301282

Anatomical Techniques 331

UNIT OUTLINE

Semester One, 2012
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INTRODUCTION

Welcome to Anatomical Techniques 331.

Anatomical Techniques 331 is possibly the closest you have come so far in your degree program to a work experience unit. AT331 aims to prepare you for your future study and careers in a number of ways; it builds specific skills in technical procedures and research techniques that are highly sought-after, and it helps you consolidate your anatomical knowledge. This unit builds upon your work in Anatomy 231 and 232 in which you considered the body in a regional way to construct understanding of the human body by looking at how it is put together. By now you should be able to consider an anatomical feature and think “If it has to do such-and-such a task, how will it need to be put together?” or “This is what its made from, what is its function likely to be?” We will be working with these integrated ideas on form and function in this unit, but with a strong emphasis on relationships. AT331 gives you opportunities to prospect human cadaver specimens from a plan you have prepared, to plastinate human cadaver specimens, to skeletonise animal specimens and to document your progress and articulate your reflections on these processes. You will also learn about the history of anatomical dissection, its role in comparative morphological research, and the legal and ethical implications of using human cadaver material.

We hope you will enjoy this unit and come out with not only a working knowledge of anatomical techniques that will allow you to work in technical and research areas, but also with some opinions about how anatomy as a subject fits into our concept of scientific inquiry.

ESSENTIAL ADMINISTRATIVE INFORMATION

<table>
<thead>
<tr>
<th>Unit Title</th>
<th>Anatomical Techniques 331</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit code</td>
<td>301282</td>
</tr>
<tr>
<td>Unit Coordinator</td>
<td>Dr Georgina FYFE BSc (Hons) (UWA) MSc (UWA), PhD (Curtin),</td>
</tr>
<tr>
<td>Teaching Area</td>
<td>Biomedical Sciences</td>
</tr>
<tr>
<td>Teaching Staff</td>
<td>Mr Gary WHITTAKER, BSc (Curtin) GDipForSc (UWA)</td>
</tr>
<tr>
<td></td>
<td>Ms Kylie McVay, BSc (HB Preclin) (Curtin) MSc (Medical Imaging Science) (Curtin)</td>
</tr>
<tr>
<td>Expert technical assistance</td>
<td>Ms Sue Voigt and Mr Richard Krummins.</td>
</tr>
<tr>
<td>Credit Value</td>
<td>25</td>
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<tr>
<td>Mode(s) of study</td>
<td>Internal</td>
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<tr>
<td>Pre-requisites</td>
<td>Anatomy 231 and Anatomy 232</td>
</tr>
<tr>
<td>Additional requirements</td>
<td>anatomy authorisation for Curtin University</td>
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<tr>
<td>Result Type</td>
<td>Grade and Mark (e.g. 6 62)</td>
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<tr>
<td>Ancillary Fees &amp; Charges</td>
<td>All fee information can be obtained through the Fees Centre. Visit <a href="http://www.fees.curtin.edu.au/index.cfm">http://www.fees.curtin.edu.au/index.cfm</a> for details.</td>
</tr>
<tr>
<td>Unit Website</td>
<td>You can access the unit materials on Blackboard via <a href="http://oasis.curtin.edu.au">http://oasis.curtin.edu.au</a></td>
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<tr>
<td>Tuition Pattern</td>
<td>5 contact hours per week although you will need to attend at other times when technical procedures require it – see detailed weekly schedule on Blackboard.</td>
</tr>
<tr>
<td>Study Load</td>
<td>Recommended study load 10 hours per week but technical parts of the unit may require extra time.</td>
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## TEACHING STAFF

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
<th>Building &amp; room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Coordinator Lecturer</td>
<td>Dr Georgina Fyfe</td>
<td>[<a href="mailto:G.M.Fyfe@curtin.edu.au">G.M.Fyfe@curtin.edu.au</a>]</td>
<td>08 9266 7364</td>
<td>404.211</td>
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<tr>
<td>Lecturer</td>
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<td>08 9266 1848</td>
<td>308</td>
</tr>
<tr>
<td>Demonstrator</td>
<td>Ms Kylie McVay, BSc (Curtin) MSc (Curtin)</td>
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<td>404</td>
</tr>
<tr>
<td>Demonstrator</td>
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<td>08 9266 7995</td>
<td>404 Technical area</td>
</tr>
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<td>08 9266 7995</td>
<td>404.107</td>
</tr>
</tbody>
</table>

## UNIT SYLLABUS

This unit provides an opportunity for students to focus on selected aspects of human anatomy and to develop skills in prosection, skeletonisation and plastination techniques. You will be problem-solving in teams and learning how to record and present morphological data. In addition, students will be challenged to consider the role of anatomy in scientific inquiry, and the use of comparative anatomy to understand form and function.

## LEARNING RESOURCES

Once you have enrolled in this unit you will have access to the FLECS (Blackboard). Here you will find electronic copies of the unit outline, weekly agendas, lecture outlines, past exam papers and any information relevant to the unit. You can also email me or post a comment on the bulletin board Please make sure you check this regularly.
LEARNING OUTCOMES

On successful completion of this unit you will have achieved the following outcomes:

1. prepare, by prosection, human cadaver specimens of a quality suitable for use in teaching

2. prosect the detailed structures in a selected anatomical area, and describe these with annotated figures and descriptive text

3. use your understanding of the technical aspects anatomical techniques such as plastination and skeletonisation, to solve relevant problems

4. communicate to others via selected media aims, intent methods and outcomes of the prosected, plastinated or skeletonised specimen

5. discuss the ethical aspects of the use of human cadaver material for teaching, learning and research

LEARNING ACTIVITIES

Anatomical Techniques 331 is organized around giving you the chance to prosect and plastinate human specimens, so the timetable is driven largely by the times needed to complete various stages of preparation or processing. We fit the rest of the work around those times, so keep a close eye on the week-by-week schedule. You have a copy in this unit outline, but it may change as we go through and you will be provided with updates as required. You will also be doing some work in small groups, where a smaller staff-student ratio is needed, so make sure you know when you will be participating. We will not always be able to give you an exact idea of when and how things will be finished, but I will give you as much notice as possible.

Be prepared for practical work on any of the days designated for AT331. You should always come to class in closed-in footwear and have your lab coat with you.

The emphasis in AT331 is on active and self-directed participation. We will expect you to organize your time effectively, read materials and be prepared to give your considered opinions on issues that are raised in class. You will contribute to the knowledge of others by presentations and discussions, and you will learn about your own learning processes by reflection.

This unit will provide you with an opportunity to develop both as an independent learner and as part of a team with other students and your teachers. You will be challenged to think pragmatically about aspects of the use of human material as prosected specimens, via web-based digital photographs, and as “art”. Be prepared to argue your viewpoint and to show how you meet the requirements to act responsibly with bequeathed human remains.

STUDENT FEEDBACK

For Semester 1 and Semester 2 eVALUate is open for student feedback in weeks 12-17.

For other study periods see http://evaluate.curtin.edu.au/info/dates.cfm

We welcome your feedback as one way to keep improving this unit. Later this semester, you will be encouraged to give unit feedback through eVALUate, Curtin’s online student feedback system (see http://evaluate.curtin.edu.au). Recent changes to this unit in response to student feedback through eVALUate include:

1. More opportunities for self-evaluation of your work
2. Less time spent on articulation of the dog paw skeleton by working as a group
3. Consideration of cultural variation in aspects of cadaver use
TEXT BOOK

There is no essential text listed for this unit, but you will need to have access to an anatomy atlas and at least one textbook that deals with the body in a regional way. The texts and atlas that you used for A231 and A232 will be fine. If you have access to older copies of anatomy texts you may be able to manage with these. Because I shall not be providing specific references to the text, as long as you have access to a detailed regional anatomy text that should be sufficient, and older versions or editions will do the job just as well.

ASSESSMENT DETAILS

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Tasks</th>
<th>Worth</th>
<th>Due</th>
<th>Unit L O Assessed</th>
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<tbody>
<tr>
<td>Prosection task</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>........................................ Plan</td>
<td>5%</td>
<td>Mon 12th March</td>
<td>1, 2, 5</td>
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<tr>
<td>........................................ Project</td>
<td>25%</td>
<td>In your prac time 15th or 16th May</td>
<td></td>
</tr>
<tr>
<td>........................................ Evaluation</td>
<td>15%</td>
<td>Friday 18th May 5pm</td>
<td></td>
</tr>
<tr>
<td>Skeletonisation task</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>............dog paw protocol</td>
<td>10%</td>
<td>12 noon 16th April</td>
<td>4, 5</td>
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<tr>
<td>Submitted as a group project</td>
<td></td>
<td></td>
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<tr>
<td>Plastination techniques</td>
<td>10%</td>
<td>In your prac time 22nd or 23rd May</td>
<td>3, 5</td>
</tr>
<tr>
<td>Group problem-solving task</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final written examination</td>
<td>35%</td>
<td>exam week</td>
<td>3, 4, 5, 6, 7</td>
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<tr>
<td>TOTAL</td>
<td>100%</td>
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<td></td>
</tr>
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For more information on the rationales, expectations, and examples of good practice for each of the assessment tasks, see the Blackboard site that will be updated closer to the time that the assessment is due.

Prosection task

45% of semester mark

The major task this semester is related to your prosection project. The assessment reflects this and is spread across a number of different tasks that test various skills. Although the amount of time which you may spend doing your dissection may not appear to be reflected in the mark allocation for technique, remember that the other related tasks (plan and evaluation) add another 20% to this allocation.

Prosection plan 5%  DUE – MONDAY 12th March by 12 noon

You will receive your prosection task in Week One, and you will be expected to have a slide ppt presentation plan to submit and present to your prac class on the following Tuesday or wednesday (approx 5 mins talking).

All plans must be uploaded onto Blackboard by 12 noon Monday 12th March - Week Three.

Plans to be presented in the prac classes in week three but must be completed by Monday 7th March in order to get valuable feedback prior to starting your prosection. Your plan will form the basis of your prosection project preparation, but will need to be modified to suit the particular specimen you are allocated. You will receive feedback on your plan including the modifications needed from Georgina and Gary, plus peer feedback on your presentation technique by the whole class.
You may have a maximum of 10 slides only.
Slide 1 should give your name and the title of the project
Slide 2 should list the aims of the project, grouped into themes.
Next Slides will be a pictures of how you think your final prosection will look (referenced from the source), You can use up to 4 slides to ensure all aspects of the project can be viewed.
Next Slide lists things about the specimen that may affect your approach to the task You will not have seen your specimen before the plan so you must take variation in section level, gender, musculature, right or left limb, evidence of any pertinent surgical procedures and so in to account.
Next Slide lists the main challenges of the aims of the project (e.g. will you have to cut through bone? reflect muscles? leave on a cuff of skin?).
Next Slide lists the main opportunities of the aims of the project (e.g. what extras might you be able to show that are not on your aims list?).
Your last slide will be titled “Modifications Necessary” and will remain blank until you have reviewed your specimen. You will speak to this in your lab class, and explain to your colleagues why you need to change your original plan.

**Prosection project (end product) 25% DUE at the start of your NORMAL PRAC TIME**
**TUESDAY 15th MAY OR WEDNESDAY 16th MAY**

Your finished project will be submitted at the start of your prac session, along with an emailed Aims Checklist (template available on Bb). The project will be judged by Georgina, Gary, Kylie, Sue and Richard for skill of technique, and how close you came to the stated aims of the project. Variations in levels of difficulty will be taken into account, but we have made every attempt to make each project equivalently challenging. Your decision-making, preparation, conduct in the lab (including appropriate behaviour & respect), observance of safety procedures and general work habits during the semester will be taken into account by the markers. Everything about your conduct may be used to modify your mark. Allocations of marks will be clarified by a rubric, available closer to the time on Bb.

**Prosection Evaluation 15% DUE FRIDAY 20th MAY 5 pm**

This evaluation report will use a template (available as a word doc) to help you evaluate the process and product of your prosection. This aims to help you develop skills in honestly evaluating your own work and identifying areas for improvement. You will be marked on your thoroughness and insight, and the clarity with which you present your evaluation.

You will rely on your journal to give you the information you will present in your report but the journal will not be formally assessed, although it may be examined a couple of times during the project. **If taking progressive digital photographs you must ensure that the information is treated with respect once it is in your care.** Copies of all digitized images must be left on the tech office computer.

**Skeletonisation (group task)**

| 10% of semester mark- | DUE 16th April 12 noon |

This task tests your ability to work effectively in a team, to allocate tasks and to write useful descriptions of method. The dog paw skeletonisation task will be done in small groups, with two paws per group. You will submit a protocol on the method of Skeletonisation of a Dog Paw, a step-by-step explanation of what is done when, how long it takes, what equipment or chemicals are used (and why). The protocol should follow the template supplied on Bb. There is no word limit but you must cover as much detail as necessary and be concise (previous experience has shown to be approximately 2000 words). It should be written to enable someone to follow your protocol and successfully skeletonise and articulate a dog paw. You will hand in one assignment per group, with a sign-off coversheet allocating marks distribution between group members.

**Plastination problem-solving session (group task)**

| 10% of semester mark- | Due in your normal prac time, week 13, 22nd or 23rd May |

The plastination process in which you will participate will be guided by Gary and Sue and you will be working in small groups. However, you need to keep a journal of the process of the technique by recording what you did and why. Make sure you follow the progress throughout the semester by regularly checking the whiteboard in the Plastination Lab. You should be able to give reasons for why each stage of the process is done in a particular order. In the group assessment task your group will be given problems to solve on the spot, using the understanding you have gained. During this assessment task you will be permitted to refer to any notes you have made during the semester. The whole group submits one answer sheet for the task and receives the same mark.
Final written examination

35% of semester mark

The written paper is written by Georgina and Gary and is different every year. It is an open-book exam and is run during the examination period and covers the whole semester’s work. The emphasis will be on integration of material, ascribing function to structure and explaining how things fit together. You will also be asked to reflect on aspects of your AT331 work and your answers will be judged on depth, insight and use of good illustrative examples. Past exam papers and example questions will be posted on Blackboard later in the semester.

Referencing Style

Students should use the APA referencing style when preparing assignments. For details see the Library web site: http://library.curtin.edu.au/referencing/index.html

Guidelines for Submission:

All assignments must be accompanied by a signed and dated Assignment Attachment Form, available on Blackboard. It is your responsibility to take a copy of all written work that is handed in. Submit work in times 12 point 1.5 spacing unless directed otherwise. Make sure your name and student number is in the footer on each sheet, and a “page x of y” numbering system is used. When submitting files of work electronically, use the naming conventions outlined (e.g. AT331_12ProjPlanBloggs) for files uploaded to Blackboard or sent by email. All assignments must be received by the specific time stated in this unit outline. Submissions after this time will incur the School’s penalty of 10% of the mark per calendar day.

Supplementary Examinations

Supplementary examinations are awarded only at the discretion of the Board of Examiners. No written application for supplementary examination will be considered. The aim of a supplementary examination is to allow the student to correct minor problems or deficiencies in the initial assessment and not to gain extra study time or correct major problems. The number of suppl. examinations awarded will be restricted for any one examination period and course of study.

You will be notified of the award of supplementary examinations via Oasis. It is your responsibility to check your OCC emails. A student who does not sit for a scheduled supplementary examination has no claim to a further examination.

Deferred Assessment

Deferment of an examination is not automatic. Students may be permitted by the relevant Board of Examiners to defer an examination or other assessment where circumstances outside their control have arisen. However, a student’s overall performance may be taken into account in granting permission to defer an examination. Applications for deferment on health grounds or as a result of extenuating circumstances must be submitted not later than seven (7) days after the end of the relevant examination period or assessment date during the semester. Detailed medical certificates should be attached to the application where appropriate. The prescribed application form may be obtained from the Curtin website.

STUDENTS’ RIGHTS AND RESPONSIBILITIES

It is the responsibility of every student to be aware of all relevant legislation, policies and procedures relating to their rights and responsibilities as a student. These include:

- the Student Charter,
- the University’s Guiding Ethical Principles,
- the University’s policy and statements on plagiarism and academic integrity,
- copyright principles and responsibilities,
- the University’s policies on appropriate use of software and computer facilities,
- students’ responsibility to check enrolment,
- deadlines, appeals, and grievance resolution,
- student feedback,
- other policies and procedures
- electronic communication with students

See www.students.curtin.edu.au/administration/responsibilities.cfm for comprehensive information on all of the above.
**ADDITIONAL INFORMATION**

### Requirements to complete the unit

There are some skills and other requirements that we assume you have prior to enrolling in this unit.

**Prerequisite Skills**

The content covered in AT 331 assumes that you:

1. have good written and verbal communication skills.
2. can effectively source, access and use library resources (printed and electronic).
3. understand what is meant by plagiarism and know how to avoid it
4. have completed the required prerequisite units.

**Other Requirements:**

1. White Laboratory Coat and closed-in footwear
2. Anatomy Authorisation valid for Curtin University
3. Textbook access.
4. Access to FLECS (Blackboard)
5. access to a digital camera

All disposable gloves, dissection tools and equipment, and all chemicals needed for the processes in this unit are provided by the School of Biomedical Sciences.

You will be required to read and sign the Anatomy Act Compliance Form for Dissectors, which will be handed out in your first practical session in Week 1.

### Laboratory safety and responsibilities

The anatomy facility here at Curtin University answers to the Health Department of Western Australia as well as to the University itself. Therefore we are required to observe certain rules for two reasons – firstly to comply with the anatomy act, and secondly to comply with university safety procedures. For these reasons there are strict rules which **must be adhered to** while you are in the anatomy facility during practical classes, exams or revision sessions. Failure to observe the rules may result in you being asked to leave a class, and possibly being excluded from the course.

1. You must wear a while laboratory coat which can be buttoned up in the front. This coat must be mid-thigh length or longer and not show conspicuous symbols or advertising.
2. You must wear closed-in shoes –slip-ins, clogs or sandals are **not acceptable**.
3. Mobile phones must not be used in the anatomy facility. If you need to make or receive a call, leave the facility and do so in the foyer.
4. No photographs or digital images of specimens (wet, bone or plastinated) may be taken without express permission from the School of Biomedical Sciences anatomy staff.
5. No material may be removed from the anatomy facility without permission of the Head of School (Anatomy)
6. No eating, drinking (even bottled water) or chewing is allowed during laboratory classes
7. Hair should be tied back to prevent cross-contamination
8. Protective eyewear is available for loan if you wish to use it – it is not required but is free of charge to those wishing to wear protective eyewear. Although we take all precautions to minimize the fumes from the formalin-preserved material, they can be irritant.
9. Protective latex gloves are supplied free of charge to those wishing to use them. Although the preservation of the specimens ensures there is no microbiological contamination, the chemicals are very drying to the skin and we suggest you wear protective gloves to handle the specimens
10. Bags should be left outside the lab in the shelves provided but carry your valuables with you into class. These shelves are cctv-monitored but thefts have occurred in the past.

**Respect must be shown to the bequeathed material at all times.**

Some students find dealing with human cadaver material quite challenging and we appreciate that, but we will not tolerate disrespectful behaviour in any form. If you have problems dealing with the lab material it is your responsibility to see Gary or Georgina as soon as possible