



**UNSW**  
AUSTRALIA

Medical Sciences  
Medicine

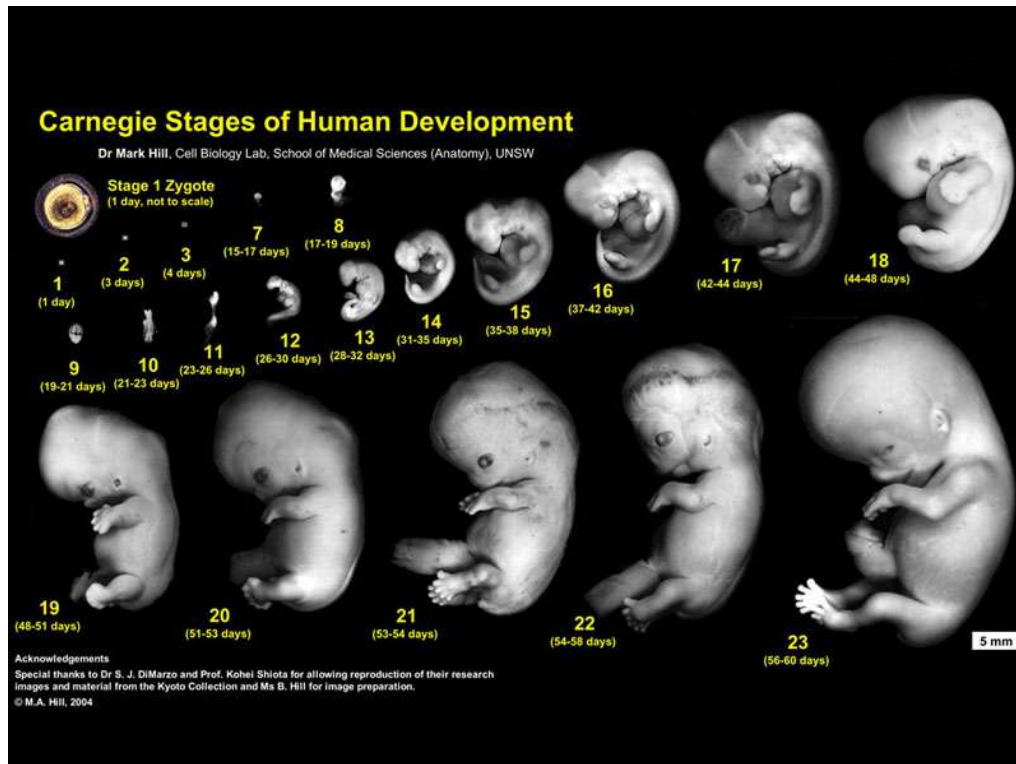
Department of Anatomy

**ANAT2341**

**Embryology**

Course Outline

Semester 2, 2015



Human Embryonic Development (week 1 to 8)

## Introduction to the Course

**Welcome** to Embryology in 2015 and thank you for choosing this course! This course will introduce embryological development as a major topic within medical sciences. Students completing this course will have a broad understanding of: human development, some animal models of development and current related research topics. Experts and researchers from within the field contribute to the current course.

Skills and knowledge from this current course will be a great advantage in your own future career. Take the opportunity to discuss potential future Honours projects with these researchers.

In **Lectures and Labs** I clearly identify any examinable material. A key component of course structure is the revision final lecture, an opportunity to review course material and ask questions about difficult concepts. As part of the course I also encourage you to develop the general scientific skills of critical thinking, analysis and scientific writing. These are important life skills applicable and required for any future (scientific) career.

**Dr Mark Hill**

(Updated July 2015)



### Embryology Wiki

The course is supported online by a Wiki resource that allows student access to lecture and practical class materials, as well as the location for Group project work throughout the semester.

<https://embryology.med.unsw.edu.au>

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Please read this manual/outline in conjunction with the following pages on the [School of Medical Sciences website](#):

- [Advice for Students](#)
- [Learning Resources](#)

(or see "STUDENTS" tab at [medicallsciences.med.unsw.edu.au](http://medicallsciences.med.unsw.edu.au) )

## Course Coordinator



Dr Mark Hill

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**Consultation times:** Monday 2-3 pm; Wednesday 2-3 pm; or by email appointment.

Please contact me prior to consultation by email with brief description of issue.

## Course Information

6 units of credit, Science/Anatomy program.

## Course Structure

Two lectures and a single 2 hour tutorial/laboratory per week. Content may vary in organisation from the provided draft timetable (page 7) dependent upon guest lecturer availability.

- Lecture 1 Mon 1:00 PM - 2:00 PM Wallace Wurth LG02
- Lecture 2 Wed 3:00 PM - 4:00 PM Wallace Wurth LG02
- Lab Fri 12:00 PM - 2:00 PM Wallace Wurth G07

## Course Aims

This course will enable students to

- explore and gain further understanding of embryology through the investigation of development in both humans and animal models with a direct emphasis of their application to emerging research and reproductive technologies.
- broadly understand abnormalities in development and current applications to medical research.

## Learning Outcomes

At the conclusion of this course the student will be able to:

- describe the key events in early and systematic embryological development.
- apply developmental theory to abnormalities of development and current medical research techniques.
- complete tasks in scientific communication either online, written and by oral presentation.
- work in small research groups and carry out peer assessment by completing an online group project.

## Course Assessment

There will be three parts to the course assessment:

| Assessment task    | Length                  | Weight | Learning outcomes assessed   | Graduate attributes assessed                         | Due date   |
|--------------------|-------------------------|--------|--|--|--|
| Individual Tasks   | Throughout the semester | 20 %   | Critical thinking and initiative, information literacy                               | Scholarly enquiry of research literature             | Throughout the semester                          |
| Group Project      | One online project page | 20 %   | Information literacy and effective communication                                     | Initiative and collaborative work                    | Week 9 peer assessment, Week 11 final assessment |
| Theory Examination | 2 hours                 | 60 %   | Engagement with the relevant disciplinary knowledge in its interdisciplinary context | Apply developmental theory to anatomical development | Within the S2 exam period                        |

Student individual and group assessment tasks are submitted online, except for some specialized tasks submitted by guest lecturers. Submission dates will be given when the task is initially set and late submissions penalized by 5% / day late.

### Assessment Design

The course has been structured and designed around the 16 guidelines on learning ([teaching.unsw.edu.au/guidelines](http://teaching.unsw.edu.au/guidelines)) developed as part of UNSW guideline vision, values and strategies to improve the educational experience of students.

The course specifically builds upon the following graduate capabilities ([teaching.unsw.edu.au/graduate-capabilities](http://teaching.unsw.edu.au/graduate-capabilities))

- understanding of their discipline in its interdisciplinary context
- capable of independent and collaborative enquiry
- rigorous in their analysis, critique and reflection
- able to apply their knowledge and skills to solving problems
- capable of effective communication
- information and digitally literate
- capable of initiating as well as embracing change
- collaborative and effective team workers
- capable of independent, self-directed practice
- capable of lifelong learning

## Textbooks

The textbook listed below is recommended for this course and page references are given in each lecture. There are additional embryology textbooks that can also be used, consult course organizer. The 9<sup>th</sup> edition of this textbook is currently accessible online through the UNSW Library connection (links are included in online lecture and laboratory materials).

- **Moore, KL, Persuad, TVN & Torchia MG. (2015) The Developing Human: Clinically Oriented Embryology (10th ed.). Philadelphia: Saunders.**

Online materials - UNSW Embryology: [embryology.med.unsw.edu.au](http://embryology.med.unsw.edu.au)

Each student will be provided access to an online page for their individual assessments and the group project.

## Health and Safety

Please read and sign the Student Risk Assessment for Wallace Wurth G08 located on the last page of this course outline. Additional health and safety information will be provided beforehand for any special or external classes. Please advise the course coordinator of any additional student health and safety requirements (see page 8), such as providing a Personal Emergency Evacuation Plan (PEEP), at the beginning of the course.

[medicallsciences.med.unsw.edu.au/students/health-safety](http://medicallsciences.med.unsw.edu.au/students/health-safety)

## Examiner

The course organizer (Dr Mark Hill) will be the examiner. The course assessor is Prof Edna Hardeman.

- **Theory examination** will be an exam within the session 1 exam period and will conform to University examination guidelines.
- **Supplementary examinations** will only be offered if the student is unable to attend the final examination for medical or misadventure reasons. Special considerations sought outside the 3 day time period WILL NOT be accepted except in TRULY exceptional circumstances.
- **Individual Assessment** (independent learning) brief questions based upon lecture and laboratory content given in the laboratory time and submitted online by the end of laboratory or an agreed submission time throughout semester.
- **Group Project** an online project prepared by small groups of students throughout semester. The project will have an assessment by student peers and final assessment by the course organizer at the end of semester.

## Course Schedule Embryology

Draft timetable 2015 S2 guide only, subject to change.

<http://www.timetable.unsw.edu.au/current/ANAT2341.html>

Lecture - Mon 13:00 - 14:00 (Weeks: 2-13), Wed 15:00 - 16:00 (Weeks: 2-13)

Laboratory - Fri 12:00 - 14:00 (Weeks: 2-13)

| Week | Date     | Lecture 1                        | Lecture 2                       | Laboratory             |
|------|----------|----------------------------------|---------------------------------|------------------------|
|      | (Monday) | Mon 1-2 pm                       | Wed 3-4 pm                      | Fri 12 -2 pm           |
|      |          | Wallace Wurth LG02               | Wallace Wurth LG02              | Wallace Wurth East G07 |
| 2    | 3-Aug    | Embryology Introduction          | Gametogenesis and Fertilization | Lab 1                  |
| 3    | 10-Aug   | Week 1& 2                        | Week 3                          | Lab 2                  |
| 4    | 17-Aug   | Mesoderm Development             | Ectoderm Development            | Lab 3                  |
| 5    | 24-Aug   | Early Cardiovascular Development | Placentation                    | Lab 4                  |
| 6    | 31-Aug   | Gastrointestinal Development     | Respiratory Development         | Lab 5                  |
| 7    | 7-Sep    | Head Development                 | Neural Crest Development        | Lab 6                  |
| 8    | 14-Sep   | Musculoskeletal Development      | Limb Development                | Lab 7                  |
| 9    | 21-Sep   | Renal Development                | Genital Development             | Lab 8                  |
|      |          | 26 Sep - 5 Oct                   | Mid Semester Break              |                        |
| 10   | 5-Oct    | Endocrine Development            | Integumentary Development       | Lab 9                  |
| 11   | 12-Oct   | Neural Development               | Sensory Development             | Lab 10                 |
| 12   | 19-Oct   | Heart Development                | Stem Cells                      | Lab 11                 |
| 13   | 26-Oct   | Fetal Development                | Birth and Revision              | Lab 12                 |
|      | 31-Oct   | Study Week                       | 31 Oct – 5 Nov                  |                        |
|      | 7-Nov    | Examination Period*              | 6 Nov - 21 Nov                  |                        |

\* Examination dates are provisional and subject to change

<https://my.unsw.edu.au/student/resources/AcademicCalendar.html>

# Health and Safety – Risk Assessment

ScienceTeaching Laboratory

Student Risk Assessment



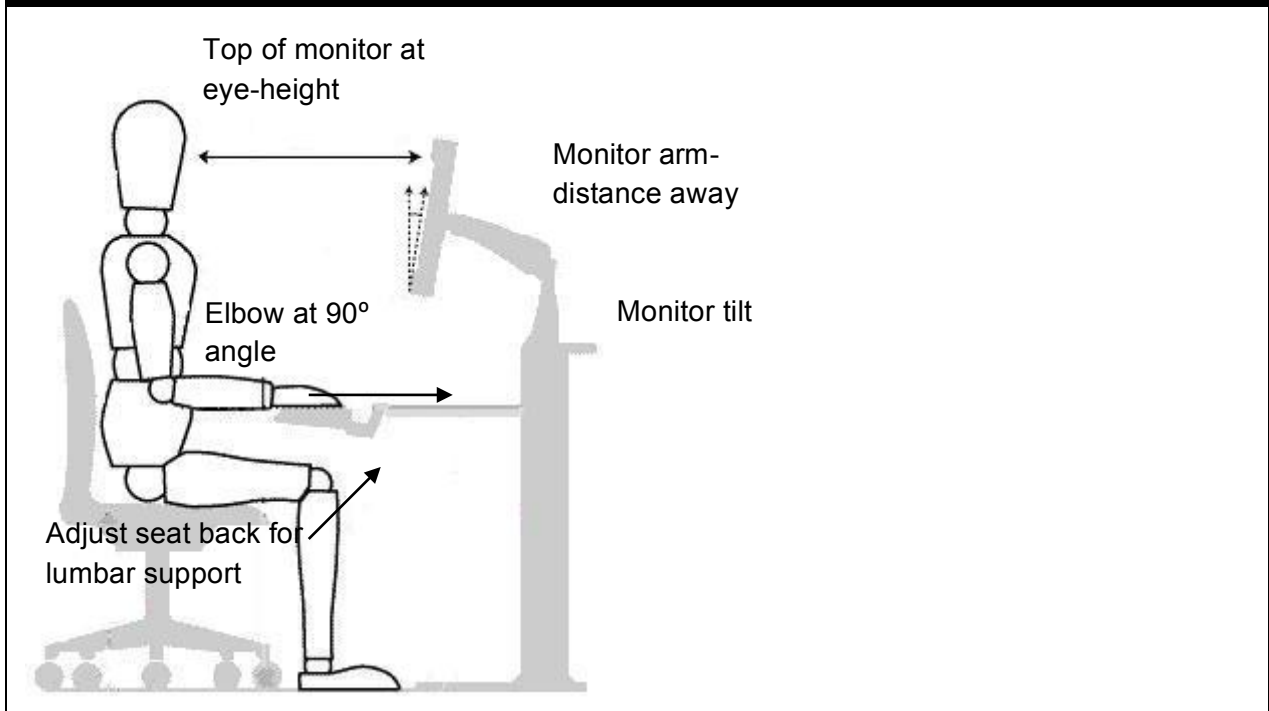
ANAT2341

Wallace Wurth East G07

Practicals from weeks 1 to 12 in Semester 2, 2015.

| Hazards    | Risks                 | Controls   |
|------------|-----------------------|--|
| Ergonomics | Musculoskeletal pain. | Correct workstation set-up.  |
| Electrical | Shock/fire            | Check electrical equipment in good condition before use. All electrical equipment tested and tagged. |

## Workstation set-up



## Personal Protective Equipment

Not necessary in these practicals. (see note)

## Emergency Procedures

In the event of an alarm, follow the instructions of the demonstrator. The initial sound is advising you to prepare for evacuation and during this time start packing up your things. The second sound gives instruction to leave. The Wallace Wurth assembly point is the lawn in front of the Chancellery. In the event of an injury, inform the demonstrator. First aiders contact details and Kit locations are on display by the lifts.

## Clean up and waste disposal

No apparatus or chemicals used in these practicals.

## Declaration

I have read and understand the safety requirements for these practical classes and I will observe these requirements.

Student Number:..... Signature:..... Date:.....

**Note** - Additional HS information will be provided for any external or special classes.