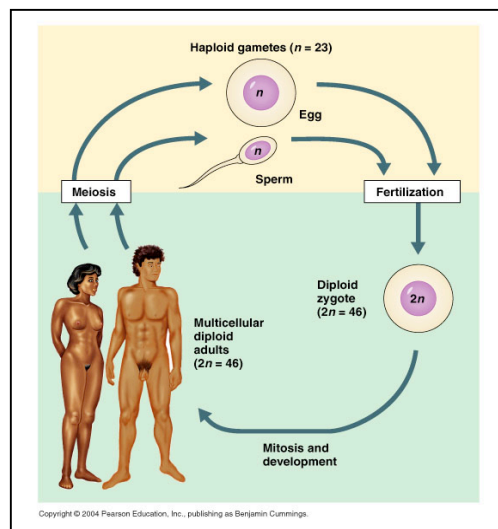


School of Biomedical Sciences
HUMAN BIOLOGY PRE-CLINICAL COURSE
Unit Outline
Reproductive Biology and Technology 331
Semester 1, 2012

Unit Index No:	301300
Credit points:	25 credit points
Unit pre-requisites	Physiology 231 and 232, Anatomy 231
Unit Coordinator	Dr Ghanim Almahbobi
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From Marieb 2004,
 Pearson/
 Benjamin Cummings

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Welcome

Welcome to Human Reproduction Unit HB331. Having enrolled in this unit you have chosen to enhance your employment potential. The purpose of studying biomedical sciences is for two main benefits; the better understanding of human (and animal) body and utilization of this knowledge to improve human health and wellbeing. To achieve these benefits we must understand how the human body is created and the best conditions required for making healthy people at an early stage of life before anomalies and diseases occur.

This unit will take you through the mysterious processes of wonderful journey of human creation. This will start from the fusion of male and female gametes, namely the sperm and egg, maturation of the reproductive system, gonadal function and sexual drive and finishes with the regression and diseases of reproductive system. We will also review the evolving technologies of human assisted reproduction together with the ethical issues related to this controversial field of science.

I hope you will share with me my enthusiasm in this field of science, invest your time and effort and appreciate the challenging and rewarding features of this unit.

Aim and outcomes

The aim of this unit is to enable the new graduates to acquire efficient skills for their academic and professional career.

Knowledge skills: On successful completion of this unit you will be able to

- Describe the structural and ultrastructural bases of human reproduction in male and female. This covers events during the periods of development, reproduction and age-related involution.
- Explain the physiology of human reproduction including the hormonal regulation of the male and female reproductive systems and its overlapping aspects with neuroendocrine system.
- Describe the molecular and cellular bases of early human development from the time of fertilization to the formation of entire human body.

Professional skills: You will have successfully completed this unit when you become familiar with several skills that have direct implication in the paramedical and assisted reproduction professions. You will be able to

- Identify the types, causes and management of human infertility including both the pathological and physiological cases
- Describe the regulation and management of the pregnancy, parturition and lactation
- Pursue your professional career in further training and practical learning of several skills of human assisted reproduction technologies such as IVF and pre-implantation diagnosis, stem cell biology and cloning
- Discuss the legal and social debates arise from potential introduction of legislation and implementation of new approaches and technologies in human reproduction

Syllabus

This unit is composed of five topical themes:

- The reproductive system; anatomy, histology, ultrastructure, hypothalamus-pituitary-gonads axis, development and anomalies
- Physiology of the reproduction; reproductive endocrinology and neuro-endocrinology, pubertal maturation, testicular function, ovarian function
- Human reproduction; early human development, the uterus and pregnancy, the breast and lactation
- Infertility and its management; menopause and andropause, genetic, chromosomal, congenital, metabolic and infectious infertilities
- Assisted reproductive technology and its ethical implication

Unit pre-requisites

Completion of HB anatomy 231, HB physiology 232 or equivalent. Sound knowledge in human biology, physiology and anatomy.

Learning style / modes of study

The unit provides a variety of tuition patterns that collectively form five (5) contact hours per week as detailed below. The students are required to fully adhere to all the particular requirements for each activity such as the wearing of lab coat, changing venues and scheduled times.

Activity	Hours per week
lecture	2
practical	1.5
Tutorial / seminar	1.5
TOTAL	5

Methods of assessment

- Assessment format:

To pass this unit you must complete the assessment tasks listed below

Assessment Task	Worth
Contribution to class	5%
Theme tests (4 x 5 mks)	20%
Journal review*	10%
Topical report*	20%
Final examination	45%
TOTAL	100%

** Guidelines and detail for the preparation and presentation will be provided in due course.*

A minimum score of 50% in the overall assessment of the Unit is required to pass this unit. Students are advised that this unit is a significant unit in which failure twice may lead to termination of a student's course.

- Assessment details

- Contribution to class: Students are required to contribute to the activities of all sessions.
- Theme tests: After the completion of each topical theme (see time table), you will go through a maximum of 30 min quiz test on the content covered. This will be done during the practical / tutorial sessions of the following theme.
- Journal review: This unit contains a series of seminars of journal reviews organized in a roster whereby each student will chose a journal paper relevant to human reproduction and its assisted technology to be presented and discussed in 15 min. Schedule presentation will be set up by a random draw.
- Topical report: Each student will prepare a written report and seminar presentation on one of pre-selected issues of human reproduction. The distribution of the topics will be done by random draw. Reports are due for submission in the following week after presentation.
- Final examination: A 3 hour written examination on all theoretical (lectures, practical and tutorial) materials covered in this unit.

Unit resources

Text books:

- Marieb E.N, 2006, Human Anatomy and Physiology, 6th Edition, Chapters 16, 27, 28, Pearson Benjamin Cummings
- Trounson A, Gardner DG (eds), 2000, Handbook of in-vitro fertilization. CRS Press, Boca Raton
- Carr B.R, Blackwell R.E, Azziz R (eds), 2005, Essential Reproductive Medicine, McGraw-Hill Companies
- Johnson M.H and Everitt B.J (eds), 2000, Essential Reproduction, 5th Edition, Blackwell Science
- Siverthorn DU (ed) 2004, Human Physiology, an integrated approach, 3rd Ed, Chapters 7 and 24, Prentice Hall
- Ross M.H, Kaye G.I, Pawlina W (eds), 2003, Histology, 4th Edition, Chapters 20-22, Lippincott Williams & Wilkins
- Sapsford R, Bullock-Saxton J, Markwell S (eds), 1998, Women's Health, a textbook for physiotherapists, W.B. Saunders
- Carlson B.M, 2004, Human Embryology and Developmental Biology, 3rd Edition, Mosby

Specialized journals

- Human Reproduction
- Molecular Human Reproduction
- Human Reproduction Update
- J Clinical Endocrinology and Metabolism
- Fertility Sterility
- Biology of Reproduction
- J Steroid Biochemistry
- Reproduction
- Reproductive Medicine Review

Relevant University policies

It is your responsibility to familiarize yourself with the following University policy documents, which may all be viewed at:

<http://www.curtin.edu.au/corporate/governance/>

<http://students.curtin.edu.au/adminstration/responsibilities.cfm>

- The University statement on the nature and unacceptability of academic dishonesty including cheating, plagiarism and the fabrication or falsification of data
- The University statement on individual rights and responsibilities regarding the proper use of copyright material
- The Student Charter
- Grievance Procedures

More information about the above policies is available on the "Startup 2011" CD, which is available through Student Services Office at:

<http://lsn.curtin.edu.au/startup/>

Unit timetable

Week	Date	Time	Venue	Event	Topic
0	23/02	2-2.30pm	405-229	Welcome and Unit outline	
1	28/02	9-11 am	405.227	lecture	Theme 1. The reproductive system: 1. Anatomy, histology and development of reproductive system
	01/03	2-3.30pm	405.227	Tutorial / seminar	
		3.30-5pm	404.118	practical	
2	06/03	9-11 am	405.227	lecture	2. Neuroendocrinology and reproductive endocrinology
	08/03	2-3.30pm	405.227	Tutorial / seminar	
		3.30-5pm	404.118	practical	
3	13/03	9-11 am	405.227	lecture	Theme 2. Physiology of reproduction 3. Pubertal maturation
	15/03	2-3.30pm	405.227	Tutorial / seminar	
		3.30-5pm	404.118	practical	
4	20/03	9-11 am	405.227	lecture	4. Male reproductive physiology
	22/03	2-3.30pm	405.227	Tutorial / seminar	
		3.30-5pm	404.118	practical	
5	27/03	9-11 am	405.227	lecture	5. Female reproductive physiology
	29/03	2-3.30pm	405.227	Tutorial / seminar	
		3.30-5pm	404.118	practical	
6	03/04	9-11 am	405.227	lecture	Theme 3. Human reproduction 6. Early human development and contraception
	05/04	2-3.30pm	405.227	Tutorial / Seminar	
		3.30-5pm	404.118	Practical	
7	09/04	Easter and Tuition-free week			
8	17/04	9-11 am	405.227	Lecture	7. The uterus, pregnancy, premature delivery and abortion
	19/04	2-3.30pm	405.227	Tutorial / Seminar	
		3.30-5pm	404.118	Practical	
9	24/04	9-11 am	405.227	Lecture	8. Parturition, breast and lactation
	26/04	2-3.30pm	405.227	Tutorial / Seminar	
		3.30-5pm	404.118	Practical	
10	01/05	9-11 am	405.227	Lecture	Theme 4. Infertility and its management 9. Menopause, andropause and hormone replacement therapy
	03/05	2-3.30pm	405.227	Tutorial / Seminar	
		3.30-5pm	404.118	Practical	
11	08/05	9-11 am	405.227	lecture	10. Pathology of the reproduction and

11	10/05	2-3.30pm	405.227	Tutorial / seminar	its management
		3.30-5pm	404.118	practical	
12	15/05	9-11 am	405.227	lecture	Theme 5. Assisted reproductive technology and ethics implication 11. Assisted reproductive technology (ART)
	17/05	2-5pm	405.227	Tutorial / Seminar	
13	22/05	9-11 am	405.227	Seminar	12. Social and ethical issues
	24/05	2-2.30pm	405.227	Tutorial	
		2.30-5pm	PIVET MC	Site visit	
14	28/05	Study week			
15, 16	04/6 & 11/06	Examination weeks			

The total contact hours offered by the unit are; 22 hrs lectures, 23 hrs tutorials/seminars and 15 hrs practical over 12 weeks.

Good luck,

Ghanim Almahbobi
Unit Co-ordinator