



**UNSW**  
THE UNIVERSITY OF NEW SOUTH WALES

**SCHOOL OF MEDICAL SCIENCES**

**ANAT2341**

**Embryology: Early and Systematic Development  
2011**



**Dr Mark Hill**  
(Course coordinator)

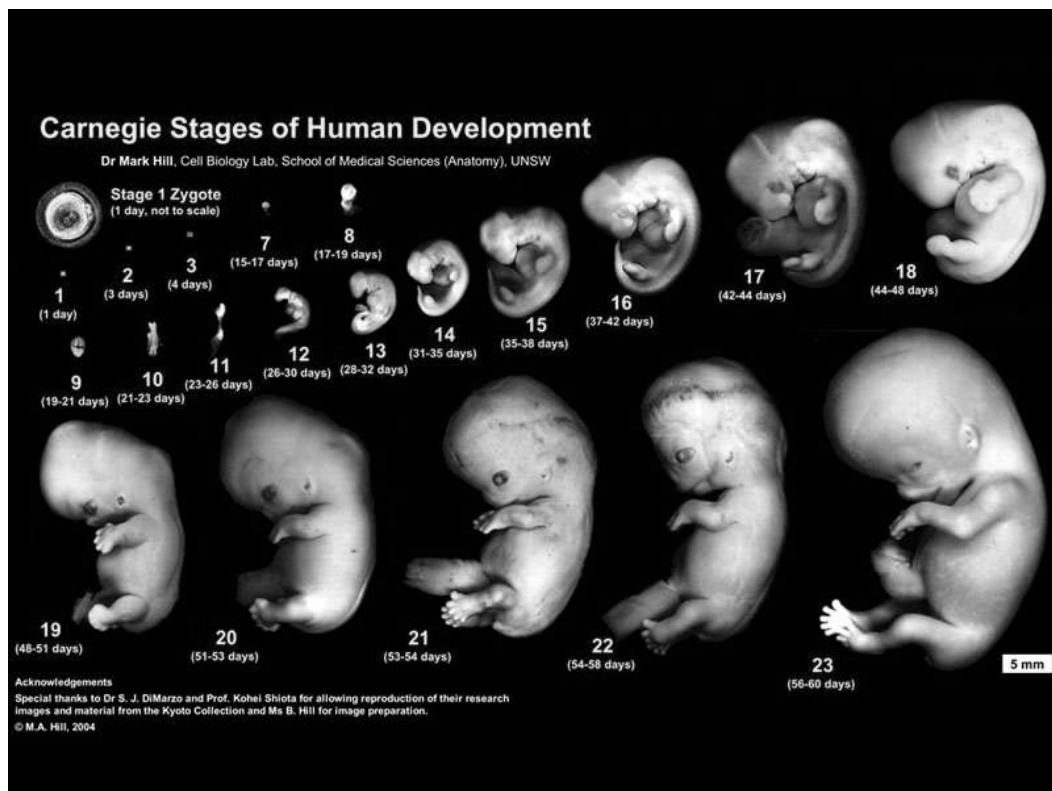


Figure showing the first 8 weeks of human embryological development.



## UNSW Course Outline

### 1. Location of the course

School of Medical Sciences, Embryology: Early and Systematic, ANAT2341, S2, 2011

### 2. Table of Contents

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### 3. Staff Contact Details

Position	Name	Email	Availability; times and location
Course Convener	Dr Mark Hill	m.hill@unsw.edu.au	Mon 11-1, Wed 11-1; WW room G20
Lecturer/tutor	Dr Steve Palmer	s.palmer@unsw.edu.au	By appointment
Lecturer/tutor	Prof Ken Ashwell	k.ashwell@unsw.edu.au	By appointment
Lecturer/tutor	A/Prof Sally Dunwoodie	s.dunwoodie@victorchang.edu.au	By appointment

### 4. Course details

#### Credit Points:

6

#### Summary of the 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.

#### Aims of the Course

1. 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.
2. This course will enable students to broadly understand abnormalities in development and current applications to medical research.

#### Student learning outcomes

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

1. Describe the key events in early and systematic embryological development.
2. Apply developmental theory to abnormalities of development and current medical research techniques.
3. Complete tasks in scientific communication either online, written and by oral presentation.
4. Work in small research groups and carry out peer assessment by completing an online group project.



### Graduate Attributes

The students will be encouraged to develop the following Graduate Attributes by undertaking the selected activities and knowledge content. These attributes will be assessed within the prescribed assessment tasks.

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

1. Investigate embryological development by scholarly enquiry of research literature.
2. Apply developmental theory to anatomical development.
3. Undertake basic research by applying analytical and critical thinking.
4. Create online individual and group projects that demonstrate initiative and collaborative work.

### 5. Rationale for the inclusion of content and teaching approach

This course includes content to enable students to develop communications skills and practices that will enhance their development as a medical researcher. It reflects my position that students should be able to use the latest tools in information technology and online practices.

### 6. Teaching strategies

Each week 2 lectures will introduce topics of early embryological development and later focus upon systematic development. Laboratories are designed to complement the course lecture material, allow individual and small group work and also include topics related to specific researchers within the school. Laboratories also include time for tutorials in online group project work and for to discuss and co-ordinate the group project.

### 7. Assessment

There are three main forms of assessment tasks shown below.

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 8 peer assessment, Week 10 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 29 Oct to 16 Nov

More detailed assessment information can be found online:

[http://php.med.unsw.edu.au/embryology/index.php?title=ANAT2341 Embryology 2011](http://php.med.unsw.edu.au/embryology/index.php?title=ANAT2341%20Embryology%202011)

### Submission of Assessment Tasks

All student individual and group assessment tasks will be 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.

### 8. Academic honesty and plagiarism

Plagiarism is using the words or ideas of others and presenting them as your own. Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. The University has adopted an educative approach to plagiarism and has developed a range of resources to support students.

For more information see: <http://www.lc.unsw.edu.au/plagiarism>

### 9. Course schedule

*The provisional 2011 timetable is shown below and is subject to change without notice some content may also be replaced by specialist invited guest lecturers.*

Week	Monday Date	Lecture 1 Tue 10:00 - 11:00am Biomedical Theatre E	Lecture 2 Thur 09:00 - 10:00am Biomedical Theatre E	Laboratory Thu 11:00 - 1:00pm Wallace Wurth 110 Hybrid Lab
2	25 Jul	<u>Embryology</u> <u>Introduction</u>	Fertilization	Lab 1
3	1 Aug	Week 1&2 Development	Week 3 Development	Lab 2
4	8 Aug	Mesoderm Development	Ectoderm, Early Neural, Neural Crest	Lab 3
5	15 Aug	Early Vascular Development	Placenta	Lab 4
6	22 Aug	Endoderm, Early Gastrointestinal	Respiratory Development	Lab 5
7	29 Aug	Head Development	Neural Crest Development	Lab 6
	5 Sep	<b>Mid-semester</b>	<b>break</b>	
8	12 Sep	Musculoskeletal Development	Limb Development	Lab 7
9	19 Sep	Kidney	Genital	Lab 8
		<b>Group Project</b>	<b>Due Date Peer Assessment</b>	<b>After Lab</b>
10	26 Sep	Endocrine	Integumentary	Lab 9
11	3 Oct	Neural	Sensory	Lab 10
12	10 Oct	Heart	Stem Cells	Lab 11
	10 Oct	<b>Group Project</b>	<b>Due Date Final Assessment</b>	<b>After Lab</b>
13	17 Oct	Fetal	Birth and Revision	Lab 12
	24 Oct	Study Week		
	31 Oct	to 16 Nov	Examination - TBA	

Laboratories above relate to lecture content for each week or specialist researcher presentations and topics. Time is made available in some labs for project group work.

See also online: [http://php.med.unsw.edu.au/embryology/index.php?title=ANAT2341\\_Course\\_Timetable\\_2011](http://php.med.unsw.edu.au/embryology/index.php?title=ANAT2341_Course_Timetable_2011)

## 10. Expected Resources for students

**Textbooks** - Either of the textbooks listed below are recommended for this course and page references to both are given in each lecture. There are additional embryology textbooks that can also be used, consult course organizer. Both textbooks are currently accessible online through the UNSW Library connection.

- Moore, K.L. & Persuad, T.V.N. (2008). **The Developing Human: Clinically Oriented Embryology** (8th ed.). Philadelphia: Saunders.  
[http://searchfirst.library.unsw.edu.au/primo\\_library/libweb/action/search.do?vid=UNSW&fn=search&vlfreeText0\)=UNSW\\_SFX14190000000048007](http://searchfirst.library.unsw.edu.au/primo_library/libweb/action/search.do?vid=UNSW&fn=search&vlfreeText0)=UNSW_SFX14190000000048007)
- Schoenwolf, G.C., Bleyl, S.B., Brauer, P.R. and Francis-West, P.H. (2009). **Larsen's Human Embryology** (4th ed.). New York; Edinburgh: Churchill Livingstone.  
[http://searchfirst.library.unsw.edu.au/primo\\_library/libweb/action/search.do?vid=UNSW&fn=search&vlfreeText0\)=UNSW\\_SFX14190000000047996](http://searchfirst.library.unsw.edu.au/primo_library/libweb/action/search.do?vid=UNSW&fn=search&vlfreeText0)=UNSW_SFX14190000000047996)

**Online materials** - The course is supported by an online education site **UNSW Embryology** <http://php.med.unsw.edu.au/embryology>. Each student will be provided access to an online page for their individual assessments and the group project. Blackboard is not currently used for this course.

### Additional online resources –

- School of Medical Sciences (SOMS) <http://medicalsciences.med.unsw.edu.au>
- SOMS Occupational Health and Safety (OHS)  
<http://medicalsciences.med.unsw.edu.au/somsweb.nsf/page/OHS>
- UNSW Library website <http://info.library.unsw.edu.au/web/services/services.html>
- Original Embryology website <http://embryology.med.unsw.edu.au>

## 11. Course evaluation and development

Periodically student evaluative feedback on the course is gathered, using among other means, UNSW Course and Teaching Evaluation and Improvement (CATEI) Process. Student feedback is taken seriously, and continual course improvements are based in part on such feedback. For example, previous student feedback on lecture slides availability and online materials navigation has led to changes in both lecture presentations and development of a new online resource with better navigation and access.

## 12. Other information to be included

- Students are expected to attend all lectures and laboratories and absences require prior arrangement with the course coordinator and/or a medical certificate. See also the UNSW Student conduct policy <https://my.unsw.edu.au/student/academiclife/assessment/StudentConductPolicy.html>
- Information on relevant Occupational Health and Safety policies and expectations as outlined at: <http://medicalsciences.med.unsw.edu.au/SOMSWeb.nsf/page/Undergraduate+Current+Students>
- Theory examination will be a two-hour exam in the semester 2 examination period.
- Students should refer to the UNSW website for further advice concerning special consideration in the event of illness or misadventure <https://my.unsw.edu.au/student/atoz/SpecialConsideration.html>
- Student equity and diversity issues via Student Equity Officers (Disability) in the Student Equity and Diversity Unit (9385 4734). Further information for students with disabilities is available at <http://www.studentequity.unsw.edu.au/content/Services/Disabilityservices.cfm>