Built Environment

INTA2004
Interior Technics 4 - Systems

Convenor Name: Tracy Huang
Disclaimer
This abbreviated course outline is indicative of the outcomes, delivery and assessment. While Course Learning Outcomes will remain constant, other details may be subject to change. The full and most accurate course outline will be available in Moodle.

1. COURSE STAFF

<table>
<thead>
<tr>
<th>Course Convenor</th>
<th>Tracy Huang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td><a href="mailto:T.Huang@unsw.edu.au">T.Huang@unsw.edu.au</a></td>
</tr>
</tbody>
</table>

2. COURSE DETAILS

Credit Points: 6 UoC

<table>
<thead>
<tr>
<th>Learning Activity</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>1</td>
</tr>
<tr>
<td>Tutorial</td>
<td>4</td>
</tr>
<tr>
<td>Studio</td>
<td>0</td>
</tr>
<tr>
<td>Computer Lab</td>
<td>0</td>
</tr>
<tr>
<td>Online learning activity</td>
<td>0</td>
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</tbody>
</table>

Description
This course focuses on the systems of interior architecture environmental controls including, lighting, acoustics, thermal comfort and building services. Core considerations include natural and artificial lighting principles and design considerations; acoustics and noise control principles and design considerations with focus on material selection and spatial geometry; exploration of passive design and conventional/alternative energy sources for human thermal comfort and overview of building services documentation including mechanical services, hydraulic services, electrical services, telecommunications and fire protection systems with a focus on coordination with consultants. Emphasis is on the understanding of interior architectural environmental control through studio-based exercises and precedent studies.

Program Learning Outcomes (PLOs)

1. Initiate and lead innovative change using creatively, analytical skills and the effective development of new knowledge in the field of interior architecture.
2. Engage responsibly and sensitively with cultural, historical and interdisciplinary global contexts in the synthesis of ethical and sustainable design solutions.
3. Critically analyse, evaluate and synthesis complex field specific knowledge and contexts in a reflective and independent manner using advanced theoretical and technical skills through a robust understanding of cultural diversity.
4. Interpret and communicate complex field specific information and ideas; providing critique and reflection utilising innovative and creative technologies and analysis.
5. Effectively communicate knowledge and ideas to a range of different audiences and settings using verbal, digital and visual representational techniques.
6. Demonstrate adaptability and responsibility as a collaborative scholar who is capable of research-led design enquiry and ethical design practices.

7. Employ collaborative and equitable team work practices and skills.

Course Learning Outcomes (CLOs) with Alignment to PLOs and Assessment

<table>
<thead>
<tr>
<th>CLO #</th>
<th>CLO Statement</th>
<th>PLO #</th>
<th>Related Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO 1</td>
<td>Identify basic technical principles of natural and artificial lighting, passive and automated thermal comfort, building services and acoustics specific to interior architecture.</td>
<td>3</td>
<td>Project A, Project B, Project C</td>
</tr>
<tr>
<td>CLO 2</td>
<td>Employ technical principles independently in an interior scheme in a manner that is technically accurate, functional, environmentally and socially responsible.</td>
<td>2, 3</td>
<td>Project D</td>
</tr>
<tr>
<td>CLO 3</td>
<td>Communicate these components in a comprehensive and extensive documentation package, according to industry conventions in interior architecture.</td>
<td>4, 5</td>
<td>Project D</td>
</tr>
</tbody>
</table>

3. ASSESSMENT

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Weight</th>
<th>CLOs Assessed</th>
<th>PLOs Assessed</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project A is an individual exercise designed to build your ability to identify the basic technical principles of natural lighting specific to interior architecture.</td>
<td>20%</td>
<td>1</td>
<td>3</td>
<td>Week 2</td>
</tr>
<tr>
<td>2. Project C is an individual exercise designed to build a student’s ability to identify the basic technical principles of natural lighting, artificial lighting, thermal comfort and acoustics specific to interior architecture (CLO 1) and develop an understanding of how these elements have been employed in a design scheme.</td>
<td>45%</td>
<td>1</td>
<td>3</td>
<td>Week 6</td>
</tr>
<tr>
<td>3. Project D is designed to build your ability to employ technical principles independently in an interior scheme in a manner that is technically accurate, functional, environmentally and socially responsible (CLO 2) and communicate these components in a comprehensive and extensive</td>
<td>35%</td>
<td>2, 3, 4</td>
<td>2, 3, 4, 5</td>
<td>Week 9</td>
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</tbody>
</table>
documentation package, according to industry conventions in interior architecture (CLO3). The project focuses on the natural and artificial lighting components as it is a key aspect of the Interior Architects role (CLO 4)

4. WEEKLY COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Activity</th>
<th>Assessment</th>
<th>Related CLO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction and Natural Lighting</td>
<td><strong>Pre class Activity:</strong></td>
<td>Project A Due Weighting: 20%</td>
<td>CLO1</td>
</tr>
<tr>
<td></td>
<td>Introduction to Systems in Interior Architecture</td>
<td>• Complete online preparation activities.</td>
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<tr>
<td></td>
<td>What to consider: natural light, artificial light, acoustics and thermal comfort</td>
<td><strong>In Class Activity:</strong></td>
<td></td>
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<tr>
<td></td>
<td>Natural light, how to track the sun</td>
<td>• Tutorial introduction</td>
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<td></td>
<td></td>
<td>• Project A workshop – summer and winter sun paths.</td>
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<tr>
<td>2</td>
<td>Artificial lighting</td>
<td><strong>Pre Class</strong></td>
<td></td>
<td>CLO1</td>
</tr>
<tr>
<td></td>
<td>Look at different types of lighting requirements – general, circulation, task lighting, source lighting, feature lighting</td>
<td>• Complete online activities</td>
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<td></td>
<td>• Project A submission online</td>
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<td></td>
<td></td>
<td><strong>In Class Activity</strong></td>
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<td></td>
<td></td>
<td>• In class exercise of how to do a site analysis – in small groups</td>
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<td>• In class presentation</td>
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<tr>
<td>3</td>
<td>Thermal Comfort - Passive</td>
<td><strong>Pre Class</strong></td>
<td></td>
<td>CLO1 CLO2</td>
</tr>
<tr>
<td></td>
<td>Understanding passive thermal comfort systems</td>
<td>• Select precedent for Project B</td>
<td></td>
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<tr>
<td></td>
<td>Sun heat gain/loss</td>
<td>• Complete individual site visit</td>
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<tr>
<td></td>
<td>Thermal mass</td>
<td><strong>In Class Activity</strong></td>
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<tr>
<td></td>
<td>Passive air movement, through ventilation, cross ventilation and stack effect</td>
<td>• Natural light site analysis exercise of precedent</td>
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<tr>
<td></td>
<td></td>
<td>• Artificial light site analysis exercise of precedent</td>
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</table>
| 4 | **Thermal Comfort - Automated**  
|   | Introduction to building services  
|   | Specifically mechanical, air movement  
|   | - Group discussion on differences between daytime/night time and summer/winter  
|   | **Pre class**  
|   |   - Finish natural and artificial light analysis  
|   |   - Bring base drawings, notes and research for thermal comfort to class  
|   | **In Class Activity**  
|   |   - Natural ventilation analysis  
|   |   - Mechanical ventilation analysis  
|   | **CLO1 CLO2**  
| 5 | **Acoustics**  
|   | Guest lecture from acoustic engineer  
|   | **Pre class**  
|   |   - Bring base drawings, notes and research for acoustics  
|   | **In Class Activity**  
|   |   - The focus is on acoustics and coordination of whole package for assignment  
|   |   - Acoustic analysis  
|   |   - Coordinate a cohesive site analysis  
|   | **CLO1 CLO2**  
| 6 | **Building services: Electrical, communications and fire**  
|   | **Pre class**  
|   |   - Complete Project C and submit online  
|   |   - Print out of floor plans and sections from DP  
|   |   - Prepare resources needed for in class activity.  
|   |   - Bring site analysis (natural light) information from Project B to apply to Project D  
|   | **In Class Activity**  
|   |   - Tutor to talk through Project D with the students  
|   |   - Natural lighting strategy workshop – individual.  
|   |   - Peer workshop and critic.  
|   |   - Class discussion.  
|   | **Project B Due Weighting:** 45%  
|   | **CLO2 CLO3 CLO4**
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Pre class</th>
<th>In Class Activity</th>
<th>Post Class Activity</th>
<th>CLOs</th>
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</table>
| 7    | Guest Lecture: Artificial lighting | - Bring printed draft drawings.  
- Bring tools required for workshop. | - Group discussion on draft work.  
- Artificial lighting strategy workshop – individual.  
- Peer discussion and critic.  
- Group discussion of in class work. | | CLO2 CLO3 CLO4 |
| 8    | The role of an interior architect & the documentation of building services | - Bring printed draft drawings.  
- Bring tools for workshop. | - Group discussion on draft work.  
- Select 3 details that best communicate lighting scheme.  
- Coordinate drawings.  
- Peer critic and group discussion. | - Complete Project D | CLO2 CLO3 CLO4 |
| 9    | Making Week | | | Submit Project D Online | Project C Due  
Weighting: 35% |
| 10   | Recap | | Recap on what was leant in the course  
Feedback on Project C  
Peer critic exercise.  
Looking to what learning is next in elective course on INTERIOR DETAILING | | |