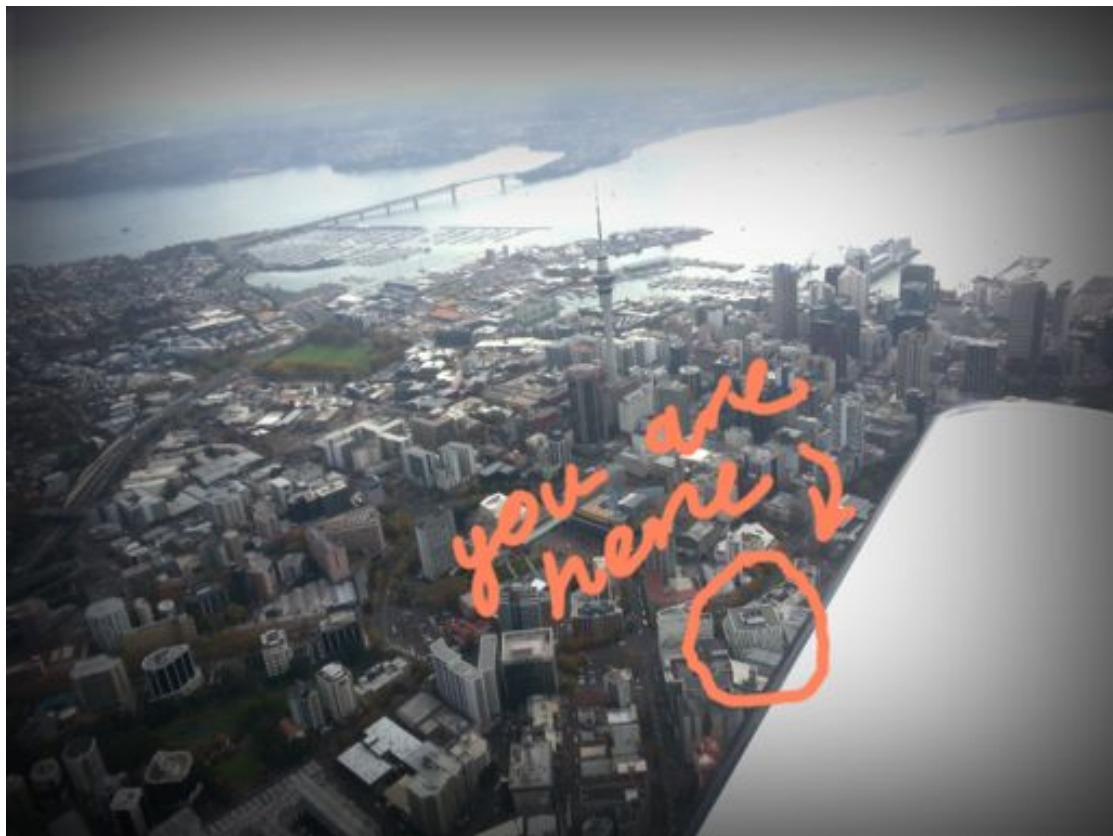


# Bachelor of Creative Technologies

## 2017 Study Planning Guide



## Introduction

This guide is intended to assist you in planning your study for your **second and third year** of the Bachelor of Creative Technologies at AUT by giving you the maximum amount of information with the minimum amount of fuss.

Unlike your first year of study, you are **not** automatically enrolled in any papers. It is your responsibility to read this guide and ensure you enrol for papers next year that are appropriate for your interests.

You are encouraged to enrol in papers **as early as possible** to ensure that there is space in your preferred papers. Late enrolments may not be approved if there is insufficient space in any given paper.

## Key Dates

The first day of semester is **Monday, February 27<sup>th</sup> 2017**.

You may change your first semester enrolments up until the second week of semester. This need to be discussed with the Programme Leader no later than **Friday, March 10<sup>th</sup> 2017**, however such late changes to enrolments should only occur in extreme circumstances.

You may change your second semester enrolments up until **Friday, July 14<sup>th</sup> 2017** without consultation.

## Core Papers

In your paper selection, you must prioritise core BCT papers above other paper selections. Core papers are only offered once per year and not completing a core paper at the right time will delay your graduation from the programme.

If you have failed any core papers, then first year papers take precedence over second year papers, and second year papers take precedence over third year papers. If you are uncertain about which papers to select after previously failing a paper then you should consult with your year leader.

In the second year, there is only one core paper (other than Studio papers): CTEC600 Transdisciplinary Inquiry.

**The only core papers in the third year are Studio papers.**

Level	Code	Title	Points	Prerequisites
Level 5	CTEC501	Creative Technologies Studio I	30	
	CTEC502	Introduction to the Creative Technologies	15	
	COMP570	Programming for Creativity	15	
	CTEC503	Creative Technologies Studio II	30	
	CTEC500	Integrative Practice	15	
	ENEL599	Physical Computing	15	
Level 6	CTEC607	Creative Technologies Studio III	30	CTEC501
	CTEC600	Transdisciplinary Inquiry	15	
	CTEC608	Creative Technologies Studio IV	30	CTEC503
Level 7	CTEC708	Creative Technologies Studio V	30	CTEC607, CTEC600
	CTEC709	Creative Technologies Studio VI	30	CTEC608, CTEC600

## Studio Papers

In 2017, the Studio is open to both second and third year students. Each semester there will be four lecturers timetabled separately in Arion. This is done to minimise the potential for paper clashes and to allow you to better manage your time. Each lecturer is set up in Arion as an “**occurrence**” and you need to enrol in the correct occurrence for your area of interest. Within Studio you should be able to develop project ideas in conjunction with your lecturer that meet your aspirations.

An occurrence is shown in Arion as an extension of the Studio paper code. So for CTEC607 Creative Technologies Studio III there would be a number of occurrences denoted as CTEC607/10 to CTEC607/13. Occurrences that end with a “/1” are run in Semester 1 and those with a /5 are run in Semester 2. The occurrences for Studio III and Studio V are linked, as are those for Studio IV and Studio VI.

These are the occurrences for Studio papers in 2016 and the lecturers who will be running them:

Occurrence	Lecturer
<b>Semester 1</b>	
CTEC607/10 & CTEC708/10	Miranda Smitheram
CTEC607/11 & CTEC708/11	Anna Jackson
CTEC607/12 & CTEC708/12	Andy Connor
CTEC607/13 & CTEC708/13	Laurent Antonczak
<b>Semester 2</b>	
CTEC608/50 & CTEC709/50	Sangeeta Karmokar
CTEC608/51 & CTEC709/51	Pete Rive
CTEC608/52 & CTEC709/52	Stefan Marks
CTEC608/53 & CTEC709/53	Ben Kenobi

A brief description of each Studio theme is given at the end of this guide; however you should consult with the lecturers in advance of choosing a Studio occurrence to check that the content and delivery will match your expectations.

**It is expected that you will be in Studio every afternoon unless you have other papers. However, you will only be timetabled for one afternoon explicitly.**

## Additional Papers

These are papers that are offered in addition to the core papers. You have to select at least one level 6 and two level 7 papers out of this list. You can also choose to select more than that as electives.

Please note that enrolment in these papers is subject to availability and sufficient student numbers.

Level	Code	Title	Points	Prerequisites
Level 6	ENTR680	Entrepreneurship and Innovation	15	
	CTEC601	Synthetic Realities	15	
	CTEC602	Interactive Technology and Systems	15	
	CTEC603	Digital Fabrication	15	
	CTEC605	Creative Audio	15	
Level 7	COMP770	Virtual and Immersive Environments	15	
	COMP771	Intelligent Agents & Environments	15	
	CTEC700	Space, Image & Sound	15	
	CTEC703	Interaction and Play	15	
	CTEC704	Transmedia Narratives	15	
	CTEC705	Creative Workflows	15	
	CTEC706	Research Practicum I	15	CTEC600
	CTEC707	Research Practicum II	15	CTEC600, 706

## External Papers

If you wish to study papers from other Schools, you need to ensure that you meet the prerequisites for those papers. You should plan ahead for the Level 7 papers you wish to study and enrol in the prerequisite papers in earlier semesters.

In some cases, prerequisites may be waived. It is your responsibility to identify the correct person to talk to in the other Schools to ask for permission to enrol in a paper for which you do not have the correct prerequisites.

For full list of additional papers offered at the Faculty of Design and Creative Technologies see: <http://www.aut.ac.nz/study-at-aut/faculty-of-design-and-creative-technologies/undergraduate-study/additional-majors,-minors-and-electives>

BCT students seeking to enroll in other Schools should direct their enquiries to these email addresses:

Art & Design	<a href="mailto:artbox@aut.ac.nz">artbox@aut.ac.nz</a>
Comms Studies	<a href="mailto:bcsqueries@aut.ac.nz">bcsqueries@aut.ac.nz</a>
Computing	<a href="mailto:bcis@aut.ac.nz">bcis@aut.ac.nz</a>
Maths	<a href="mailto:mundergt@aut.ac.nz">mundergt@aut.ac.nz</a>
Engineering	<a href="mailto:engineer@aut.ac.nz">engineer@aut.ac.nz</a>

Some papers may not be open to you on Arion for online enrolments. Again, it is up to you to get **approval** for entry into those papers by contacting the paper leader of the paper you are interested in enrolling into. Please forward notification of acceptance by email to the BCT Programme Leader [cwatkins@aut.ac.nz](mailto:cwatkins@aut.ac.nz).

## Paper Clashes

There is no way to resolve a paper clash. If you try to enrol in papers that clash, then you need to choose alternatives. Remember that your core papers take precedence over non-core papers, and in reality, BCT papers take priority over non-BCT papers. Not enrolling in enough BCT papers may have an impact on your graduation timescale.

## Graduation Requirements

Under the current regulations, in order to graduate with the BCT degree, you need to complete the papers listed in the following table. Use this table as a checklist to work out what you need to do next and also to keep track of your progress through the degree. Write your BCT subject papers and your elective papers into this table to help keep you aware of what you need to complete in the future.

Code	Title	Points	Completed?
CTEC501	Creative Technologies Studio I	30	
CTEC502	Introduction to the Creative Technologies	15	
COMP570	Programming for Creativity	15	
CTEC503	Creative Technologies Studio II	30	
CTEC500	Integrative Practice	15	
ENEL599	Physical Computing	15	
CTEC607	Creative Technologies Studio III	30	
CTEC600	Transdisciplinary Inquiry	15	
CTEC608	Creative Technologies Studio IV	30	
	Level 6 BCT Subject Paper	15	
	Elective	15	
	Elective	15	
CTEC708	Creative Technologies Studio V	30	
CTEC709	Creative Technologies Studio VI	30	
	Level 7 BCT Subject Paper	15	
	Level 7 BCT Subject Paper	15	
	Elective	15	
	Elective	15	

# Bachelor of Creative Technologies (BCT) Regulations

These regulations are to be read in conjunction with all other relevant statutes and regulations, including the General Academic Statute and General Academic Regulations.

## Completion Requirements

1. To qualify for the Bachelor of Creative Technologies, a student must achieve 360 points with 90 points at level 6 and 90 points at level 7 by successfully completing the requirements in the structure below.
2. A student would normally be expected to achieve the required points specified at each level of study in these regulations before being permitted to enrol in papers at subsequent levels.

## Additional Majors and Minors

3. A student may choose an additional minor. The completion requirements are set out in the Additional Majors and Minors Regulations document (Academic Calendar, p391, see <http://www.aut.ac.nz/about-aut/university-publications/academic-calendar>).

## Structure

### Core Papers:

120 points            Level 5: CTEC500, CTEC501, CTEC502, CTEC503, COMP570, ENEL599

and 75 points        Level 6: CTEC600, CTEC607, CTEC608

and 60 points        Level 7: CTEC708, CTEC709

### Additional Papers:

and 15 points from Level 6: CTEC601–606, CTEC609, ENTR680

and 30 points from Level 7: COMP770, COMP771, CTEC700, CTEC707

and 60 points from any of the papers listed in the Bachelor of Creative Technologies Table or in any bachelor's degree with the approval of the programme leader



## Timetable

The timetable for both Semester 1 and Semester 2 is shown on the following pages. It is not expected that this timetable will change, though staff availability may require minor changes. These will be communicated to you in a timely manner if changes are required.

### Year 1 Timetable

Semester 1 AM	Monday	Tuesday	Wednesday	Thursday	Friday
Paper	Introduction to the Creative Technologies	Programming for Creativity Stream A		Programming for Creativity Stream B	RED FRIDAY
Code	CTEC502/10	COMP570/10		COMP570/11	
Time	10:00am -12:00pm	9:00am -12:00pm		9:00am -12:00pm	
Lecturer	Ricardo Sosa / Sangeeta Karmokar	James Charlton / Colin Woods		Jenna Gavin / Jacques Footitt	
Room	WG1103	WG1103		WG1103	
PM	Hatched pattern				
Paper	Creative Technologies Studio I	Creative Technologies Studio I	Creative Technologies Studio I	Creative Technologies Studio I	
Code	CTEC501/10	CTEC501/10	CTEC501/10	CTEC501/10	
Time	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	
Lecturer	Ricardo Sosa	Clint Walkins	Pete Rive	Ben Kenobi	
Room	WG1103	WG1103	WG1103	WG1103	

Semester 2 AM	Monday	Tuesday	Wednesday	Thursday	Friday
Paper	Integrative Practice	Physical Computing Stream A		Physical Computing Stream B	RED FRIDAY
Code	CTEC500/50	ENEL599/50		ENEL599/51	
Time	10:00am -12:00pm	9:00am -12:00pm		9:00am -12:00pm	
Lecturer	Clint Walkins / Laurent Antonczak	James Charlton / Colin Woods		Jenna Gavin / Jacques Footitt	
Room	WG1103	WG1103		WG1103	
PM	Hatched pattern				
Paper	Creative Technologies Studio II	Creative Technologies Studio II	Creative Technologies Studio II	Creative Technologies Studio II	
Code	CTEC503/50	CTEC503/50	CTEC503/50	CTEC503/50	
Time	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	
Lecturer	Ricardo Sosa	James Charlton	Ricardo Sosa	Anna Jackson	
Room	WG1103	WG1103	WG1103	WG1103	

## Year 2 Timetable

Semester 1 AM	Monday	Tuesday	Wednesday	Thursday	Friday
Paper	Synthetic Realities		Transdisciplinary Inquiry	Entrepreneurship & Innovation	RED FRIDAY
Code	CTEC601/10		CTEC600/10	ENTR680/10	
Time	9:00am -11:00am		10:00am -12:00pm	9:00am -12:00pm	
Lecturer	Stefan Marks		Andy Connor	Sangeeta Karmokar	
Room	WH418		WG901-902	WF710	
PM	Hatched pattern				
Paper	Creative Technologies Studio III	Creative Technologies Studio III	Creative Technologies Studio III	Creative Technologies Studio III	
Code	CTEC607/10	CTEC607/11	CTEC607/12	CTEC607/13	
Time	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	
Lecturer	Miranda Smitheram	Anna Jackson	Andy Connor	Laurent Antonczak	
Room	WG1101	WG1101	WG1101	WG1101	

Semester 2 AM	Monday	Tuesday	Wednesday	Thursday	Friday
Paper		Creative Audio	Digital Fabrication	Interactive Technology & Systems	RED FRIDAY
Code		CTEC605/50	CTEC603/50	CTEC602/50	
Time		9:00am -12:00pm	9:00am -12:00pm	9:00am -12:00pm	
Lecturer		Clint Watkins	James Charlton	Laurent Antonczak	
Room		WG1101	WG1103	WH417	
PM	Hatched pattern				
Paper	Creative Technologies Studio IV	Creative Technologies Studio IV	Creative Technologies Studio IV	Creative Technologies Studio IV	
Code	CTEC608/50	CTEC608/51	CTEC608/52	CTEC608/53	
Time	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	
Lecturer	Sangeeta Karmokar	Pete Rive	Stefan Marks	Ben Kenobi	
Room	WG1101	WG1101	WG1101	WG1101	

## Year 3 Timetable

Semester 1 AM	Monday	Tuesday	Wednesday	Thursday	Friday
Paper	Space, Image & Sound		Creative Workflows	Virtual & Immersive Environments	RED FRIDAY
Code	CTEC700/10		CTEC705/10	COMP770/10	
Time	9:00am - 12:00pm		9:00am - 12:00pm	9:00am - 12:00pm	
Lecturer	Clint Watkins		Pete Rive	Stefan Marks	
Room	WG1101		WG907	WG210	
PM	Hatched pattern				
Paper	Creative Technologies Studio V	Creative Technologies Studio V	Creative Technologies Studio VI	Creative Technologies Studio V	
Code	CTEC708/10	CTEC708/11	CTEC708/12	CTEC708/13	
Time	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	
Lecturer	Miranda Smitheram	Anna Jackson	Andy Connor	Laurent Antonczak	
Room	WG1101	WG1101	WG1101	WG1101	

Semester 2 AM	Monday	Tuesday	Wednesday	Thursday	Friday
Paper	Transmedia Narratives		Intelligent Agents & Environments	Interaction & Play	RED FRIDAY
Code	CTEC704/50		COMP771/50	CTEC703/50	
Time	9:00am - 11:00AM		9:00am - 12:00pm	9:30am - 12:00pm	
Lecturer	Anna Jackson		Andy Connor	Ben Kenobi	
Room	WF710		WG907	WH418	
PM	Hatched pattern				
Paper	Creative Technologies Studio VI	Creative Technologies Studio VI	Creative Technologies Studio VI	Creative Technologies Studio VI	
Code	CTEC709/50	CTEC709/51	CTEC709/52	CTEC709/53	
Time	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	1:00pm-4:00pm	
Lecturer	Sangeeta Karmokar	Pete Rive	Stefan Marks	Ben Kenobi	
Room	WG1101	WG1101	WG1101	WG1101	

## Paper Outlines

To help your selection of papers, this guide includes a range of information about each paper including who it is taught by, how it will be delivered and how it will be assessed. This information is in **Appendix A** of this document (page 13).

If you are unsure or have any questions, then in the first instance please contact the tutor for that paper. If you are interested in enrolling in the **Research Practicum** papers then you should discuss this with the Programme Leader as soon as possible.

## RED Friday: Research and Engagement Day

Friday is an open studio day allocated for independent research, work on experimental projects, exploration of new ideas and experiences and engagement with activities within the university and wider creative industries.

Students may be expected to attend scheduled workshops and events on these days from time to time (watch Blackboard for information about these). However, RED Fridays will generally be designated for student-led independent study. Staff and students will be encouraged to use Colab spaces and resources to organise collaborative workshops, events or projects and a shared calendar will be created to facilitate this.

Some suggestions for RED events:

- Share a skill (teach others how to make, code, create...)
- Organise a maker or media hack
- Invite a guest speaker
- Organise a reading or discussion group
- Work on competition submissions
- Stage an experiment or performance
- Coordinate a field trip to MOTAT, Auckland Museum, Art Galleries, theatres, etc.

## Appendix A: BCT Elective Paper Information

### Level 6 BCT Elective Papers **Semester 1** 2017

<b>Paper Title</b>	<b>Synthetic Realities</b>
<b>Paper Code</b>	CTEC601
<b>Paper Leader</b>	Stefan Marks
<b>Semester/s Year</b>	S1 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
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Emphasises mechanics of synthetic realities and virtual worlds, which may include animations or games. Concepts related to synthetic realities including but not limited to environmental design, interactive game design, experiential factors and non-linear storytelling will be covered.

<b>2</b>	<b>COURSE CONTENT</b>
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The course emphasises mechanics of synthetic realities and virtual worlds, which may include animations or games. Concepts related to synthetic realities including but not limited to environmental design, interactive game design, experiential factors and non-linear storytelling will be covered.

Students will use 3D modelling software, painting software, sound editing software, game engines (e.g., Unity) and programming languages to develop interactive synthetic realities in response to project briefs.

<b>Paper Title</b>	<b>Entrepreneurship &amp; Innovation</b>
<b>Paper Code</b>	ENTR680
<b>Paper Leader</b>	Sangeeta Karmokar
<b>Semester/s Year</b>	S1 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
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Examines the concepts of entrepreneurship and innovation from a number of perspectives, traditional and post-industrial. The course introduces the concept of "Intellectual Entrepreneurship" as a strategy for the sustainable development of research-based relationships between creative educational, social and industrial stakeholders – it also provides an overview of "Social Innovation" as it occurs in the New Zealand context. This paper also has a strong practical component, providing and introduction to critical entrepreneurial skills such as: pitching; proposal writing; negotiation and personal branding and marketing.

<b>2</b>	<b>COURSE CONTENT</b>
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Presentations; Skill Building Workshops; Self-Directed Research and Reflection supported by online material.

## Level 6 BCT Elective Papers Semester 2 2017

<b>Paper Title</b>	<b>Creative Audio</b>
<b>Paper Code</b>	CTEC605
<b>Paper Leader</b>	Clinton Watkins
<b>Semester/s Year</b>	S2 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
<p>This paper introduces students to creative sound recording and production within the context of a studio environment. Students will explore recording software and associated techniques, microphones, analogue and digital hardware including mixing consoles, portable recording devices, synthesizers, drum machines, Virtual Studio Technologies, sequencers, dynamic processing and effects.</p>	

<b>2</b>	<b>COURSE CONTENT</b>
<p>As per the prescriptor, students will be introduced to a wide range of sound technologies in application to a range of creative audio practices through lectures and practical research. Students are to independently lead a self-initiated project that explores selected technologies to produce a body of creative sound-based outcomes.</p>	

<b>Paper Title</b>	<b>Digital Fabrication</b>
<b>Paper Code</b>	CTEC603
<b>Paper Leader</b>	James Charlton
<b>Semester/s Year</b>	S2 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
<p>This course introduces students to tools, work-flow, aesthetics and communities surrounding digital fabrication and its creative applications. It aims to develop an understanding of the transformation from a digital design to a physical object, taking into account feasibility, economy, and aesthetic viability of choices of tools, material and modes of assembly.</p>	

<b>2</b>	<b>COURSE CONTENT</b>
<p>Computer Aided Design (CAD) has become an integral part of the production process across both design and engineering fields. Its alignment with 3D Printers/ CNC machines and tradition reproductive techniques allows for the realisation of high quality prototypes. With the increasing accessibility of this technology creative are beginning to explore CAD and 3D printing process in non-conventional ways.</p> <p>Building on the basic CAD skills introduced in Year 1, this paper will employ experimental and generative approaches to CAD by realising a series of spatial propositions through a mixture of traditional and computerized production techniques. Approaches taken may include conventional modelling, parametric and algorithmic generation of form through software integration and interface implementation. Students should expect to pay for 3D printing costs and other expendable materials.</p>	

<b>Paper Title</b>	<b>Interactive Technology and Systems</b>
<b>Paper Code</b>	CTEC602
<b>Paper Leader</b>	Laurent Antonczak
<b>Semester/s Year</b>	S2 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
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Introduces the conceptual, creative and technical processes used in the development of immersive and interactive systems. Aims to create awareness of existing work in the field as well as some insight into the development process of interactive installations.

<b>2</b>	<b>COURSE CONTENT</b>
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This paper is a broad introduction to Interactive Systems and Technologies (ITS), its cultural, social, political and historical contexts, in relation to creative technology methodologies. In this paper, students will discuss and engage with some examples, as case studies, of interactive projects and installations of their own choice. Also, each student will contribute to the paper by defining what is ITS for them and how it could be relevant for their practice. Finally, they will present, or pitch, their own project involving entirely, or partially, ITS.

## Level 7 BCT Elective Papers **Semester 1 2017**

<b>Paper Title</b>	<b>Space, Image and Sound</b>
<b>Paper Code</b>	CTEC700
<b>Paper Leader</b>	Clinton Watkins
<b>Semester/s Year</b>	S1 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
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Critically explores the dynamic interaction of sound, image, visual and auditory perception and creative processes. Considers aspects of human interaction with physical spaces mediated through the use of enhanced or augmented sonic and visual technologies.

<b>2</b>	<b>COURSE CONTENT</b>
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Content will be tailored to suit particular interests driven by staff research interests or students practice. Typical content will include but not be limited to image composition, soundtrack design, and visual effects representation in the context of specific spaces. The paper will also include the use of technology to support the deployment of sound and images in a given space, which may include contemporary projection mapping techniques and interaction design.

<b>Paper Title</b>	<b>Creative Workflows</b>
<b>Paper Code</b>	CTEC705
<b>Paper Leader</b>	Pete Rive
<b>Semester/s Year</b>	S1 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
Critical engagements with theoretical and practical issues in the creation, coordination and management of creative workflows for complex, trans-disciplinary products.	

<b>2</b>	<b>COURSE CONTENT</b>
Content will be tailored to suit particular interests driven by staff research interests or students practice. Students may opt to study particular workflows including (but not limited to) games production pipelines, media production and interaction design. Students will gain skills and knowledge related to their chosen workflow, but general topics that apply to all creative workflows will be introduced. These topics will include integrative thinking, integrate project teams, project lifecycles, task and project management for creative projects, negotiation and communication with stakeholders and project delivery.	

<b>Paper Title</b>	<b>Virtual &amp; Immersive Environments</b>
<b>Paper Code</b>	COMP770
<b>Paper Leader</b>	Stefan Marks
<b>Semester/s Year</b>	S1 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
Develops advanced practical and conceptual skills in the production of simulated, virtual, immersive or interactive environments. Covers the production and assembly of media assets into interactive environments. Identifies and evaluates a range of non-linear narrative and information structures. Critically evaluates notions of interactivity and the interface in relation to new media forms, in order to generate a range of technology based strategies for simulation, interaction and human-environment interface design.	

<b>2</b>	<b>COURSE CONTENT</b>
<p>The course develops advanced practical and conceptual skills in the production of simulated, virtual, immersive or interactive environments. We'll cover the production and assembly of media assets into interactive environments, and identify and evaluate a range of non-linear narrative and information structures.</p> <p>The lectures will cover physical simulation of rigid bodies, currently a standard component of game engines like Unity3D or the Unreal Engine, and will expand on more advanced physical phenomena like mass spring systems, cloth simulation, etc. For assessment, students are challenged to incorporate the lecture content into interactive 3D applications/games using game engines like Unity3D, JME, or Unreal and virtual reality technologies like the Oculus Rift, HTC Vive, GearVR, or the large space Sentience Lab facility.</p>	



## Level 7 BCT Elective Papers Semester 2 2017

<b>Paper Title</b>	<b>Transmedia Narratives</b>
<b>Paper Code</b>	CTEC704
<b>Paper Leader</b>	Anna Jackson
<b>Semester/s Year</b>	S2 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
<p>This paper introduces concepts related to transmedia narratives, which is the technique of telling a single story or story experience across multiple platforms and formats using contemporary and emerging digital technologies based on audience participation.</p>	

<b>2</b>	<b>COURSE CONTENT</b>
<p>Students will investigate transmedia storytelling tools and concepts and apply these to develop transmedia narratives and experiences for Auckland Museum. Students will be required to work on briefs provided by Auckland Museum and will spend some time on-site. Project briefs may focus on specific Museum resources, spaces, exhibition themes and target audiences.</p> <p>This paper will allow students to gain experience in working with clients in an industry context. Students will be expected to adhere to professional standard of conduct and presentation (including attendance and punctuality).</p>	

<b>Paper Title</b>	<b>Intelligent Agents and Environments</b>
<b>Paper Code</b>	COMP771
<b>Paper Leader</b>	Andy Connor
<b>Semester/s Year</b>	S2 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
<p>This paper explores the development of intelligent agents that integrate software and hardware technologies. The paper introduces a range of artificial intelligence techniques for developing intelligent agents and environments, techniques suitable for rationalising conflicting input data and improving system responses as well as appropriate sensor technologies that can be used to gather data from the environment.</p>	

<b>2</b>	<b>COURSE CONTENT</b>
<p>This semester will focus on the development of software based agents in the Java based programming environment, Robocode. Students enrolling in this paper should be competent in programming using Processing and/or Java. The paper will introduce the theoretical foundations of intelligent agents and a number of artificial intelligence techniques. Each week will consist of a short, theory based lecture followed by practical exercises. This will be accompanied by weekly self-study tutorials related to develop solutions for the assessments.</p>	

<b>Paper Title</b>	<b>Interaction &amp; Play</b>
<b>Paper Code</b>	CTEC703
<b>Paper Leader</b>	Ben Kenobi
<b>Semester/s Year</b>	S2 2017

<b>1</b>	<b>OFFICIAL PAPER PRESCRIPTOR</b>
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Though games are traditionally viewed as being for "fun", there exists a significant potential for using game-style presentation and techniques for the purpose of exploring interactions through the development of non-entertainment "serious games." This course introduces students to the concepts of simulation design and develops the student's ability to analyse a realistic process or environment in terms of the elements within each that lend themselves to modelling, interaction, and play.

<b>2</b>	<b>COURSE CONTENT</b>
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Students will produce a project report at the end of the semester that summarizes their research journey through full time engagement with the classes and the three assignments: a seminar, an interactive artefact and a project report.

Exercises and required 'readings' will be delivered through a flipped class room style through online 'readings' consisting of text, video and play experiences that students are required to read, watch and play respectively. This online 'exercise sheet' (or 'Week Starter') is released on Monday morning every week and is usually due before the next week's content is released. Students are also expected to keep a blog available to the tutor where they critically reflect on their interpretations of the 'readings', concepts and methods covered in class.

Weeks 1-6: Classes run as a reading group where you will be taught to analyze the 'readings', and therefore play and interaction in general, through class dialogue while taking notes. These sessions will help you understand the 'reading' contexts and complete the required exercises on the Week Starter.

Weeks 7 - 8: Student's will lead seminars on a chosen topic.

Weeks 9 - 12: Scheduled appointments to discuss produced artefacts and final report.

*(This plan is subject to minor alterations)*

## Appendix B: Staff Profiles

### Laurent Antonczak

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Laurent Antonczak is a multicultural entrepreneur specialising in digital strategies, education and mobile technologies (mainly for smartphones).

Laurent is a multiple award-winning researcher at AUT University focusing on Mobile Technologies & Education. Moreover, he is one of the co-founders of MINA [ Mobile Innovation Network Aotearoa / Australasia ], which aims to explore the possibilities of interaction between people, content and mobile devices. Laurent is the director of ATZ119, which specialises in mobile content production and visual communication and is a partner at VIRTUO, dealing with mobile research and development, digital strategies and consultancy.



Research interests:

- Mobile technologies
- Visual communication
- Video production
- Co-creation

### James Charlton

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James Charlton is an artist and a Senior Lecturer at Colab. He engages a range of physical, digital and performative approaches to explore the nature of the artefact and the assumptions of the audience. Current research into interactive digital object technologies centres around the integration of digital and physical content to question the definitions and nature of time-based media.



James gained his BFA from Elam School of Fine Arts in 1982. As a Fulbright recipient he completed his MFA at the State University of New York in 1986, and exhibited extensively throughout the United States. James lectured in Sculpture at the University of New Hampshire, Monserrat College of Art and the State University of New York at Albany. He was a founding member of the Auckland Society of Arts School of Art Visual Arts Degree, and was subsequently appointed Curriculum Leader of Sculpture in the Visual Art Programme at AUT. In 2008 he left the Department of Visual Arts to take up the position of Programme Leader for the newly established Bachelor of Creative Technologies at AUT.

Research interests:

- Digital object technologies
- Time based media

## Andy Connor

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Andy is a Senior Lecturer in Colab and has previously worked in the School of Computing & Mathematical Sciences at AUT. Prior to this he worked as a Senior Consultant for the INBIS Group on a wide range of systems engineering projects. He has also worked as a software development engineer and held postdoctoral research positions at Engineering Design Centres at the University of Cambridge and the University of Bath.



Research interests:

- Metaheuristic Search Algorithms
- Search Based Software Engineering
- Generative Design
- Artificial Intelligence
- Data Mining

## Anna Jackson

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Anna has worked in a range of creative fields including documentary production, theatre, transmedia and communications. She is the founder and co-director of Transmedia NZ and co-founder/Executive Producer of Loading Docs, a unique initiative that produces short (3-minute) documentaries and develops/promotes New Zealand filmmaking talent. Anna has a joint PhD from University of Melbourne and The University of Auckland.



Research interests:

- Interactive and immersive storytelling
- Transmedia (storytelling across multiple platforms)
- Documentary innovation (idocs/webdocs, immersive documentary)
- Digital Civics (media and technologies for that promote civic engagement and community wellbeing)

## Frances Joseph

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Frances Joseph is the director of Colab and co-director of the Textiles and Design Lab. Her research interests include the aesthetics of interactivity digital materiality, embodiment and innovation through design and new technologies.



Frances has background in sculpture, design for large-scale public events and object animation (puppetry) Through these experiences she became interested in collaboration and cross-disciplinary team work. She has led a number of large interdisciplinary projects in areas including design in hospitals, environmental sculpture exhibitions, and more recently e-textiles and wearable technologies – an area that has engaged researchers from areas including electrical and mechanical engineering, physiotherapy and textile design.

## Sangeeta Karmokar

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Dr. Sangeeta Karmokar is a researcher and Senior lecturer at Colab. She is interested in fostering creative and critical thinking and providing design-thinking opportunities in building innovative and digital business models.



Sangeeta has worked in the education industry across business and design disciplines. Her goal to complete a PhD provided her with the opportunity to bring all her past teaching experience and education in business, design and information technology together. Her research study covered user centred design in interface design process, bringing innovation using design methods for developing business strategies, developing design methodologies for innovation, designing new digital business models. Her experience includes teaching across various disciplines such as communication Design, Business Design, Creative Technology and entrepreneurship.

Research interests:

- Creativity and innovation
- Design Thinking Process
- User Centred Design
- Creative entrepreneurship

## Ben Kenobi

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Ben's research focus is 'play' with a background in design, architecture and fine arts sensibilities.

Ben graduated from Auckland School of Architecture (BAS) in 2001. He has created, developed and taught on computer game, architecture, drawing, digital and spatial design courses at Unitec, AUT and The University of Auckland. After completing a Masters in Art and Design in the area of game environment design and story implementation he worked for 2 years as a game designer at Gameloft Auckland and is currently working on a PhD project on imagination and play.

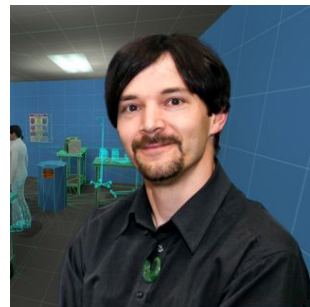


He is currently also a board member of the NZGDA (NZ Game Developers Association) and is an active member of the NZ commercial and indie game scene and co-director of the AUT Play, Interactivity and Games lab (Pigsty).

## Stefan Marks

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Stefan's expertise is in Virtual Reality (e.g., 3D Graphics, Game Engines, 3D Display systems) and Microinformatics (Electronics, Microcontrollers, Embedded Systems). He also has six years of industry experience.



Research interests:

- Virtual and Interactive Environments
- 3D Data Visualisation
- Human-Computer Interaction
- Simulation of Physical Processes
- Serious Games
- Robotics and Electronics
- Image Processing
- Computer Science Education

Currently, his focus is on using Oculus Rift and other 3D display technologies in realtime in the Motion Capture space in WG212. This enables to create 3D Virtual Environments that can be explored simply by walking and moving through them. Think "Holodeck". Whether you want to explore a 3D artificial intelligence neural network, or walk on an 80ft yacht, explore Stonehenge, or have a lightsabre fight on the Millennium Falcon – everything is possible.

For Studio, we can discuss topics that involve use of the MoCap technology and expand or build on existing projects.

## Pete Rive

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Pete holds a MA (hons) degree in Political Studies; a post-graduate Diploma in Broadcast Communications from Auckland University and a PhD in Digital Design from Victoria University. His doctoral thesis investigated design innovation and creative collaboration in a virtual world. He taught the first virtual design class in New Zealand, teaching Machinima in the virtual world Second Life.

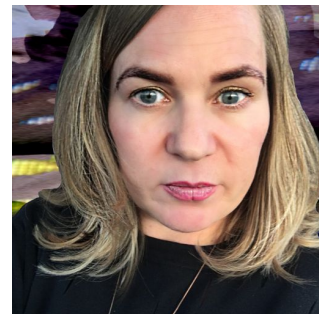


Pete has worked in the film industry for 30 years as a producer, director, writer and editor, and is the former Chairman of Film Auckland, Colab's Advisory Board, and Auckland Screen and Digital Content Strategy. He is currently developing a number of movie projects with China and the US. He has been researching and developing design solutions in virtual reality and virtual worlds since 1999. His current research interests are design innovation; entrepreneurship; social interaction in virtual reality; entertainment in virtual reality; creative collaboration in virtual worlds; and how to enable knowledge sharing as a way to unlock creativity and design innovation.

## Miranda Smitheram

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Miranda Smitheram is a digital artist, researcher and award-winning fashion designer. Miranda has worked in numerous design and management roles within the fashion industry including as a senior fashion designer for high-end commercial labels and as director of her own women's wear label. Miranda's current research questions how cloth and surface can be reimaged through a digital materiality. This inquiry morphs across fashion, textile and art practices, merging new technologies with traditional techniques to craft physical-digital design. The research builds on post-digital ideas to take a speculative approach in imagining what future fashion could look like. Miranda's main areas of interest are material knowledge, experimental Motion Capture, generative design, 3D surfaces and digital surface imaging.





## Ricardo Sosa

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Ricardo Sosa combines a creative background as an industrial designer with a passion for the systematic study of computational systems. He has been studying creativity and innovation principles through multi-agent social systems for the last twelve years and is also involved in the development of new methods and support systems for the fuzzy front-end of the design and innovation process.

Currently, he is looking into the best facilitation practices for team ideation and for participatory decision making. He

has extensive teaching experience across disciplines from first year undergraduate to postgraduate courses and research supervision. Ricardo partners with colleagues across disciplines including: robotics, social science, cognitive science, architecture, arts, engineering, business, public health, computer science, etc.



Research interests:

- Group creativity and innovation
- Teamwork
- Participatory design
- Computational social science

## Clinton Watkins

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Clinton Watkins investigates affect through the construction of combined immersive experiences of sound, colour and scale. His work focuses on the characteristics, structures, phenomena, and processing of sonic and visual material. Installations incorporate found and custom-made audio and video hardware to create repetition, distortion, duration and form, distilled via a minimalist sensibility. He has exhibited in solo and curated group exhibitions throughout New Zealand, Australia, Europe, Asia and the United States. He is represented by Starkwhite Gallery, Auckland. Watkins is also a practicing experimental musician who regularly produces and performs as a solo artist and collaboratively, most recently working with artist Santiago Sierra and performing along-side legendary free jazz saxophonist Peter Brötzmann.



Research interests:

- Experimental Sound and Video
- Multi-Media Installation
- Visual Arts
- Music
- Performance
- Hardware design



## Year 2 and 3 Studio Themes

### Semester One:

CTEC607/10 & CTEC708/10

Miranda Smitheram

#### **Digital Skins**

As creative technologists, your challenge in this studio is to experiment, design and create wearables that extend human and environmental capabilities utilising interactive, performative and material dimensions. This studio is about innovating through prototyping and developing new wearable, screenless and experiential technologies. We will extend experimental digital and textile processes of making, informed by posthuman theory and embodied interaction design methods to create interactive clothing as embodied augmentation. New ideas of cyborgs are engaged with by exploring notions of clothing as a sensory interface; e-textiles as sapient materiality; and costume design that questions established notions of technological embodiment. The final project outcome will be new 'digital skins' that combine future aesthetics, digital and physical materials. Students may either work on individual ideas to develop a wearable tech garment, or form small groups to enter a fully realized costume in the 2017 World of Wearable Art Awards aimed at the 'Wearable Technology' award.

CTEC607/11 & CTEC708/11

Anna Jackson

#### **"Put Down that Drone" and other Colab stories...**

This studio will explore the possibilities of creative technologies to tell stories that:

- unfold across multiple platforms
- use multiple forms of media
- are location-specific
- are web or mobile-based
- use augmented, mixed or virtual reality
- are interactive, immersive and/or playful
- are data driven

A story does not have to be a fictional narrative, or have a beginning, middle and end. You may choose to explore an issue, concept or create an experience.

**For inspiration see:**

<https://futureofstorytelling.org/prize>

<https://www.nfb.ca/interactive/>

CTEC607/12 & CTEC708/12

Andy Connor

### **Global Challenges / Local Solutions**

In this Studio theme, teams will first identify a global challenge of interest. Such challenges could include (but are not limited to) global warming, poverty, sustainable development, child literacy, gender parity or globalisation of crime. For the purpose of this Studio, a global challenge is defined as a major issue facing our planet that are so complex that no one country, organisation or discipline can address the issue on its own. Global challenges require the pooling and sharing of knowledge across institutions, across disciplines and across continents. Once such a challenge is identified, students will be guided through the process of researching the challenging and re-framing the problem in a local context. Students will then design a localised solution to the problem that will have some form of tangible impact on the culture, society or economic status of the local region.

CTEC607/13 & CTEC708/13

Laurent Antonczak

### **Singularity-Mobile**

Our studio group will be composed of Year 2 & 3 students who are curious about creativity in the context of Creative Technologies and more specifically Mobile Social Media (Apps, platforms, online strategies), Mobile Video Production (standard, 360VR/AR). We will analyse and collectively discuss some examples and case studies with a particular interest for the concept of "singularity". Following upon our findings and new perspectives, we will develop either some team, either some individual, responses within an agreed timeframe and format. In terms of logistics: our sessions will combine in-situ, online, workshop, collective and individual interactions. Voilà!

## Year 2 and 3 Studio Themes

### Semester Two

CTEC608/50 & CTEC709/50

Sangeeta Karmokar

#### **Transform Time and Space**

In this studio, students will be working on a design challenge “Transform Time and Space”. Students are required to target 1-3 viable spaces that are underutilized and then generate a design proposal that serves the local community and is financially sound. Such challenges could include safe place to gather and socialize with friends for teenagers in your neighborhood or transforming community center for elderly to socialize and connect with the new generation or any other spaces they have identified in their community. The most critical question of this challenge will be to identify what kind of transformation design would serve the local community as well as provide a compelling solution to the selected users. Students will be guided through the process of exploration, generate, demonstrate and evaluation of the project.

CTEC608/51 & CTEC709/51

Pete Rive

#### **Future Worlds**

The accelerating pace of change and technological evolution requires creativity and imagination in order to design the future for the benefit of humanity and the environment. It has been predicted that we will have 1 trillion devices connected to the Internet of Things by 2030, yet despite this exponential explosion of connectivity and data, it must be said that this is still a human construct. In this studio you will use story telling to imagine, design and build alternative futures using cinematic and creative technologies such as traditional cinema techniques, 3D animation, 3D printing, VR, AR, and virtual worlds. These various technologies will help to construct fictional and fact based narratives that will enable prototyping of speculative and possible worlds. We will collaborate with overseas universities to explore future worlds using a variety of creative technologies allowing real-time co-design in the virtual and physical design space.

## CTEC 608/52 & CTEC709/52

Stefan Marks

### **Real Virtuality**

In this studio stream, teams will develop projects that involve technologies like virtual/mixed/augmented reality platforms (Oculus, Vive, Google Cardboard, GearVR, etc). Create an experience to transport the observer into impossible situations. Design and implement an educating product that could be used in schools or museums. Critically tackle the latest social developments caused by this technology (VR Selfies?). Experiment with VR in other areas than sight and sound. The scope of the stream is fairly open – as long as it is NOT a “typical” game!

## CTEC 608/53 & CTEC709/53

Ben Kenobi

### **Play**

Ben's studio paper will run optional pre-defined briefs. Specialized equipment will be supplied in most cases. Each brief explores specific technologies and problem. The briefs will have only one group working on it collaboratively. Students are, however, able to propose their own briefs in week one:

*Pocket Pancreas*: Mobile app simulation to teach first years operation of the pancreas.

*Library Games*: Temporal pervasive reality game to promote library facilities over Orientation Week.

*I am the Streams*: Using Oculus DK2 to raise awareness on riparian planting.  
(Other external projects may be added to the brief list in a timely fashion)