A Proposal for a New Design Course

Prepared for ICO ICO Creative

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“The best way to predict the future is to design it.”
Buckminster Fuller

“A soul never thinks without an image.”
Aristotle

by
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Outline of the Course

This course provides the young student with a working knowledge of design fundamentals. The curriculum will include a detailed history of design from early human to the present day. Examples of important design will be closely examined with particular reference to the innovation of materials and their cultural impact. Historical lectures will be brief and engaging to avoid ‘death by slide-show’ syndrome.

Exposure to the practical application of design concepts will help students appreciate what is involved in all areas of design from 2D graphics to 3D products. The course will combine a stimulating series of lectures, workshops and field visits. Some essay work will be required to encourage evaluation of the subjects.

The goals of the course are to provide a foundational knowledge of design theory and practice. The student will develop a ‘way of seeing’ such that they will perceive the influence of design and technology on the world around them. The course should provide experience and self-confidence in giving and receiving peer-group critique regarding how the student expresses and instantiates their ideas.

Candidates will be able to build a portfolio of work. A coherent and progressive curriculum can lead to further and higher education. The course will provide skills for employment in the design and creative industries.

Innovation will be encouraged with attention to new research in sustainability. When the course is concluded they will be able to define a personal area of interest and skill which they can then pursue at a more advanced level.
Areas of study will include:
- History of design and art
- Principles of design
- Graphic design
- Product design
- Architecture and Interiors
- Furniture and domestic design
- Use of materials
- Research methods
- Digital photography
- Manufacturing and modern fabrication techniques
- Sustainability
- Software and digital technology

Reference and learning materials:
- Standard texts
- Handouts
- Videos
- Case studies
- Working instructions
- Procedures and manuals
- Technical publications
- Professional journals
- Codes of practice
- British Standards

Equipment and materials wishlist:
- iMac computers
- Software with educational license - Photoshop, Illustrator, Indesign, 3ds Max, CAD
- Colour printers
- SLR digital cameras
- Lighting kit
- Projector
- Audio
- Cutting mats
- Range of papers, pens, pencils, paints, glues, etc
Lesson Structure
Each week the students will attend one Design History lecture, take part in a Design Workshop and produce an Exercise. There will be a regular schedule of visits to studios, museums and production facilities.

A short essay of 1000 words will be set every term.

Design practitioners and theorists will be invited to do seminars and assist in workshops if the budget permits. We may also be able to secure some professionals if they are visiting Glasgow for other reasons. It is surely possible to take advantage of the presence of many excellent artists and designers who reside in Scotland.

WEEK 1

History - Prehistoric Origin (Neolithic Revolution 30,000 - 4,000BC)
Stone and bone tools, Venus figurines, graffiti, European cave painting.

Workshop - Introduction to Elements of Design
Introduce the ‘language of design’. Examine the elements and principles.
Demonstrate the importance of analysis and critical thinking. The Elements are components or parts which can be isolated and defined in any visual design or work of art.

- Point
- Line
- Form
- Movement
- Colour
- Pattern
- Texture

Exercise
Produce a series of drawings, paintings, prints and collage which employ each of the Elements.
WEEK 2

History - *Late Neolithic, Bronze Age (3600-1200 BC)*
Early wheels, tools, pottery and pottery wheel, production techniques, early writing systems.

Visit - *The Kelvingrove Museum*

Workshop - *Introduction to Principles of Design*
The Principles are concepts used to organize or arrange the structural elements of design.

- Balance (Symmetry)
- Proportion (Golden Ratio)
- Rhythm (Repetition)
- Emphasis
- Unity

Exercise
Produce a series of drawings, paintings, prints and collage which use each of the Principles.

WEEK 3

History - *Iron Age (1300-600BC)*
Weapons, elaboration of design in implements and utensils. Celtic art.

Workshop - *Evaluation of Design for Functional Objects*
Identify criteria for judging ‘good’ and ‘bad’ design. This process develops the ability to assess and analyse design from an objective position.

- Form / Function
- Appropriateness of materials
- Honest use of materials
- Purpose
- Concept
- Structural coherence
- Aesthetics
- Telesis (does it fit its time period?)
- Innovation
- Longevity

Exercise
Each student will design an imaginative piece of furniture (a 3D object using 2D plans, a 3D model is optional) employing concepts already learned. Students will then be assigned the task of performing an evaluation of another student’s work.

WEEK 4

History - Classical Antiquity (800BC-500AD)
High standards of Greco-Roman art and design, architecture, sculpture, mosaic, ceramic advancements, ship building.

Visit - The Burrell Collection

Workshop - Creativity and the Design Process
Examine creativity, originality, problem-solving processes with particular reference to:
- The Rationalist Model (pre-planned stages)
- The Action-Centric Model (emotional, spontaneous)
- Design process compared to classic scientific method.

Exercise
Students will be asked to design a new domestic object using either the Rationalist or Action-Centric Model. All designs will be exhibited and assessed by the group.

Essay 1
Choose a designed object of importance which appeals to you from the period up to and including Classical Antiquity. Expand on its benefit to the user, its cultural significance and aesthetic attractiveness. Trace any modifications which have im-
proved its function and conclude by describing what it is about the object which makes it of interest to you. (1000 words, to be delivered by week 7)

WEEK 5

History - Renaissance (1350-1650AD)
Painting, sculpture and decorative arts. Rebirth of classical antiquity transformed by science and technology. Gun technology. Da Vinci

Workshop - Materials and Techniques of Design and Fine Art
The choices a designer or artist makes are determined by the characteristics of the materials used and the techniques applied to those materials.

The media to be discussed are:
- Painting and Related Techniques
- Drawing
- Printmaking
- Textiles
- Metal
- Wood
- Ceramics
- Plastics
- Composites

Exercise
Produce a painted design for a highly decorative vessel. The decoration can be of any period or style from the past to the contemporary. A colour painting or drawing must be produced, a 3D model is optional.

WEEK 6

History - The Enlightenment Period (1650-1760AD)
Workshop - Typography

Typography used to be a highly specialised occupation, now everyone is a digital typographer. Look at the scope of typography and its many uses as well as issues of legibility and readability.

- Typesetting / type design
- Calligraphy / handwriting
- Advertising / poster and large scale signage
- Logotypes
- Kinetic (motion pictures and television)
- Graffiti
- Experimental and modern typography
- Fiona Banner’s 3D fullstops

Exercise 1

Use type / letters to convey some concept or message such that the arrangement of the letterforms visually represents / interprets / reinforces the message. As an example for inspiration, see ‘Bringhurst, Robert, The Elements of Typographic Style.’

Exercise 2

Design your own font using FontLab Studio or similar font design software. Use your new font to design a new concept or message.

WEEK 7

History - The Industrial Revolution (1760-1860AD)

Mechanisation, transportation, textiles, steam, iron. Steel and the ‘Second Industrial Revolution’. Watt, Brunel.

Workshop - Graphic Design

The purpose of graphic design is the communication of messages through the juxtaposition of words and images. It is the visual synthesis of thought in the form of publications, posters, packaging, signs and digital interfaces. Design objectives include:

- Communication
Exercise
Produce an A1 sized poster for a fictitious nightclub or an album cover for a fictitious band. Employ all your acquired knowledge of design principles, colour and shape. Use a combination of techniques, e.g. drawing, collage, photography, printing, digital imaging, etc. The poster may be laid out by hand and / or composed on a computer.

WEEK 8

History - The Arts and Crafts Movement (1860-1910AD)
The Arts and Crafts Movement was highly influential and flourished during the late nineteenth century. It is associated with social reform and is essentially antindustrial. Liberty store, Lutyens, Morris. Glasgow Style, Glasgow School of Art, Rennie Mackintosh.

- Design Principles
- Social Principles
- Influences and Parallels

Visit - The Glasgow School of Art

Workshop - Colour Design
“Colour is the place where our brain and the universe meet.” Paul Cezanne
Colour is a vital component to any good design and must be given great consideration. It affects mood and elicits reactions. Examine concepts of colour theory. Intro-
duce Photoshop and manually create colour charts. Illustrator CS5 and its automatic colour chart function.

- Colour wheel
- Primaries / Secondaries / Ternaries
- Hue / Tone / Saturation / Temperature
- Complimentary / Triad

- https://kuler.adobe.com

**Exercise**

Make up a company and product and use a colour palette created on Photoshop to mock up a logo design which properly conveys the feeling the company wishes to produce in the consumer (e.g. A strong and trustworthy bank)

**WEEK 9**

**History** - *Early Modernism (Atomic Age 1910-1945AD)*

Modernism is associated with the rejection of realism, the tendency towards abstraction, with self-consciousness and the reassessment of the past.

- Cubism
- Futurism
- Dada and Surrealism
- De Stijl
- Bauhaus
- The Avant-garde
- War
- Psychoanalysis
- New Physics and Geometries
- Literature

**Workshop** - *Electronic Publishing*

Browse some of the thousands of publications at Issuu.com. This website has many official publications but also allows self-publication. One may read interesting stu-
Students’ submissions here. The world of publishing is changing but great design remains an essential requirement of serious contributors. Students will be introduced to the popular industry-standard book layout programme, Indesign.

**Exercise**

Using Indesign, produce a short e-publication (8-10 pages) using a piece of randomly generated ‘adolescent poetry’ from [http://www.elsewhere.org/hbzpoetry/](http://www.elsewhere.org/hbzpoetry/). Go to the website, generate a text, read it and think about what images you would like to accompany the words. Arrange the text in a pleasing display with your own images, which could be hand-done, photographed, digitally produced or a combination of techniques.

“i am like a beautiful angel here's

to you

but when you are lost, and

can't see

the bears

dancing through the

clouds.”

The resulting documents will be uploaded to Issuu.com

**WEEK 10**

**History** - *Late Modernism (Jet Age 1945-1968AD)*

Modernism is associated with the rejection of realism, the tendency towards abstraction, with self-consciousness and the reassessment of the past.

- Abstract Expressionism
- Pop
- Minimalism
- Conceptualism
- Performance
- Fluxus
- Land Art
Visit - *The Botanical Gardens*

**Workshop - Designing by Nature**

Patterns and shape are nature’s vocabulary. Observing pattern and symmetry in nature, why they are useful in design, identify, analyse and reuse patterns of nature. Understand how patterns can support the visual message. Explore the relevance of fundamental shapes to maths, dimensionality and nature as well as emotional and intellectual states. Brief introduction to symmetry, rotate, translate bilateral, scalar, fractals, Golden Section.

**Exercise 1**

Observe and select a natural form at the Botanical Gardens, create a realistic drawing (either the whole form or a part of it). Explore your subject in 3D. Take an aspect of it, or the whole subject and make a model using paper folding, craft materials or natural materials.

**Exercise 2**

Create a detail, edge, shape, or simplified pattern from your previous subject. Stylise the form. In black and white create a repeating pattern from your subject. Use pens and / or computer.

**WEEK 11**

**History - Postmodernism (Space Age 1968-1990AD)**

Postmodernism rejects the autonomous individual in favour of an anarchic collective, anonymous experience of the world. A mixing of styles, equality of cultural importance, feminist theory, banality, kitsch are embraced by artists, designers and thinkers who consciously attempt to overthrow the dominance of the White, Western, Middle Class, Male viewpoint.

- Deconstruction
- Architecture
- Structuralism
- Neo-expressionism
- Neo-geo
- Video / Time-based art
Visit - **GOMA and the Merchant City Galleries**

**Workshop - Street Art**

Britain’s best known artistic export is perhaps also the known street artist in the world. Banksy built this fame by capitalising again and again on the media and general public’s love of humorous, zeitgeist, social, political, pop-culture infused stencil artistry executed in daring locations under a shroud of anonymity.

Street art is art, specifically visual art, developed in public spaces — that is, “in the streets” — though the term usually refers to unsanctioned art, as opposed to government sponsored initiatives. The term can include traditional graffiti artwork, sculpture, stencil graffiti, sticker art, wheatpasting and street poster art, video projection, art intervention, guerrilla art, and street installations. Typically, the term street art or the more specific post-graffiti is used to distinguish contemporary public-space artwork from territorial graffiti, vandalism, and corporate art.

- Stencil
- Spray Painting
- Commercialisation
- [http://streetartlondon.co.uk](http://streetartlondon.co.uk)

**Exercise**

Observe street art in Glasgow on your visit to the galleries. Study styles and content in books and on websites for inspiration. Look at interesting techniques such as stenciling. In the studio create stencils for a design of 2 or more colours. The content can be anything that inspired you, abstract, alternative promotion, political, decorative, etc. Registration must be a consideration on multi-colour stencils. The work will be exhibited in the studio and may be considered for local display.

**WEEK 12**

**History - Post-Postmodernism (1990-present)**

Examine the essential artists and designers of recent times. Jeff Koons, Damien Hirst, Design Art, Gehry, Arad, Hadid.

- Sokal Hoax
- Postmodern Generator
Visit - *Scottish National Galleries of Modern Art, Edinburgh*

**Essay 2**

Write an essay describing a work of art which speaks to you at SNGMA. Describe the work in detail and how it makes you feel. Look up an image of the work on the SNGMA Web site and discuss the difference in its appearance from that of the actual painting. Discuss also the difference in your personal experience of viewing the work at GOMA with that of looking at a picture on the computer screen.

(1000 words, to be delivered by week 15)

**WEEK 13**

**Workshop - Sustainability**

The Story of Stuff. From its extraction through sale, use and disposal, all the stuff in our lives affects communities at home and abroad, yet most of this is hidden from view. Students will watch their powerful 20 minute film.

Ellen MacArthur Foundation has the aim of accelerating the transition to a regenerative, circular economy. Colin Webster from the Foundation will visit and do a short seminar introducing their important message to the designers of the future.

Reduce, reuse, recycle, urge environmentalists. In other words, do more with less in order to minimize damage. William McDonough and Michael Braungart argue that this approach perpetuates a one-way, cradle to grave manufacturing model that dates back to the Industrial Revolution, a model that casts off as much as 90 percent of the materials it uses as waste, much of it toxic. They challenge the notion that human industry must inevitably damage the natural world.

- The Circular Economy
- Reuse / Recycle / Reduce
- Alternative / Natural Materials
- Upcycling
Exercise
Re-design on paper an everyday object employing the regenerative design model.

WEEK 14
Workshop - *Disruptive Innovation*
“I haven’t failed - I’ve just found 10,000 ways that do not work.” Thomas Edison
Examine new ideas for innovation using combinatorial play, collecting lots of ideas.
- Force new associations
- Lego Thinking
- Curiosity box
- SCAMPER method (Substitute, Combine, Adapt, Magnify / Minimise / Modify, Put to other uses, Eliminate, Reverse / Rearrange)

Exercise
Create a disruptively innovative product or service using either Forced Association techniques or SCAMPER method.

WEEK 15
Workshop - *Digital Fabrication*
The digital revolution as described by Neil Gershenfeld of MIT,
“A new digital revolution is coming, this time in fabrication. It draws on the same insights that led to the earlier digitizations of communication and computation, but now what is being programmed is the physical world rather than the virtual one. Digital fabrication will allow individuals to design and produce tangible objects on demand, wherever and whenever they need them. Widespread access to these technologies will challenge traditional models of business, foreign aid, and education.”
Students will be introduced briefly to CAD programs and given the opportunity to design an object using local digital fabrication facilities.
- CAD programs
- Fab Lab
- Bits and Atoms
- 3D Printing / Additive manufacturing
- Laser cutting
- CNC milling
- Rapid Prototyping

Visit - MakLab at the Lighthouse / Barrowland
Students will tour the facilities at MakLab discovering the amazing tools available for digital manufacturing.

Exercise
Choose a manufacturing technique which interests you, laser cutting, 3D printing or CNC cutting. Design a functional object on a CAD or 3D program which will be made at MakLab. Perform any hand finishing or painting which may be required.

WEEK 16

Workshop - Motion Design
Motion graphics are graphics that use video footage and / or animation technology to create the illusion of motion or rotation, and are usually combined with audio for use in multimedia projects. Motion graphics are usually displayed via electronic media technology, but may be displayed via manual powered technology (e.g. thaumatrope, phenakistoscope, stroboscope, zoetrope, praxinoscope, flip book) as well.

- Computer Programs
- Particle Systems
- Animation

Exercise 1
Quickly make a flip book of a moving character or object. Consider registration techniques.
Exercise 2
Make a short motion piece using hand-drawn elements or digital graphics in 2D or use a 3D program to do a rendering of a fictitious advert. A combination of 2D and 3D elements is also possible.

WEEK 17

Workshop - Digital Photography and Digital Image Processing
Introduction to essential basic photographic skills and editing techniques.
- Digital SLR Camera Operation
- Lighting Basics
- Photoshop (bitmap)
- Filters
- Lightroom

Exercise
Design and quickly mock up a packaged product, e.g. Cosmetics, Beauty, Food. Set up a pack shot for use in a campaign. Edit image and use post production techniques to dramatically improve the camera image. Use the image as the basis of a more complex advertising design.

WEEK 18

Workshop - Web Design
Introduction to web design. There are two primary jobs involved in creating a website: the web designer and web developer, who often work closely together on a website. The web designers are responsible for the visual aspect, which includes the layout, coloring and typography of a web page. Web designers will also have a working knowledge of using a variety of languages such as HTML, CSS, JavaScript, PHP and Flash to create a site, although the extent of their knowledge will differ from one web designer to another. http://www.thebestdesigns.com/
- HTML5
- CSS
- Responsive Design
Exercise
Design your own online portfolio to showcase all your documented work from the course so far. Templates may be used if the student adapts them for their own purpose. Design logo elements, colour schemes, buttons, etc. Portfolios may be generated using Lightroom.

Students will upload their website with a unique address when complete.

WEEK 19

Workshop - Product Design
Everyday we interact with thousands of consumer products. We expect them to function reliably, safely and efficiently but also seamlessly so that we don’t even think about it.

Examine what makes a successful product (and a failing one). Look at a range of products from leading companies such as Apple, Alessi, BIC, Noguchi, Swatch.

- Human Factors and Ergonomics Principles
- Risk of Malfunction
- User-Centred Design Process
- Price and Marketing Factors
- Patterns of Success and Failure
- Classic vs Banal

Exercise
Design or re-design a great hand-held digital technology product with the user-centred design process. Make a series of drawings and / or models which demonstrate your refinements. Students will test and assess each others designs using ergonomic principles.
WEEK 20

Workshop - Architecture and Interiors

Students will be introduced to interesting examples in the field of modern and recent architecture and interiors. A brief history of the field will cover developments from the Renaissance up to the present. Introduction to basic 3D architectural programmes.

- Google Sketch up
- Home Design Studio Pro
- Parametric / Generative Design in Architecture and Facades

Exercise 1

Design an unusual building. Indicate its social use and arrange space so that it fulfils its purpose. Drawings and simple 3D models in card or other materials will be required.

Exercise 2

Make visualisations of the interior of your building. Some representations of furnishings and lighting sources should be included. The visuals may take the form of drawings, paintings, collage and / or 3D computer rendering.

WEEK 21

Workshop - Furniture

Furniture is a composite term which consists of chairs, tables, beds and so on. Look at changing styles and manufacturing techniques. The chair as a weathervane of changing style through the ages. The Chippendale model of manufacturing, hand-made furniture for an exclusive client. Mass production. Stark and his mass-produced ‘Ghost’ chair, Mark Newson and his $1m ‘Lockheed’ chaise.

- Manufacturing / Economies of Production
- Technologies / Materials
- Usability
- Beauty / Aesthetics
- Safety
Exercise
Design an aesthetically pleasing modern chair (not a sofa) which is also comfortable. It can be for an upright dining or office type use or a more relaxed lounging position. Use craft materials to make a model, do a set of drawings, render a 3D computer model or a combination of these design methods.

WEEK 22
Workshop - Lighting
A huge variety of lighting design now exists. Briefly look at its history and recent developments. Major companies Artemide, Foscarini, Flos, SCP, QisDESIGN. Interesting designers, Tom Dixon (‘Jack’ lamp), Bathsheba Grossman (complex geometries).

- Table / Floor / Suspension Lighting
- Folded Paper / Plastic Lighting
- Parametric / Conceptual Design

Exercise
Design a new lamp which can be for the table, floor or suspended. Use craft techniques, drawing, 3D computer or a combination thereof. Working model is not required but would be appreciated. Advice must be sought if using electricity, battery power is preferred.

WEEK 23
Workshop - Printing
Study the many different types of printing, something about its history and development and its wide social and religious impact.

- Woodblock
- Moveable Type
- Printing Presses
- Gravure / Etching
- Screen Printing
Visit - Glasgow Print Workshop

Exercise 1
A simple 2 colour lino-cut print will be made in the studio.

Exercise 2
The students will produce an etching or screen-print from their own design at the Glasgow Print Workshop.

WEEK 24

Workshop - Further Design Process
Buckminster Fuller, Herbert Simon, Christopher Alexander
- Usefulness of Form
- The Unselfconscious Process
- The Selfconscious Process
- Design Science

WEEK 25

Final projects
Submission for assessment
**Suggested Reading**


Victor Papanek, *Design for the Real World*

Adorno & Horkheimer’s *Dialectic of Enlightenment*


William McDonough, Michael Braungart, *Cradle to Cradle: Remaking the Way We Make Things*, Tantor Media (2008)


Christopher Alexander, *Notes on the Synthesis of Form*, Harvard University Press (1964)