In this unit you will be exploring innovative, complex, technical solutions within your design projects. You will be introduced to selected state-of-the-art applications software that will allow you to evaluate and optimise the technical performance of the solutions at both the conceptual and detailed design stages. Simulation allows us to test a building under a range of set conditions to analyse and optimise the robustness of particular designs. Much current architecture uses environmental and structural analysis to set geometrical controls on buildings and optimise performance.

**Performance**
Performance may be thought of as a consideration of the internal workings of a building and implies consideration not only of an improvement in the quantity of loads a building can support but the quality of the environment to be created.

**Environmental Form-finding**
In making environmental decisions, we will emphasise the form-finding possibilities of current analysis software, and study how geometry affects daylight, solar loads and thermal spaces.

**Structural Decision Making**
In making structural decisions, you will be able to model, analyse and optimise skeletal and surface structures such as Mikimoto Building, see image left.

**SOFTWARE**

**ANSYS**
WWW.ANSYS.COM/DEFAULT.ASP

“ANSYS structural mechanics solutions offer a broad spectrum of capabilities covering a range of analysis types, elements, contact, materials, equation solvers and coupled physics capability all targeted toward understanding and solving complex design problems.” ANSYS also allows parametric and topological optimisation.

**Autodesk Ecotect Analysis**
WWW.ECOTECT.COM

“ECOTECT is an industry leading building analysis program that allows designers to work easily in 3D and apply all the tools necessary for an energy efficient and sustainable future.”

**Climate Consultant 4.0**
WWW.ENERGY-DESIGN-TOOLS.AUD.UCLA.EDU/

“Climate Consultant “graphically displays climate data in either metric or imperial units in dozens of ways useful to architects including monthly bar charts, timetable charts, and psychrometric charts, sun shading charts, and sun dial charts. New 3-D plots show temperatures, humidity, radiation, and sky cover.”

**Multiframe**
WWW.FORMSYS.COM/ACADEMIC/MULTIFRAME

“Multiframe Academic helps you learn the basics of structural analysis and design using the Multiframe suite of software. The system takes you through all the phases of setting up, analysing and interpreting results for a range of structures.”
Robot
WWW.AUTODESK.COM.AU
“This structural engineering software is versatile enough for simple frame or complex finite element analysis, steel and reinforced concrete design and offers seamless interoperability with other Autodesk structural engineering products or third-party applications.”

Radiance
HTTP://RADSITE.LBL.GOV/RADIANCE/
“A raytracer trying to aid lighting designers and architects by predicting the light levels and appearance of a space prior to construction.

COURSE DETAILS
Course name: Performance Based Modelling in Design
Course Code: MARC6101
Cost: $1920
When: Semester 1 weekly, starting Wed 3 March 2–5pm
Where: ATL 2, Wilkinson Building
Lecturers: Dr David Gunaratnam, Daniel Ryan

HOW TO APPLY
Fax or email completed CPD Registration form to Sue Lalor, details below.

FOR MORE INFORMATION CONTACT
 T +61 2 9114 0941
 F +61 2 9351 5665
 E sue.lalor@sydney.edu.au
 sydney.edu.au/architecture/cpd
# Architecture, Design and Planning

## Continuing Professional Development

**Registration Form**

To register, please complete this form and either email or fax to Sue Lalor, contact details below. If you require further information such as how CPD courses can lead to a degree contact Sue Lalor or see: www.sydney.edu.au/architecture/cpd

<table>
<thead>
<tr>
<th>Course Code:</th>
<th>Name of course:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost of course (GST free): $</th>
<th>Course attendance:</th>
<th>☐ Full course</th>
<th>☐ Day 1 (if offered)</th>
<th>☐ 2 Day block (if offered)</th>
</tr>
</thead>
</table>

☐ I would like to attend on an ‘Attendance only’ basis (‘Attendance only’ basis is for students who wish to attend without completing the assignment work, students receive a Certificate of Attendance which may be used towards professional CPD points).

☐ I would like to attend on a ‘Participation’ basis (‘Participation’ basis is for students who wish to complete the assignment work, students receive a Certificate of Participation and with successful completion of the assignment work will be eligible to apply for credit towards a future degree).

<table>
<thead>
<tr>
<th>Mr/Mrs/Ms First Name</th>
<th>Surname</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Job Role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Email</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>Suburb</th>
<th>Postcode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ I enclose a cheque (payable to The University of Sydney) OR

☐ Please debit from my credit card ☐ Visa ☐ Mastercard

<table>
<thead>
<tr>
<th>Credit card no.</th>
<th>Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit card name</th>
<th>Signature x</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PLEASE NOTE:**

- CPD courses are NOT open to current students of The University of Sydney.
- Applications generally close two weeks prior to course commencement, if your application is late it may not be possible to process.
- Please note that 5 working days notice of cancellation must be given to effect refund.
- Dates for courses may be subject to timetable changes.
- Privacy note: The information you provide may be used to maintain contact to keep you up to date with information about the University, its services, events and achievements. If you do not wish to receive this information, please contact Sue Lalor. The University abides by the “NSW Privacy and Personal Information Protections Act.”

**FOR MORE INFORMATION**

Sue Lalor
Faculty of Architecture
Wilkinson Building, 148 City Road
T +61 2 9114 0941
F +61 2 9351 5665
E sue.lalor@sydney.edu.au
sydney.edu.au/architecture/cpd
ABN 15 211 513 464
CRICOS 00026A