



SDES3410 Object Design: Industry Connections

Term T1, 2020

Course Information

Units of Credit: 6

Course Overview

Course Description

This specialist course extends knowledge of materials and processes and their relationship to experiential lighting design through adaptive/responsive design scenarios. Emphasis is placed on theories related to experiential lighting design. Project briefs will introduce the notion of the client, manufacturer and end-user. You are expected to liaise with industry in order to fabricate a full-scale working prototype of your design. A series of case studies exemplifying design research, production/technology methodologies including laser cutting and sheet forming and fabrication will be undertaken. You will engage in problem solving by creatively exploring the relationship between the human interface (experience) and lighting design. Communication techniques in both 2D and 3D format will be extended on from the 2000 stream, including an opportunity to work with a pre-developed arduino module (hardware plus software). You will collaborate in the design and installation of your prototypes in a public exhibition.

You will work on one project throughout the course and have three sequential assessment tasks covering; research and concepts, design development and final design synthesis and presentation.

SDES3410 Object Design: Industry Connections is an advanced 3000 level studio course. It is one of a suite of two interrelated core courses in Year 3 that complete a four-course specialist 'object stream' in the BDes(Hons) program in Year 3.

Course Learning Outcomes

On completion of this course, the student should be able to:

1. Analyse design issues presented by a project brief and generate innovative concepts for a specified object.
2. Experiment with a range of materials and processes relevant to the design and fabrication of an object specified by a project brief.
3. Liaise with industry and communicate design intentions using visual, verbal and written techniques.
4. Fabricate a working full scale prototype in response to a brief that is appropriate for a public exhibition context

Teaching and Learning in this Course

This courses uses a variety of teaching approaches:

Blended/online

- Review - assessment tool
- Turnitin - originality checking
- Moodle - Learning Management System

Assessment

	TITLE	WEIGHTING	ASSESSMENT TYPE
Assessment Task 1	Lighting Site & Concept	20%	Project Proposal
Assessment Task 2	Lighting Design Proposal	20%	Design Studio Work
Assessment Task 3	Lighting Scale Prototype	60%	Design Studio Work

Resources

Students will be working across a number of studios during this course. You must bring personal tools and supply personal protective equipment and wear appropriate clothing and covered shoes to each class (as per Health and Safety guidelines).

Equipment and materials:

All students are expected to attend class with the materials necessary to carry out coursework activities and projects. It is essential that you supply your own personal tools for classwork as the college does not provide them. Specialised tools and equipment other than personal tools can be borrowed from the Ceramics or General Toolroom in F Block.

The college provides analogue and digital equipment necessary for students to complete course and project work, including 3D printing facilities. Where specified equipment is not available, appropriate alternatives will be made available.

Computers equipped with software required to complete components of this course will be available in the faculty laboratories however students are encouraged to use their own notebook computers where possible. A number of free applications are introduced in this course which offer the opportunity to explore advanced and exploitive parametric design tools.

You will need to bring the following to the first and subsequent classes:

computer (optional but recommended).

software - advice on free or inexpensive software available for students will be advised in class.

digital camera - for documenting and recording data.

sketch book /journal

pens and drawing pencils and other drawing or painting media

Specialist suppliers of fabrication equipment and materials listed below.

STURDY COVERED SHOES MUST BE WORN IN THE STUDIOS AND WORKSHOPS FOR SAFETY.

When working in media studios please wear old clothes, or change into overalls/old shirt before class.

Costs:

Students may need to purchase additional materials, tools or services to complete set projects or to achieve particular desired outcomes. Students can choose to purchase these where available from the college, from commercial suppliers or other sources.

It is estimated you may incur costs of \$500 or more in material, tool and services to complete this course. Digital fabrication processes, including laser cutting and direct metal casting, may contribute significantly to this amount. Where this is a concern, the tutor will assist students to find the most cost effective solution to enable you to complete coursework.

Materials, Tool and Service Suppliers:

UNSWAD workshops and studios <https://www.artdesign.unsw.edu.au/campus/workshops>

General art and drawing materials:

Campus Art Store The Art Scene, College Court Yard: <http://www.artscene.com.au>

Eckersleys Art Supplies 223-225 Oxford St Darlinghurst tel : (02) 9331 2166

General Materials:

Reverse Garbage. All sorts of recycled/waste materials that are inexpensive. www.reversegarbage.org.au

Jewellery:

A&E Metal 68 Smith Street, Marrickville Sydney 2204. tel:1300 360 598. www.aemetal.com.au

Australian Jewellery Suppliers. S15/1. 428 George Street, 2000.tel: 8256 2666 <http://ajsonline.com>

Ceramics:

Blackwattle Pottery Supplies, 20 Stennett Road, Ingleburn NSW. <http://www.blackwattle.net.au/>

Keanes ceramics, Debenham st, Somersby. tel: 4340 2426. <http://keaneceramics.com.au/>

Kerry Lowe Gallery and Pottery Supplies, 49 King St Newtown. <http://www.kerrielowe.com/>

Textiles:

Apparel and furnishing fabric suppliers. <http://www.tda.org.au>

Fabric, foam and upholstery supplies <http://www.fabricsupplies.com.au>

Digital fabric printing <http://www.digitalfabrics.com.au>

Plastics:

Cut to size plastics. General and engineering plastics <http://www.cuttosize.com.au>

Allplastics <http://www.allplastics.com.au>

Timber:

Recycled timber, custom milling and joinery. 5 minutes from Sydney CBD www.ironwood.com.au

Architectural timber profiles www.fedwood.com.au

Cane and rattan www.wickerworks.com.au

Architectural hardware, furniture fittings, specialist components, lighting, electronics, adhesives.

www.essentracomponents.com.au

www.authenticlightingandhardware.com/index.html

www.furniturehardwaresupplies.com.au

<http://au.rs-online.com/web>

www.smallparts.com.au

Printing:

Dark Star Digital printing (near UNSWAD campus) www.darkstardigital.com.au

Specialist printing services www.next-printing.com/retail

Digital Fabrication Services:

Laser Cutting www.mclaser.com.au

Laser Cutting www.lasermade.com.au/home

Laser Cutting www.onlinelasercutting.com.au

3D printing UNSWAD Maker Space - contact the Toolroom, ground floor of F Block.

3D printing Bilby CNC Alexandria www.bilby3d.com.au/3DPrintService.asp

3D printing www.3dprintingstudio.com.au

3D printing www.williams3d.com.au/services/3d-printing

CNC milling www.boxanddice.com.au

CNC milling www.cncroutingsydney.com.au

References and other resources for this course:

Almquist, J. and J. Lupton (2010). "Affording Meaning: Design-orientated research from humanities and social sciences." *Design Issues* 26(1).

Bachelard, G. (1994). *The Poetics of Space*, Beacon Press.

Bamford, R. (2010). "Model and mold making video." from <https://www.youtube.com/user/ubamfordo>.

Bijker, W. E. and J. Law (1992). *Shaping Technology/Building Society: Studies in Sociotechnical Change*, MIT Press.

Birn, J. (2013) *Digital Lighting and Rendering*. New Riders; 3 edition

Brown, T. (2008). "Tales of creativity and play."
http://new.ted.com/talks/tim_brown_on_creativity_and_play.

Chapman, J. (2009) *Design for Emotional Durability*. *Design Issues* Vol 25, no. 4 MIT Press

Desmet P., Hekkert P., Hillen M. (2003) *Values and emotions; an empirical investigation in the relationship between emotional responses to products and human values*. 5th European academy of design conference proceedings, University of Barcelona, Spain.

Dunne, A. (2005). *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design*. London, UK, The MIT Press.

Elphinstone, B. *The psychology behind the security laws*. The Drum, ABC TV.

<http://www.abc.net.au/news/2014-10-27/elphinstone-the-psychology-behind-the-security-laws/5844296>

Folkmann, M. N. (2010). "Evaluating Aesthetics in Design: A Phenomenological Approach." *Design Issues* 26(1).

Fukasawa, N. and J. Morrison (2007). *Super Normal – Sensations of the Ordinary*, Lars Muller.

Lefteri, C. (2007). *Making it: Manufacturing techniques for product design*, Laurence King.

Lesot, M., Bouchard, C., Detynieck, M., Omhover, J.F. *Product Shape and Emotional Design: An application to Perfume Bottle*. <http://webia.lip6.fr/~lesot/LesotBouchardDetynieckiOmhoverKEER10.pdf>

Manzini, E. (1992). *The Garden of Objects; Designing for a World to Take Care Of*. Society for Responsible Design. Sydney, Australia.

Manzini, E. and J. Cullars. (1992). "Prometheus of the Everyday: The Ecology of the Artificial and the Designer's Responsibility." *Design Issues* (9.1): 5-20.

McDonough, W. and M. Braungart (2002). *Cradle to Cradle: Remaking the Way we Make Things*, New York: North Point Press.

McKim, R. H. (1980). *Experience in Visual Thinking*, Brooks/Cole.

Saito, Y. (2007). "The Moral Dimension of Japanese Aesthetics." *Journal of Aesthetics and Art Criticism*(65.1): 85-97.

Scarry, E. (1987). *The Body in Pain: The Making and Unmaking of the World (Artefacts: The Making Sentient of the External World)*, Oxford University Press.

Schneier, B. *The Psychology of Security*
(2008) https://www.schneier.com/essays/archives/2008/01/the_psychology_of_se.html

Tonkinwise, C. (2005). *Ethics by Design, or the Ethos of Things*. *Design Philosophy Papers*. col. 2. ed. . A.-M. Willis. Ravensbourne, Australia, Team D/E/S Publications: 49-58.

Tonkinwise, C. (2008). *Interminable Design: Techné and Time in the Design of Sustainable Service Systems*. *echné: Design Wisdom: Techné's Strategic Nature*. 5th European Academy of Design Conference.

Van Krieken, B., Desmet, P., Aliakseyeu, D. and Mason, J. *A sneaky kettle: Emotionally Durable Design Explored in Practice*. *Proceedings of 8th International Design and Emotion Conference London 2012*.

Vaughan, W. (2012). *Digital Modeling*, New Rider.

Ware, C. (2008). *Visual Thinking: For Design*, Morgan Kaufmann

Interaction Design:

Hartson, R., and Pyla, P., 2012, *The UX Book: Processes and Guidelines for Ensuring a Quality User Experience*", Morgan Kaufman, Massachusetts.

[UX Magazine](http://uxmag.com/) – free community resource exploring all facets of experience design, featuring critical writing, interviews with industry leaders, and case studies. <http://uxmag.com/>

[Make Magazine](http://makezine.com/) – serves a growing community of makers who bring a DIY mindset to technology, featuring how-to video tutorials, component reviews and forums addressing applications ranging from robotics and drones to 3D printing <http://makezine.com/>

Object & lighting design:

Online Portfolio - Philips Design, *Design for Lighting*

URL: http://www.design.philips.com/about/design/designportfolio/design_for_lighting/index.page

Winchip, S., 2011, "Fundamentals of Lighting", Fairchild Publications, NY

[Dezeen](http://www.dezeen.com/) (online) magazine – influential online architecture and design magazine. <http://www.dezeen.com/>

[Core77 design blog](http://www.core77.com/) – articles, discussion forums, job listings, reviews and industry directory with a focus on industrial design <http://www.core77.com/>

[Minimally Minimal](http://www.minimallyminimal.com/) – design blog by visual and product designer Andrew Kim with in-depth reviews of design products <http://www.minimallyminimal.com/>

Human centred design & innovation:

Norman D, 2004, Emotional Design. Why we love (or hate) everyday things

[Don Norman: Designing For People](http://www.jnd.org/) – website of leading design theorist and critic, featuring essays, interviews and videos on design – with strong focus on interaction-design <http://www.jnd.org/>

[Stanford University d-School](http://dschool.stanford.edu/use-our-methods/) – design thinking methods and case studies for human-centred design and innovation <http://dschool.stanford.edu/use-our-methods/>

[The Future of Stuff Design Challenge](http://futureofstuffchallenge.org/) – website and resources for sustainable design innovation, with design-thinking resources, process guidelines, business modelling tools and communication tips, plus video interviews and documentaries providing an introduction to the politics and sustainability of industrial materials and processes <http://futureofstuffchallenge.org/>

Websites:

Secured By Design: www.securedbydesign.com/professionals/publications.aspx

FormZ Tutorials: www.youtube.com/user/formz3D/videos

Digital Fabrication Tutorials 123d Make: www.123dapp.com/make