertake study at this level. Students currently enrolled in a bachelor degree may concurrently enrol in the graduate certificate, with approval.

The graduate certificate and the graduate diploma are pathways to the **Master of Creative Media Technology** which will be available on a part-time or full-time basis from 2010. The Master of Creative Media Technology is a 16-unit conversion program (based on the graduate diploma, plus an additional four postgraduate units and a 50% project). Students are required to undertake a major individual or group project, worth 50% of one academic year.

The Master of Creative Media Technology is composed of instructional and project-based units that emphasise technology, creative and entrepreneurial disciplines. The objective is to bring students together to broaden understanding in all components needed to field marketable products that solve pervasive problems in the world through the use of digital media. Through a schedule of required units and electives, students will be able to connect between 'technology' and 'creative' disciplines while still being able to emphasise either track through the degree. Finally, entrepreneurial and business instruction provides a practical foundation for translating technology and content into marketable products. The emphasis throughout the program will be on solving real problems in the world.

The learning objectives for the HIT postgraduate courses are:

- ✦ understanding important aspects of engineering human experience and especially online interactions
- ✦ understanding human and technology aspects of interacting with digital media
- ✦ understanding the social design considerations in creating online communities
- ✦ participating as a team in the process of designing interactive entertainment systems and virtual worlds, including brainstorming, concept development, documentation and presentation of a pitch to other classmates and experts
- ✦ understanding the impact that new media technology will have on the development of future virtual worlds
- ✦ providing hands-on exposure to advanced interface and media technologies

In addition, a key learning objective for the Master of Creative Media Technology will involve students undertaking a significant project to build an immersive virtual world.

Graduate Certificate in Creative Media Technology (equivalent to 1 semester) (This is a conversion graduate certificate)

KXH141	Virtual Reality Technology
KXH142	Augmented Reality Technology
KXH241	User Interface Design
KXH242	Fundamentals of Interactive Entertainment

Graduate Diploma in Creative Media Technology (equivalent to 2 semesters) (This is a conversion graduate diploma)

KXH141	Virtual Reality Technology
KXH142	Augmented Reality Technology
KXH241	User Interface Design
KXH242	Fundamentals of Interactive Entertainment
KXH341	Immersive World Workshop A
KXH342	Immersive World Workshop B
KXH343	Designing Virtual Worlds
KXH344	Innovation and Entrepreneurship

Master of Creative Media Technology (equivalent to 4 semesters) (This is a 2-year conversion masters program)

KXH141	Virtual Reality Technology
KXH142	Augmented Reality Technology
KXH241	User Interface Design
KXH242	Fundamentals of Interactive Entertainment
KXH341	Immersive World Workshop A
KXH342	Immersive World Workshop B
KXH343	Designing Virtual Worlds
KXH344	Innovation and Entrepreneurship
xxx7xx	Non-HIT postgraduate unit
xxx7xx	Non-HIT postgraduate unit
xxx7xx	Non-HIT postgraduate unit
xxx7xx	Non-HIT postgraduate unit
KXH741/ KXH742 (4-unit)	HIT Masters Project A & B

From 2012, students must be given an option of studying four postgraduate units in HIT, KXH7xx, replacing four non-HIT postgraduate units, xxx7xx.

PhD in Human Interface Technology

Candidature in a research higher degree involves in-depth study and commitment to understand existing information, to develop new ideas, and to distil these into a well-structured and insightful research thesis. Candidates undertake a research higher degree after completing an honours degree or equivalent prior research learning. A research higher degree at the HIT Lab AU will provide training in undertaking research in HIT and a supervised research program that leads to a significant contribution to the field of human interface technology.

The HIT Lab AU is developing as a UTAS flagship centre for research and teaching that will attract the brightest students from Australia and around the world (as has been the experience in the only other two HIT Labs in the world: in the US and NZ). Expert staff in human interface technologies will supervise research higher degree students and lead local, national and international applied research projects. A key aim is

to attract and support talented, keen researchers and research students to underpin and extend teaching and creative project activity utilising the first-class physical and technical infrastructure and facilities.

There are extensive collaborative research and commercial development opportunities involving all the disciplines and academic schools on the Launceston campuses including Computing & Information Systems, Architecture & Design, Visual & Performing Arts, Nursing & Midwifery, Human Life Sciences, Education, and the Australian Maritime College. Pivotal aims are to generate increased research and consultancy activity and enhance regional economic development through business and industry-linked commercial projects and consultancies, and to provide an international showcase for Australian technology in association with international partners and consortia.

Research higher degree students will have opportunities to collaborate with leading international experts in the US, New Zealand and elsewhere.

Schedule of introduction of HIT courses and units

Spring, Summer and Winter School Units	
Winter, 2009	Introduction to Virtual Reality (depending on demand)
Spring, 2009	Introduction to Interactive Entertainment (depending on demand)
Summer, 2010 (International Summer School)	Introduction to Mixed Reality
Winter, 2010	Introduction to Virtual Reality or Introduction to Augmented Reality (depending on demand)
Spring, 2010	Introduction to Interactive Entertainment (depending on demand)
Summer, 2011 (International Summer School)	Introduction to Mixed Reality Advanced Introduction to Mixed Reality (postgraduate level)
Winter, 2011	Introduction to Virtual Reality or Introduction to Augmented Reality (depending on demand)
Spring, 2011	Introduction to Interactive Entertainment (depending on demand)

Major in Human Interface Technology (Bachelor of Computing)

From Semester 1, 2009

Sem 1, 2009	Sem 2, 2009	Sem 1, 2010	Sem 2, 2010	Sem 1, 2011	Sem 2, 2011
KXH141	KXH142	KXH241	KXH242	KXH341	KXH342
				KXH343	KXH344

Honours in Human Interface Technology (Bachelor of Computing with Honours)

From Semester 2, 2009

Sem 1, 2009	Sem 2, 2009	Sem 1, 2010	Sem 2, 2010	Sem 1, 2011	Sem 2, 2011
	KXH4xx	KXH4xx			
		KXH4xx	KXH4xx		

Graduate Certificate in Creative Media Technology

From Semester 2, 2009 (part-time)

Sem 1, 2009	Sem 2, 2009	Sem 1, 2010	Sem 2, 2010	Sem 1, 2011	Sem 2, 2011
KXH141	KXH142	KXH241	KXH242		
	KXH142	KXH141	KXH242	KXH241	

Graduate Diploma in Creative Media Technology

Semester 1, 2010 (part-time); Semester 1, 2011 (full-time)

Sem 1, 2009	Sem 2, 2009	Sem 1, 2010	Sem 2, 2010	Sem 1, 2011	Sem 2, 2011
		KXH141	KXH142	KXH341	KXH342
		KXH241	KXH242	KXH343	KXH344
Sem 1, 2009	Sem 2, 2009	Sem 1, 2010	Sem 2, 2010	Sem 1, 2011	Sem 2, 2011
				KXH141	KXH142
				KXH241	KXH242
				KXH341	KXH342
				KXH343	KXH344

Master of Creative Media Technology

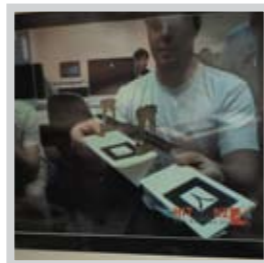
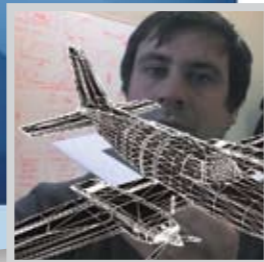
From Semester 1, 2010 (full-time)

Sem 1, 2009	Sem 2, 2009	Sem 1, 2010	Sem 2, 2010	Sem 1, 2011	Sem 2, 2011
		KXH141	KXH142	KXH341	KXH342
		KXH241	KXH242	KXH343	KXH344
		xxx7xx	xxx7xx	KXH741	KXH742
		xxx7xx	xxx7xx		

PhD in Human Interface Technology

From Semester 1, 2009

Technology, facilities, services and campus life



Technology

Students have access to state-of-the-art equipment and technology including the VisionSpace. Users wear polarised glasses to experience an immersive 3D effect, and the system is equipped with surround sound and a high-end infrared optical tracking system to provide a truly powerful experience. The VisionSpace facility in Launceston is one of the first of its type in Australia and provides people with a unique way to view and interact with digital 3D objects.

ARToolKit is a software library for building augmented reality (AR) applications. These are applications that involve the overlay of virtual imagery on the real world. ARToolKit is being supported by HIT Lab US, HIT Lab NZ and ARToolworks Inc, Seattle.

Student facilities and services

The School of Computing and Information Systems facilities include four computer laboratories, a network laboratory, an electronics laboratory, tutorial rooms and videoconference-equipped seminar and meeting rooms.

Students also have access to Apple Macintosh and IBM-compatible personal computers. Wireless communication is available in the laboratories and for private study and there is access to AARNet (the Australian Academic and Research Network), which connects most universities and all research organisations in Australia to the Internet.

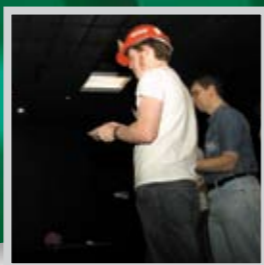
School facilities and resources are available to students 24 hours per day, seven days per week. In addition to the academic program, the School regularly holds social events throughout the year, and there are a number of student support and interest groups.

Campus life

UTAS provides a range of high-standard student accommodation, with options including fully catered residential colleges through to self-catered accommodation. Students will live in a caring and affordable environment where a high emphasis on fun, safety and support remains a key aspect of daily life. Support services for students include personal counselling, career development and employment, disability services, and international student advisers. Each of UTAS' three campuses provides social and recreational opportunities for students including cafés, bars, sporting facilities, student support groups and networking.

Public transport to and from campuses is regular, inexpensive and safe, making access for students very easy.

Information for prospective students



Who should apply?

If you are a creative, motivated and enthusiastic learner – HIT studies are for you!

We recognise that a very wide range of learning experiences and backgrounds can prepare prospective students for higher education study including completion of Year 12; TAFE, polytechnic studies, or skills-based training; work and life experience.

The standard UTAS degree entry requirements apply to the Bachelor of Computing (HIT) for Year 12 students – and there are no prerequisites. UTAS provides a number of supportive pathways to assist students who may need additional preparation before commencing their degree. Information about preparation and foundation programs is available at www.futurestudents.utas.edu.au/enabling.html

How to apply

Applications for admission to all UTAS courses, including the HIT Lab AU units and major, may be made through the online application facility:

www.studentcentre.utas.edu.au/admissions

For information or assistance on the application process:

Telephone 1300 363 864

Email admissions@utas.edu.au

Web www.utas.edu.au/futurestudents

For advice or assistance from the HIT Lab AU:

Telephone Julia Mollison 03 6324 3195

Email julia.mollison@utas.edu.au

Web www.hitlab.utas.edu.au

Scholarships

A wide range of scholarships is available to UTAS students under the Tasmania Scholarships Program. For information about available scholarships or to apply for a scholarship:

Telephone 1300 363 864

Email Tas.Scholarships@utas.edu.au

Web www.scholarships.utas.edu.au

Information on specific scholarships for HIT Lab AU courses and study is available on the HIT Lab AU website: www.hitlab.utas.edu.au

Key dates – 2009/2010

29 May 2009	First semester concludes
June	HIT Winter School
13 July	Commencement of second semester
16 October	Second semester concludes
November	HIT Spring School
Mid-January 2010	Tasmanian Creative Arts Summer School (HIT International Summer School)
22 February	Commencement of first semester
12 July	Commencement of second semester



Career prospects

About UTAS



"Australia's ICT sector is one of the most highly developed and cost-competitive ICT platforms in the Asia Pacific region. There is a strong local industry and many international ICT corporations have significant global operations based in Australia."

Australian Government SkillsInfo website

According to the United States Department of Labor (Bureau of Labor Statistics) "employment prospects for ICT graduates are expected to increase much faster than the average as organisations continue to expand their use of technology. But graduates and workers must be able to learn new technologies quickly for these constantly evolving occupations".

Some leading recruitment firms and senior IT executives consider that today's IT professional:

- ✦ must adopt a holistic approach to business, with a strong business and administration base underpinning their technical knowledge and skills;
- ✦ needs to offer a broader range of skills such as customer service, presentation skills, high level report writing ability, high level management and interpersonal skills;
- ✦ needs to be less purely technically focused, given the ready availability of off-the-shelf software packages; and
- ✦ can make a crossover into ICT from another industry if they possess transferable skills, such as an understanding of how a business operates and end-to-end appreciation of business processes.

These are the creative and innovative edges that the HIT Lab AU emphasises in teaching, learning and research programs. Undergraduate and postgraduate study in human interface technology will facilitate a diverse range of career pathways because of the many fields and disciplines in which the technology and skills may be applied – the creative arts, architecture and design, communication, media and journalism, education and training, medicine and health, engineering, and the list goes on.

The distinctive feature of HIT Lab AU programs and graduates will be their focus on creative design, simulation and interactive entertainment.

In Australia employment prospects for ICT graduates are good with long-term growth projected for ICT occupations and industry reports indicating many employers are experiencing difficulty in recruiting people across a wide range of ICT skills. There are career opportunities for ICT professionals in a wide range of industries, from leading-edge IT companies to more traditional finance, government and engineering organisations.

There are also opportunities to travel and work overseas because hardware, software and programming techniques used in computing, and the demand for skilled professionals, are the same the world over. In addition, many graduates start up their own companies designing new products, while others pursue further studies leading to careers in research.

ICT workforce information is available at the Australian Government's SkillsInfo website or www.skillsinfo.gov.au/skills/SkillsIssues/ICTSkills

The University of Tasmania is the fourth oldest university in Australia, established in 1890. A statewide institution, it embraced the Tasmanian State Institute of Technology in 1991 and has three main campuses in Hobart, Launceston and Burnie. On 1 January 2008 it integrated with the Australian Maritime College (AMC), already co-located on the Launceston campus. The University employs approximately 2,500 academic and general staff and has a student population of around 20,000, which includes approximately 2,000 postgraduates and 2,700 international students.

UTAS is an international university working out of Tasmania and ranks in the top 10 research universities in Australia with an enviable reputation in some distinctive areas of research and teaching. It is Australia's Antarctic university, hosting the Institute of Antarctic and Southern Ocean Studies and the Antarctic Climate and Ecosystems CRC. It is also internationally recognised for ore deposit exploration studies through the CODES ARC Centre of Excellence and for separation science through ACROSS, the Australian Centre for Research on Separation Science. Food safety is a growing area of international research significance and the Australian Centre for Food Safety is based in the School of Agricultural Science.

The University's international profile is well established and growing, with students enrolled from more than 60 countries and a range of programs offshore in China, Indonesia, Kuwait and Malaysia.

The University has a unique partnership with the Tasmanian State Government, which is demonstrated by collaboration with the State through TIAR (the Tasmanian Institute of Agricultural Research), TAFI (the Tasmanian Aquaculture and Fisheries Institute) and TILES (the Tasmanian Institute of Law Enforcement Studies) among others.

As the State's only university, UTAS also has a special role to serve the general educational needs of the State as well as to advance the economic and social interests of Tasmania and to enrich its culture. It offers a diverse range of courses through six faculties – Arts; Business; Education; Health Science; Law; and Science, Engineering and Technology – and has a commitment to flexible delivery.

The distinctiveness of the University is expressed through themes for research and teaching that draw on its geographical location and particular strengths and which align with National Research Priority Areas, CSIRO Flagship programs and Tasmania Together initiatives:

- ✦ Antarctic and Marine Studies
- ✦ Frontier Technologies
- ✦ Environment
- ✦ Population and Health
- ✦ Sustainable Primary Production
- ✦ Community, Place and Change

UTAS has an agenda for the future, which embraces excellence, distinctiveness, growth and engagement. Staff and students at the University are valued and there is a range of programs that support and recognise both student and staff achievement.

Launceston campus and Inveresk



The Launceston campus is situated on 50 hectares at Newnham on the banks of the Tamar River, and is only 10 minutes by bus from Launceston's city centre. The campus caters for about 5,000 students and offers modern facilities for teaching, learning and recreation. Recent facilities include a sport and recreation centre and flexible learning areas with computer laboratories and interactive study facilities. A major new development of the Launceston campus library and student services is planned.

The UTAS Inveresk site is located close to the centre of the city of Launceston and is home to the schools of Visual and Performing Arts and Architecture and Design and the Australian School of Fine Furniture. The schools are housed in award-winning, re-furnished former railway workshops. With close proximity to the Queen Victoria Museum and Art Gallery, and TAFE Tasmania, the Inveresk site is notable as an inner city cultural precinct providing a focus for theatre, visual arts and design in Launceston.

The School of Computing and Information Systems

About Tasmania



The School, which hosts the Hit Lab AU, has 25 academic, five technical and six administrative support staff and over 2,000 undergraduate and postgraduate students: 1,050 (Hobart); 340 (Launceston and Burnie); 660 (China – Shanghai and Hangzhou); 25 (Kuwait); and 50 (Sydney – MBA). Research training is an important aspect of the School's program and there are currently about 40 research higher degree students.

Undergraduate degrees offered are the Bachelor of Computing and the Bachelor of Information Systems, and the combined degree of Bachelor of Computing-Bachelor of Information Systems. Students may enrol in a combined degree with many other discipline areas including Business, Arts, Law, Science, Teaching, Economics and Fine Arts, and complete a major in any other degree of the University.

Graduate courses offered are the Bachelor of Computing (Honours); the Bachelor of Information Systems (Honours); graduate diplomas in Information Systems, Science, Information Management, Computing, Business; and masters degrees in Information Systems; Electronic Business; Information Technology; and Computing.

The School offers three research higher degree programs: Master of Business; Master of Science; Doctor of Philosophy.

Research is conducted in the School in a number of areas including E Health; Data Mining/Knowledge Engineering; E Forensics/Security/ Logistics; Distributed Computing; Marine ICT.

The School teaches programs at the Hobart, Launceston and Burnie campuses; in Sydney; and in China and Kuwait.

Substantial teaching, research and administrative facilities are supported at the Hobart and Launceston campuses including computer and electronics laboratories; tutorial and seminar rooms; meeting rooms and videoconference facilities. Technologies supported include Dell PCs running Windows XP; Apple iMacs running Windows XP and/or MacOS 10.5; and servers running Windows 2003 Server/RedHat Enterprise 5/ MacOS 10.5/VMWare.

The School is currently revising its strategic, research management and teaching plans to more closely align itself with the University of Tasmania's EDGE agenda and plans to connect cognate and complementary areas of study to create interdisciplinary models for research and teaching. The HIT Lab Au will be a leading initiative in these developments.

The beautiful State of Tasmania is the smallest and the most southerly of the Australian states.

It is an island about the same size as Sri Lanka or Ireland with a population of about 500,000.

Separated from the mainland by the 320-kilometre width of Bass Strait, Tasmania's native flora and fauna have evolved in interestingly different ways to their mainland counterparts, leaving it with many distinctive aspects.

Tasmania offers a wide variety of terrain, from the rugged and mountainous west coast, to the lake-studded highlands of the central plateau, through the green fields of the agricultural midlands, and the clean, sparkling beaches of the eastern coastline.

Its cities are small and beautiful, combining a strong sense of history with all the conveniences of a modern city.

Tasmania's renowned environment is not only a wilderness study haven, but an ongoing display of the interactions between nature and human nature.

Today, this island geography has become a symbol of independent thought rather than the isolation it once represented.

With a diverse landscape and large areas designated as World Heritage or as national park, Tasmania is an exciting place for teaching and research on the environment.