



SCHOOL OF MEDIA ARTS

SOMA3609

3D MODELLING AND ANIMATION 2

SEMESTER 2

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COURSE STAFF

Course Coordinator: Steve Weymouth Room G108
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Course Lecturer: William Burdis Room G112
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Consultation times by arrangement

Subject forum <https://discussions.cofa.unsw.edu.au>

COURSE INFORMATION

Units of Credit: 6

Teaching Time and Location: Wednesday 09 – 12 room F106
Wednesday 13 – 16 room F111

Contact hours per week*: 3

**Please note that the expectation of time in this course is more than contact hours. While the University expects that a total load for a subject should be in the range of 25 – 30 hours per week, 3D2 expects that your out-of-class-hours study time to be more in the order 35 – 45 hours per week.*

Course Aims: *3D2 within the Digital Media Degree assumes prior knowledge building upon the skills developed in 3D1 (SOMA2609) and facilitating skills in preparation for 3D3 (SOMA4609). Emphasis is placed on establishing good working disciplines that parallel industry practice.*

Student learning outcomes: *Upon completion of the course you will be able to composite 3D elements within a photographed environment and obtain a certain degree of photorealism through the control of digital lighting, perspective matching and compositing techniques. Higher-level animation skills, story development and character creation will be developed through a group short animation production project.*

Teaching Strategies: *Students will learn through a combination of tutorial-based demonstration, peer support, directed homework and additional hours of self-directed learning (at least equivalent to three times the number of studio hours per week). Extensive resources support teaching goals and are outlined on page 7.*

Peer and teaching support are facilitated through a subject forum list (see address above) and relevant resources and reference material (see page 7).

Graduate attributes developed in this course:

This course actively integrates the UNSW graduate attributes 1) through 12) available at http://www.secretariat.unsw.edu.au/acboard/approved_policy/graduate_attributes.pdf

Approach to learning and teaching:

Teaching on this course has been informed by professional working practice. Students are actively encouraged to develop professional methodologies and approaches to problem solving.

Teaching strategies:

Teaching on this course will take the form of instructional tutorials and practical demonstrations.

NOTE: To qualify for a passing grade you must complete all set work and submitted it on time. Where absences in excess of two (2) classes occur without a doctors' certificate or similar, will result in a fail grade.

You must be punctual and participate in all class activities.

ASSESSMENT

PROJECT 1 – CAMERA MATCHING AND COMPOSITING 40%

Due week 6

Full details for this project will be given in a brief to be submitted in week 2. Briefly, you will be investigating photorealism through the placement of 3D elements into a photographed environment. Chose a site of setting that will be enhanced by the placement of a 3D model. The setting can be indoors or outdoors but must be considered for visual impact and overall concept. The project will illustrate your understanding of techniques outlined in tutorials including perspective control, lighting control, rendering layers and compositing.

Project file size should be kept to less than 50 Meg.

PROJECT 1 LOGBOOK 10%

Your logbook for project 1 should clearly track the development of your project and give clear references to and evidence of research.

Follow the format of titled and dated weekly entries, tracking the development of your project along with your developing skills. Please do not include your class notes; this is more a dialogue of your progression. Use graphics and illustrations to help support your text. You should also show evidence all the research pursued (*a/ways credit your source*).

Logbook should be kept under 20 Meg.

PROJECT 2 – SHORT ANIMATION PRODUCTION 40%

Due week 12

Full details for this project will be given in a brief to be submitted in week 2. Briefly though, small groups of 3 or 4 students are to produce a short 3D animation of no longer than 15 seconds (it can be character based or other i.e. music clip, collage, etc). The project will illustrate the students understanding of production methods from story concept, through storyboarding, animatic and production methods (file referencing, rendering, documentation, roles and responsibilities etc.).

Emphasis will be placed on process and time management with group members acting responsibly to bring the production to fruition.

Project 2 mark split 40%

(5%) Week 7: story proposals

(5%) Week 8: storyboards

(5%) Week 9: 2D and 3D animatic

(25%) Week 12: The completed animation

Project file size should be kept to less than 50 Meg.

PROJECT 2 LOGBOOK 10%

Your logbook for project 2 should clearly track the development of your project and give clear references to and evidence of research.

Follow the format of titled and dated weekly entries, each student will track their individual input and responsibilities in the development of the project along with their developing skills.

You will receive group and individual questionnaires charting the progression of your group. This is to be done from your point of involvement and shouldn't concentrate on anyones input but your own, this is more a dialogue showing individual progression.

Use graphics and illustrations to help support your text. *Always* evidence all the research pursued (clearly credit your source).

Logbook should be kept under 20 Meg.

COURSE SCHEDULE

Week 1 the 3D camera plus simple character modeling

Tutor William Burdis

Week 2 perspective matching in 3D plus character modeling

Tutor William Burdis

Week 3 light matching in 3D plus simple animation techniques

Tutor William Burdis

Week 4 reflections in 3D plus simple character rig controls

Tutor William Burdis

Week 5 outputting for compositing plus animation production

Tutor William Burdis

Week 6 project 1 Delivery / Presentation (Class presentation)

Tutor William Burdis

Week 7 animation methods plus storyboarding (Class presentation) Story proposals

Tutor William Burdis

Week 8 production methods plus animatics 2D and 3D (Class presentation) Storyboards

Tutor William Burdis

Week 9 production methods (Class presentation) 2D and 3D animatics

Tutor William Burdis

Mid Session break – 27/9/08 to 03/10/08

Week 10 Animation production

Tutor William Burdis

Week 11 Animation production

Tutor William Burdis

Week 12 (Class presentation) Project 2 due

Tutor William Burdis

Resources for students

These references cover a range of online and library material. They are by no means exhaustive and are intended as a starting point for your own exploration and research.

Online

Maya

Autodesk (maya) – the Area: <http://area.autodesk.com/> register here for the Maya Community, downloads, tips interviews.

Highend3d <http://www.highend3d.com> (an established site for all things Maya and 3D)

Simply Maya <http://www.simplymaya.com/> (join up and gain some access to training videos)

Digital Tutors www.digitaltutors.com/ free streaming tutorials and other useful stuff

Electronic Magazines

Animation Artist <http://animationartist.digitalmedianet.com/>

Animation World <http://mag.awn.com/>

Digital Media World <http://www.dmw.com.au>

CG Networks <http://www.cgnetworks.com/>

CG World <http://cgw.pennnet.com/home.cfm>

3D World <http://www.3dworldmag.com/>

Forums, galleries and tutorials

SOMA student forum <http://discussions.cofa.unsw.edu.au/>

The Jackals Forge <http://www.jackals-forge.com>

Keith Lango <http://www.keithlango.com>

Short animations and competitions <http://www.pocketmovies.net/>

More of the same <http://10secondclub.net/>

CG animators' forum <http://cgchar.toonstruck.com/forum/index.php>

CG Talk <http://www.cgtalk.com/>

Free anatomy images http://www.human-anatomy-for-artist.com/free/free_samples.htm

Animation Watch <http://www.animwatch.com/>

Gnomon <http://www.thegnomonworkshop.com/> Much here – many free tutorials.

3d.sk <http://www.3d.sk/> Anatomy models. **Excellent site:** includes free downloads for modelers and texture artists.

E-Books

There are currently several online books related to Maya.

Safari Tech Books Online (available via the Sirius link on the UNSW Library Resource page <http://info.library.unsw.edu.au/>).

Library online resources are available to everyone on campus (no log in required). If you access the resource off campus however, you will be required to log in using your student number and password.

On the Sirius page click on "Find Resources"

In the search field type "Safari"

Click on the "Safari tech books online" link

On the Safari page do a search for Maya

Some confusion arises with Sirius, as this is not a database in itself, it is simply a gateway. The gateway is open to all on campus but requires a login if you access it from anywhere else.

Be aware also that Sirius is browser sensitive so if you have problems try another browser (IE is generally okay).

Training Books and DVD's on 3D

Alias / Autodesk training (DVDs)

The Learning Maya series are an informative (if dry), step-by-step introduction to the many levels of complexities within the software. Various DVD's covering character animation rigs and techniques are available.

The titles listed date from 2002 to 2004 and relate to older version of Maya. However, basic information and method is version agnostic so please spend some time with this material. Newer titles that relate to Maya version 7+ have been ordered for the library and I will inform you when they arrive.

Hollywood Camera Works (DVDs)

CFAAV 791.430233/3 /(1)

This six DVD set states the lofty aim of illustrating ALL the camera moves known to Hollywood. Whether it achieves this or not is almost irrelevant as the collection is extensive and completely indispensable to the budding 3D camera operator.

Digital-Tutors:

Rigging quadrupeds in Maya

CFACD 006.696/56

Animating quadrupeds in Maya

CFACD 006.696/57

The second in the above series.

Body mechanics and animation in Maya

CFACD 006.696/61 /(1)

The Library also has an extensive collection of animation both 3D and 2D. Many classic and not so classic titles are there so search the database.

Reccomended Reading:

The Animator's Survival Kit – Richard Williams

CFA 778.5347/22

Many animators' in the industry considered this book to be the their bible

The Animator's Workbook – Tony White

CFA 741.58 3

Another very good book for terminology, technical information and many animation exercises

Digital Cinematography and Directing – Dan Ablan

CFA 778.53/43

Discover the language of cinematography and learn how to use the camera. Another informed and detailed edition for New Riders

Digital Lighting and Rendering – Jeremy Birn

CFA 006.6 103A

Indispensable bible on digital lighting from a long time practitioner and master through the New Riders publishing company

Digital Lighting and Rendering 2nd Edition – Jeremy Birn

CFA 006.6 103B

An updated version of the industry standard above. Good for the Global and rayTrace lighting Artist.

Stop Staring – Jason Osipa

CFA 006.696 9

This book details time saving lip sync methods along with practical facial modelling.

Stop Staring second edition – Jason Osipa

CFA 006.696 9 B

This book details time saving lip sync methods along with practical facial modelling.

Inspired 3D advanced rigging and deformations – B. Clark, J Hood, J. Harkins

CFA 006.696/32

Good introduction to the art of rigging

Inspired 3D short film production - Jeremy Cantor, Pepe Valencia

CFA 791.43023/62

Great book for helping you define your character.

The Art of Rigging (Vol 1, 2 and 3) – K. Ritchie, J. Callery and K Biri

CFA 007.696/39

For the hard core rigger...

Jason Schleifer rigging bundle (DVDs)

CFAAV 006.969/24

Digital Texturing and Painting

CFA 776/2

In depth exploration of pixel imaging

Film Directing Shot by Shot – Steven D. Katz

CFA 791.43023 40

One of the best books available on the subject and covers film production, from the storyboard to the camera.

In the Blink of an Eye - Walter Murch

CFA 778.535/9

"An incredibly lucid trek into the formidable craft of film editing" – George Lucas. The wealth of knowledge contained in this short book should be de-rigour for any storyteller. Murch discusses his craft with many examples from the films he has worked on (Apocalypse Now, The Godfather, The English Patient etc.) and the directors he has worked with.

How to write for Animation – Jeffery Scott

CFA 808.23/26

Indispensable tips on script writing as it applies to animation from a grandson of one of the three stooges. Scott has written over six hundred scripts for such series as Jim Henson's Muppet Babies and Teenage Mutant Ninja Turtles.

Experimental Animation – R. Russet and C. Starr

CFA 778.5347/6B

This book illustrates many of the early pioneers in experimental animation from the very beginning of the medium through to oh, the mid seventies...

The Art and Science of Screenwriting – Philip Parker

On order and I will let you know when it arrives

Philip Parker lectures in screenwriting and covers everything you need to know about the art form including where stories come from and how to develop a solid story matrix.

The Artist's Complete Guide to Facial Expression – Gary Faigin

CFA 704.942/40

An artist's illustration of the facial muscles and how they work together to form human facial expressions.

Emotions Revealed – Paul Ekman

CFA 152.4 19

Ekman has written many books on human emotion and body language. This book concentrates on the universal facial expressions and how they betray the emotions under the surface. Indispensable information for character animators'

The Illusion of Life – Thomas Frank and Ollie Johnston

SQ 741.58/6

*This is **THE bible** of Disney's' golden age animators' and has informed, practical advise on animating.*

Ray Harryhausen – An Animated Life

CFA 778.5345/7

The life and work of the master of stop motion animation.

The Male and Female Figure in Motion

SQ 612.76/154

Motion studies

CFA 779/MUY/5

Muybridge's complete human and animal locomotion

CFAQ 612.760222/1

Animals in motion - Eadweard Muybridge

CFA 612.760222/3

Muybridges' work is credited with the birth of animation. The stop frame photographs contained in these books have greatly assisted the training animator since animations inception.

This is only the tip of the iceberg regarding the Libraries collection of animation both 3D and 2D. Many other titles are there so search the database



Penalties for academic dishonesty or plagiarism can be severe, and range from reduced marks, through failing the course, to exclusion from the University. Your responsibility is to understand what plagiarism is and take steps to avoid plagiarism in your assignments.

Plagiarism is the presentation of the thoughts or work of another as one's own.*

Examples include:

- direct duplication of the thoughts or work of another, including by copying work, or knowingly permitting it to be copied. This includes copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and,
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

Submitting an assessment item that has already been submitted for academic credit elsewhere may also be considered plagiarism.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism.

Students are reminded of their Rights and Responsibilities in respect of plagiarism, as set out in the University Undergraduate and Postgraduate Handbooks, and are encouraged to seek advice from academic staff whenever necessary to ensure they avoid plagiarism in all its forms.

The Learning Centre website is the central University online resource for staff and student information on plagiarism and academic honesty. It can be located at:

www.lc.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle.

† Adapted with kind permission from the University of Melbourne.

Administrative Matters

To qualify for a passing grade you must complete all set work and submitted it on time. Where absences in excess of three (3) classes occur without a doctors' certificate or similar, will result in a fail grade.

You must be punctual and participate in all class activities.

Penalty for late delivery of assignments

Late delivery of work either presentations, projects or logbooks will incur a penalty of ten percent (10%) per day.

I.e. a project may be worth 35% of the total semester mark. If the project is one day late it will loose 10% of 35% (3.5) for each and every day that the project is late. Extensions will be granted for exceptional circumstances only and will need to be backed up with doctors' certificates or a report from the school councilor.

Backup All Your Work

IT IS YOUR RESPONSIBILITY TO BACK UP ALL YOUR WORK! You will need to purchase some CD-Rs to store files generated during the semester. The machines in the labs no longer have Zip drives but now have CD-burners and Toast software with which to burn CDs. You are advised to purchase your own external Firewire drive if you intend to work extensively with digital media.

REMEMBER: A hard drive is not a backup – CDs, DVDs or tapes are the only safe option. You should make two copies and keep them in separate places. Diligently backup all work that is important to you at regular intervals. **Extensions of time for assignments will not be granted if you lose work through software/ hardware /operator error or viruses on personal machines.**

Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit (9385 4734 or www.equity.unsw.edu.au/disabil.html). Issues to be discussed may include access to materials, including Library materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made. Information on designing courses and course outlines that take into account the needs of students with disabilities can be found at: www.secretariat.unsw.edu.au/acboardcom/minutes/coe/disabilityguidelines.pdf

Periodically student evaluative feedback on the course is gathered, using among other means, UNSW's Course and Teaching Evaluation and Improvement (**CATEI**) Process. Student feedback is taken seriously, and continual improvements are made to the course based in part on such feedback. Significant changes to the course will be communicated to subsequent cohorts of students taking the course

SAFETY INFORMATION

You have a responsibility to not do anything that risks the safety or health of your fellow students & staff.

This will involve informing your lecturer of any safety risks you become aware of, and also following the directions of staff in relation to such issues as equipment usage, and safety equipment and clothing.

You are responsible for:

- adhering to UNSW and COFA OHS policies and procedures,
- following instructions on safe work methods,
- promptly reporting hazards or accidents
- ensuring your conduct does not endanger others.

Emergencies and evacuation

In case of emergency you should follow the instructions on the emergency procedures displays, which are located on each level.

The emergency phone number is 9385-6666 (not 000).

During evacuations always follow the directions given by fire wardens and proceed to the emergency assembly area, which is in front of the campus art store (red oval on diagram).

First aid information

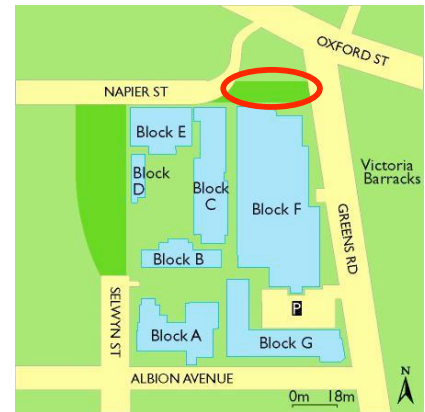
If you are injured or are hurt in any way inform your supervisor. All accidents and incidents must be reported. The names and contact details of first aid officers on campus are displayed on the green and white first aid posters. Security staff are also trained first aid officers.

Electrical safety

Students should ensure that any portable electrical equipment they bring onto the campus (such as laptop computer power supplies) are tested and tagged. Such equipment will not be able to be used on campus if not tagged. Testing can be done at the Resource Centre.

Advice and instructions to students regarding workplace safety & hazardous substances.

Students should be aware of their responsibility to avoid causing injuries to themselves or to others. These injuries could include; eyestrain, hearing damage, back, neck and repetitive strain injury (RSI), burns, chemical poisoning, inhalation damage, lacerations and the like. Students using, or planning to use, unorthodox materials, or materials/ processes/ performances in a potentially damaging manner in their class, or related work, ARE REQUIRED to complete a Risk Assessment Form. This form must be signed by the lecturer and lodged with the relevant Technical Officer or School Administrative Assistant. Unorthodox materials are considered to be material, solvents, chemicals, paints, electricity etc. not covered by standard practice or tuition within the area. All potentially dangerous materials MUST be used in consultation with the mandatory material safety data sheets (MSDS) available at the point of acquisition of such materials. It is UNSW policy that no bodily parts or fluids are used on any campus for any purpose.



Public Liability.

The University has appropriate insurance cover whereby you, the student and the University are indemnified in the event of you, while on work experience, placement or assignment (including such things as film/video shoots, setting up installations off site and performances) become legally liable for any injury to any person or damage to property caused by your negligent act.

A Letter of Indemnity Template is available for download from:

https://www.fin.unsw.edu.au/files/forms/rmu/Letter_of_Indemnity_pdf.pdf

This should be signed by the relevant Lecturer or Head of School.