Welcome to ...

The Surfaces, Form and Light course uses basic information from a number of disciplines to examine our experience of the everyday and designed environments. The course is structured around presenting basic concepts from these disciplines and then illustrating how these concepts can be used to understand our experience of the environment by analysing how examples embody the concepts.

The material in the course has been divided into six areas or modules. Each module has been designed so that the completion of one of the modules satisfies the requirement of a minimum of 10 hours in the formal category of structured courses in the NSW Architects Registration Board Policy on Continuing Professional Education.

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The senses are our windows into the physical world. Our various sensory systems have evolved to respond to and provide information about different aspects of that physical world. However vision is a particularly rich source of information about the world that is relevant to architectural designers. This is because the information that it provides is about the three dimensional world – the characteristics of the surfaces that are present in the environment, the way surfaces create three dimensional forms and the spatial relationships between forms located at different places in the environment.

This makes vision particularly relevant to architects because, at a fundamental level, the designs that architects produce are realized in terms of surfaces, forms and the spaces within and between forms.

A significant part of our experience of the designed environment consequently depends on how vision works. This is not to deny the relevance of the other senses or other aspects of our experience of the world such as those associated with meaning or memory or to suggest that the visual experience is the only significant way that we experience the world. However, it is the starting point for much of our experience of the environment and the aim of the material to be presented is to explore the relationship between basic visual processes and the functional and aesthetic aspects of our experience of the environment. This will be done by presenting basic concepts from visual science and then showing, through the analysis of multiple examples of designed environments, how the designs embody those concepts.

The material about basic visual processes is presented in six online modules. Because the knowledge about the concepts is integrated with the knowledge about the examples, this facilitates the powerful memory process of reminding. This means that an aspect of a current design activity will trigger the awareness of the relevance of the material.

Each module is in pdf format. This has a number of advantages but of particular relevance is the way it allows the content of a website to be downloaded into the individual’s computer, allowing you the opportunity to access it at all times from your pc, even when not connected to the internet.

Participants will as a result have a copy of the material on the site that can then be looked at again during a design process where the designer is reminded of its relevance.

The objective of each module therefore is to present the knowledge about basic visual processes in a way that establishes their relevance to design and that supports ongoing design activities.
0.02 Who Developed the Material in the Websites?

The material in each of the modules was developed by Honorary Associate Professor Terry Purcell. He has a Doctorate in Psychology with a particular focus on human perception and cognition. He was a member of academic staff at the Faculty of Architecture for thirty years. During that time he was actively engaged in research into many aspects of the way we experience and interact with the built and natural environments. Much of this research required interdisciplinary collaboration as did his other major research focus on the thinking and visualizing processes involved in design. This research was based on observation of and interviews with professional designers engaged in developing a design proposal.

This combination of a detailed knowledge of human perception and cognition and an understanding of how designers work allows him to bridge the gap between the knowledge that is available about basic perceptual and cognitive processes and the relevance of this information to the design of the built environment.

0.03 The Content of the Modules

Each of the six modules is complete in itself but the six are related and together provide a detailed overview of how basic information about vision can be related to the design of buildings. Here is a brief look at the modules and their content:

• The first two modules (CPE 1 and CPE 2) examine the implications of two of the basic properties of light when these properties are related to how light behaves in a three dimensional world where solid forms are distributed in space within that environment.
• Modules 3 and 4 (CPE 3 and CPE 4) examine two fundamental visual processes and how these are affected by the distribution of light in the environment. These are the mechanisms that control our ability to discriminate differences and the mechanisms that allow our visual systems to operate effectively in the wide range of light intensities present in the environment. The first mechanism relates to visual thresholds and the second to visual adaptation.
• The fifth module (CPE 5) looks at the mechanisms involved in seeing the surface properties of texture and pattern. It focuses particularly on the way the experience of these surface properties can change dramatically as we move around the environment as a result of the threshold mechanism.

• The final module (CPE 6) focuses on the way light will reflect in different ways off surfaces with different properties and the way this effects our experience of surfaces.
0.04 How do you access this material for CPE?

The material is located on six websites each of which explores one of the six areas outlined above. Each has been designed so that the completion of one of the modules satisfies the requirement of a minimum of 10 hours in the formal category of structured courses in the NSW Architects Registration Board Policy on Continuing Professional Education.

To fulfil the requirements, you will have to choose one of the modules by completing the form that can be downloaded from this site. Once this form is received you will be emailed the web address for the module you have chosen.

Once you have worked through the material presented on the website, you have to find two examples that you think illustrate the material that has been discussed in that module. The examples can be buildings or interiors that you are familiar with or they can come from books or magazines. Each of the examples has to be represented in a visual form. You can take photographs yourself or you can scan images from books or magazines. Associated with each example there is to be discussion of how the example illustrates the material in that module.

This is a way of demonstrating that you have accessed and engaged with the material, a necessary part of fulfilling the requirements of the Registration Board’s policy. While this is clearly important, we have found that this is a particularly effective way of consolidating people’s understanding of the material and how it can be used.

The examples and the discussion of them can be submitted in two ways:
• Both the visual representations and the discussion can be put into digital form and emailed as an attachment to:

  terry@arch.usyd.edu.au

• or create a hard copy of the examples and discussion and mail this to:

  Associate Professor Terry Purcell
  Faculty of Architecture, Design & Planning
  University of Sydney
  NSW 2006 Australia

Once the submission is received you will be emailed a certificate that acknowledges your completion of the module and can be used as documentation for the CPE requirements

The cost of accessing one of the websites is $300 (GST inclusive).

To access one or more of the modules fill put the application form and fax it to:

  Sue Lalor on 61 2 9114 0941
0.05 Application Form

COURSE DETAILS

TAX INVOICE ABN  15211513464
Cost Per Module  $300.00

YOUR DETAILS

First Name: .................................................................
Surname: ........................................................................
Company: ......................................................................
Street Address: ................................................................
Suburb: .......................................................................... 
Postcode: ........................................................................
Work Phone: .....................................................................
Mobile: ...........................................................................
Fax: ................................................................................
Email: .............................................................................

PAYMENT DETAILS

Please Mark the box(s) you wish to access and tick the circle if you would like your submission marked for course credit:

□  ○  CPE 1:  Light Travels in Straight Lines  $300.00
□  ○  CPE 2:  The Inverse Square Law  $300.00
□  ○  CPE 3:  Visuals/ Thresholds  $300.00
□  ○  CPE 4:  Visual Adaptation  $300.00
□  ○  CPE 5:  Surface Texture and Pattern  $300.00
□  ○  CPE 6:  Surface Reflection  $300.00

Total Cost Payable inc GST:  $  1,000.00

□ Cheque payable to the University of Sydney

□ Credit Card No. ............................................................
Expiry Date ..............................................................

Card Holder Name __________________________________________
Signature  X ________________________________________________
For more information, please contact:

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Page 2  
Visual Perception and Architectural Design  
Photo by Christine Avramidis

Page 3  
Light Only Travels In Straight Lines  
Photo's by Terry Purcell and Ross Thorne

Page 4  
The Inverse Square Law & Changes In The Intensity Of Light With Distance From The Source  
Photo's by Terry Purcell  
Visual Thresholds And Our Ability To Discriminate Differences  
Photo's by Terry Purcell and Sowerby Smith  
The Range Of Light Intensity In The Environment And The Process Of Visual Adaptation  
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Page 5  
Surface Texture And Pattern  
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The Reflection Of Light From Surfaces  
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