Faculty of Architecture, Landscape and Visual Arts

The Architecture of Furniture
2010
**SEM 1 - 2010**

**CAMPUS: CRAWLEY**

**UNIT COORDINATOR: PATRICK BEALE AA DIPL. RAIA**

### UNIT DETAILS

<table>
<thead>
<tr>
<th><strong>Unit title:</strong></th>
<th>The Architecture of Furniture</th>
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<tbody>
<tr>
<td><strong>Unit code:</strong></td>
<td>ARCT5589</td>
</tr>
<tr>
<td><strong>Credit points:</strong></td>
<td>6</td>
</tr>
<tr>
<td><strong>Availability:</strong></td>
<td>Semester Two</td>
</tr>
<tr>
<td><strong>Location:</strong></td>
<td>CRAWLEY</td>
</tr>
<tr>
<td><strong>Unit web page:</strong></td>
<td><a href="http://www.alva.uwa.edu.au/students">www.alva.uwa.edu.au/students</a></td>
</tr>
</tbody>
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### UNIT RULES

<table>
<thead>
<tr>
<th><strong>Contact hours:</strong></th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre requisites/adviseable prior study and incompatibility:</strong></td>
<td>Available at <a href="http://www.handbook.uwa.edu.au">www.handbook.uwa.edu.au</a></td>
</tr>
</tbody>
</table>

### CONTACT INFORMATION

<table>
<thead>
<tr>
<th><strong>Unit coordinator:</strong></th>
<th>Patrick Beale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit coordinator email:</strong></td>
<td><a href="mailto:Patrick.Beale@uwa.edu.au">Patrick.Beale@uwa.edu.au</a></td>
</tr>
<tr>
<td><strong>Unit coordinator phone number:</strong></td>
<td>6488 1562</td>
</tr>
<tr>
<td><strong>Unit coordinator fax number:</strong></td>
<td>64881501</td>
</tr>
<tr>
<td><strong>Coordinator consultation hours:</strong></td>
<td>Wednesday afternoons by appointment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Tutor/assistant name:</strong></th>
<th>Tristan Morgan, Mishelle Yam, Dominic Trimbole, Robyn Diggins</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact details (phone, email, fax):</strong></td>
<td>ATC Studio adjacent ALVA Studio</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Tutor/assistant name:</strong></th>
<th></th>
</tr>
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<tr>
<td><strong>Contact details (phone, email, fax):</strong></td>
<td>ATC STUDIO</td>
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</tbody>
</table>
COMMUNICATION
When you enrol at UWA you are automatically assigned an email address. This address is then used for official electronic correspondence unless you advise in writing that this is not acceptable. For more information about your UWA Student Email account and services available you should visit http://www.ucs.uwa.edu.au/web/students/email

Staff may communicate with students by email, so all students should ensure that they:
(a) activate their Pheme account and student email account
(b) check their account regularly (at least twice per week)
(c) communicate with University staff ONLY through their student email account. (Staff are not required to respond by email to any other addresses.)

UNIT DESCRIPTION

Introduction
This unit establishes a context wherein the design and making of furniture is directly linked to the making of architectural space. Three principal modes of work are pursued: (1) a number of prominent furniture designers, specific pieces of furniture, and schools/styles/movements in furniture are researched and discussed, part of this research being based locally (in Western Australia) and part internationally, with emphasis on the twentieth century and contemporary practitioners; (2) the establishment of programmatic parameters and specifics necessary for the design of a piece or pieces of furniture; and (3) the design and documentation (including shop drawings) as well as fabrication of prototypes. Each student participates in the three principal modes of work.

Students construct 1:5 scale precision models of extant pieces and of their own designed items. Substantial consideration is given to the context of furniture design, to consideration of issues of functionality and fashion, and relationship of the architectural program to the furniture program for given spaces under study. The unit is linked to the Furniture Enterprise Workshop project, a collaborative endeavour with the timber and the furnishing industries in Western Australia. Issues of sustainable design and the application of sustainable practices to the large-scale production of furniture in Western Australia are key themes in the unit. The unit is primarily structured around weekly group meetings in seminars and discussions, site visits and workshop sessions.
Unit aims and objectives

The unit will tackle the most difficult element in furniture, the chair. But the chair is also touchstone of all furniture design and manufacturing processes. [It is for instance, only the chair and the bed in all pieces of furniture, that have dedicated Australian standards to which they must conform.] It is fundamental to the western tradition of interiors, fundamental to the western domestic rituals and traditions, and is fundamental to our language: we ‘Chair’ a conference, we take a ‘Chair’ in philosophy, we have ‘Chairmen’ of the board [men and women] and we seat our heads of state on thrones [chairs], we invite a member of our parliaments to take the Speaker’s ‘Chair’ and we learn to sit on chairs to do our work from the earliest age. It is a part of life. But how good is it? How good can it be? How memorable should it be?

In this unit we will establish some very specific parameters of function, manufacture, fabrication, ergonomics and economics. We will spend a lot of time in design phase and we will require constant testing of design proposals in model, drawing and in fabricated sample form.

The chair will be an all timber chair using Karri [Eucalyptus Diversicolour]. No primary structural part shall be less than 20mm X 20 mm or 400mm sq. and no part shall be greater than 20mm X 40 mm or 800 mm sq. Karri is the most significantly undervalued timber that is native to Western Australia. It is typically harvested and marketed to Europe for underground railway points sleepers, and for Polder reinforcement in Holland. It is not commonly used in furniture as the industry has always considered it to be difficult to work and to finish.

The function of the chair may include specific uses to be disclosed in the first unit session. It will also need to meet the criteria for a dining chair for domestic and/or for commercial use.

During the design process, irreconcilable differences between these functional requirements may be revealed, but we will begin with a broad approach to the structural, comfort and ergonomic requirements of the work.

The unit will proceed through an examination of the technology of small section chair design as developed by the Advanced Timber Concepts Research Centre. A strict regime of submissions will be required in order to meet the basic requirements for this unit and in order to make it possible to carry out exacting work in the very limited time available and with the very limited resources of the ALVA workshop for carrying out this kind of work.

Over the course of the unit assistance with the fabrication of some elements of the chairs will be available through the ATC CAD/CAM facility at Narrogin Joinery made possible through the royalties for regions grant system. Unit
Learners will determine appropriate applications for use of the ATC Masterwood CNC milling machine.

**Learning outcomes**

Students acquire experience in the design of pieces of furniture for pre-existing architectural spaces, to a particular brief negotiated between the unit staff and the student. In order to construct the prototype, students apply the principles of design documentation to the item they have designed, and in the process, acquire the skills, knowledge and insight necessary for the documentation of furniture, cabinet work and potentially fine architectural joinery. Students gain an applied knowledge of the ergonomics of furniture making and acquire knowledge of the qualities and behaviour of a wide range of materials, adhesives and fastenings. They enhance their basic workshop skills in the prototyping process and experience the value of constructing a working full-size prototype piece of furniture.

**UNIT REQUIREMENTS**

Design drawings: Shop Drawings: Scale models: Prototypes at full size
UNIT STRUCTURE

Class types (lectures, tutorials/seminars, workshops), venues, days and times
Lectures: 2 hours per week: weeks 1 – 6
Workshops: 2 hours per week: weeks 1 – 6.
Workshops: 4 hours per week: weeks 7 to 12.

Priority access to the ALVA workshop on Wednesday and Thursday afternoons from Week six onwards will be available by roster in addition to all day Friday from week six onwards.

Attendance/participation requirements

Attendance and participation is expected

Materials and Equipment

Students are advised to equip themselves with their own accurate tape measure or 1m folding ruler, a small woodworking square, and several pencils.

UNIT TIMETABLE

To view the timetable for this unit please go to:
## SEMESTER CALENDAR

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Day</th>
<th>Lecture Topic</th>
<th>Lecturer</th>
<th>Tutorial/seminar/workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30th July</td>
<td>Friday</td>
<td>The evolution of type in furniture</td>
<td>PB</td>
<td>Protocols, requirements, logistics and timber prep.</td>
</tr>
<tr>
<td>2</td>
<td>6th August</td>
<td>Friday</td>
<td>Case study: Charles and Ray Eames Collection</td>
<td>PB</td>
<td>Design Workshop/Workshop practice</td>
</tr>
<tr>
<td>3</td>
<td>13th August</td>
<td>Friday</td>
<td>Structure, form joints and assembly in cahirs.</td>
<td>PB</td>
<td>Design Workshop/Workshop practice</td>
</tr>
<tr>
<td>4</td>
<td>20th August</td>
<td>Friday</td>
<td>Case studies; Ron Arad and USM Haller</td>
<td>PB</td>
<td>Design Workshop/Workshop practice</td>
</tr>
<tr>
<td>5</td>
<td>27th August</td>
<td>Friday</td>
<td>Aalto and Scandanavians</td>
<td>PB</td>
<td>Design Workshop/Workshop practice</td>
</tr>
<tr>
<td>6</td>
<td>3rd September</td>
<td>Friday</td>
<td>Modern Chair variations: What’s in a chair?</td>
<td>PB</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>7</td>
<td>10th September</td>
<td>Friday</td>
<td>Design review, design trials</td>
<td>PB/ALL</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>8</td>
<td>17th September</td>
<td>Friday</td>
<td>Design review, design trials</td>
<td>PB/ALL</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>9</td>
<td>24th September</td>
<td>Friday</td>
<td>Design review, design trials</td>
<td>PB/ALL</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>10</td>
<td>4th October</td>
<td>Friday</td>
<td>Design review, design trials</td>
<td>PB/ALL</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>11</td>
<td>11th October</td>
<td>Friday</td>
<td>Design review, design trials</td>
<td>PB/ALL</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>12</td>
<td>18th October</td>
<td>Friday</td>
<td>Non Design review, design trials. Non assessment week</td>
<td>PB/ALL</td>
<td>Design Workshop/Workshop practice</td>
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<tr>
<td>13</td>
<td>25th Oct</td>
<td>Non teaching study break</td>
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## ASSESSMENT MECHANISM

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Drawings: Shop</td>
<td>% 40</td>
<td>Week 7 10\textsuperscript{th}</td>
</tr>
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</table>
Supplementary assessment is available to bachelor’s degree pass students and Master of Architecture (Coursework) students who receive a final mark of 45-49% in a unit when it is the only unit required to complete their course.

**ASSESSMENT ITEMS**

**Assessment item 1.  40%**

This assessment is designed to evaluate the thoroughness, inventiveness and completeness of the design process and the state of readiness to proceed to workshop fabrication:

Submission requirements:

Design Drawings, sketch book, process models and final model. A final model in physical form must be submitted at scale of 1:5, 3 D printer recommended.

Shop Drawings for fabrication at 1:1 scale. Electronic format acceptable; Acceptance of shop drawings signals permission to proceed to fabrication in workshop.

**Assessment Criteria:**

Fitness for purpose of proposed design  [40%]

Completeness of design process record and design drawings: [30%] *minimum drawings will be plan view, two sectional views, three elevational views [front, side, back] Three dimensional representation in drawing [model of axonometric]*

Completeness and understanding of workshop process demonstrated through the Shop Drawings set[30%]

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**Assessment item 2.  60%**

Functional Prototype Chair; As built drawing set [design and shop drawings] in electronic format. A4 Flyer explaining concept and extolling the qualities of the chair.
Assessment criteria:

Commodity of fabricated chair - Does it meet the design criteria?

Firmness: Does this chair demonstrate sound structural, ergonomic and sustainable design criteria. Does the chair show potential for manufacture with minor, moderate or major modifications?

Delight: Does the chair delight the senses?

TEXTBOOKS AND RESOURCES

Recommended Texts

Reference documents will be available in the resource room. Online resources will be detailed as appropriate. Some materials are available in the University EDFAA Library, which, contrary to popular belief, does still exist in some shadow of its former self in the Reid library.

Return of Student Work
Marked assessments submitted on time will be made available for collection by students at least one week before the next assessment in the unit is due, or no more than four weeks after submission, whichever is sooner.

EARLY SUBMISSIONS ARE ENCOURAGED AND WILL BE PROMPTLY MARKED IN THIS UNIT. Finished items may be collected after assessment and after photographing after the submission date.

Student Support
Student Services offers services and programmes that complement the university experience and promote links with the broader community. Information about the services offered is available at http://www.studentservices.uwa.edu.au/ss

Student Guild
Information about the University Student Guild is available at http://www.guild.uwa.edu.au
ACE
All newly enrolled students (at any level) are required to complete the Academic Conduct Essential (ACE). Further information can be found at http://www.ace.uwa.edu.au.

POLICIES AND PROCEDURES

Charter of Student Rights
The University’s charter of student rights is available at http://www.secretariat.uwa.edu.au/home/policies/charter

Academic conduct and Ethical Literacy
The Faculty and the University take very seriously issues of academic literacy and ethical scholarship. The University has developed a series of policies relating to ethical literacy and the Faculty’s Academic Conduct Policy reflects these guidelines. The Faculty uses the University wide reporting and penalty mechanisms for students found to have been involved in academic misconduct. To view the Faculty’s Academic Conduct Policy please refer to: http://www.alva.uwa.edu.au/students/policies/assessment/misconduct

Appeals
Where there is dissatisfaction with an assessment result and/or progress status students may lodge an appeal. For information regarding the appeals process please go to: http://www.secretariat.uwa.edu.au/home/policies/appeals

FACULTY POLICIES AND PROCEDURES

Attendance
Under General Rule 2.1.15, students are required to attend prescribed classes and submit work of a satisfactory standard. Under General Rule 2.1.16 a student may be prohibited by the Faculty from undertaking further study or examination in the unit concerned if the requirements of 2.1.15 are not met.

Extensions
The Faculty approves extensions only in exceptional circumstances in order to ensure that all students are treated fairly and that submission date schedules, which are designed to produce ordered work patterns for students, are not disrupted. Extensions may be authorised only by the Manager, Student Office.

In all cases, requests for extensions require the submission of an official extension form before the due date.

To view the full AVLA Extension policy and application procedures go to: http://www.alva.uwa.edu.au/students/policies/assessment/extension
Submission of late work
All assessment tasks are due at 4pm on the date indicated in the unit’s Assessment Mechanism Statement, with the exception of in-class assessment items such as tutorial presentations. Any assessment task which is submitted after the time indicated in the assessment mechanism statement on the due date without a formal approved extension will be considered late and appropriate penalties will be applied. The late work policy should be read in conjunction with the ALVA Extension Policy available at http://www.alva.uwa.edu.au/students/policies/late-work

Digital Submissions
The ALVA Digital Submissions policy is available at: http://www.alva.uwa.edu.au/students/policies/assessment/digital_submissions

Academic conduct
Academic misconduct includes plagiarism, collusion and other forms of cheating. The University of Western Australia defines Academic Misconduct as "any activity or practice engaged in by a student that breaches explicit guidelines relating to the production of work for assessment, in a manner that compromises or defeats the purpose of that assessment".

The full AVLA misconduct policy is available at: http://www.alva.uwa.edu.au/students/policies/assessment/misconduct

Special Consideration
Special consideration allows Faculties to take into account significant and unforeseen factors that may have affected your academic preparation or performance. Students who believe they may be eligible for special consideration should make an appointment to meet with the Manager, Student Office as soon as possible after the onset of the medical condition or other circumstance. For information regarding special consideration please go to: http://www.guild.uwa.edu.au/home/student_assistance/academic_help/special_considerations

Academic Writing
Student Services provides an online guide to assist you in writing essays and general academic writing. Tools, techniques and tips on how to complete your written assignments is available at http://www.studentservices.uwa.edu.au/ss/learning/alva and http://www.studentservices.uwa.edu.au/ss/learning/academic_writing