

# IDIS/WOST 232 ETHICS AND REPRODUCTIVE BIOTECHNOLOGIES

Fall Term 2009

Time: Tuesday and Thursday 5b (1:10-2:20 PM) HOSCI 204

Instructor: Dr Karen Kurvink

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Course description: This is an interdisciplinary course which addresses both scientific and ethical aspects of reproductive biotechnologies associated with ARTs, cloning, stem cells, perinatal screening, and birth control, and diagnostic, treatment and prevention technologies associated with STDs and reproductive cancers. The course format is interactive focusing on case studies and scenarios, discussions based on guideline questions and assigned readings, and students presentations. Class presentations will be prepared and presented by teams (usually two students). Reflective reviews will be prepared for each major course topic (based on guideline format). The course grade is based on attendance and participation, reflective reviews, and student presentation. The final exam will be based on a list of targeted focus questions. This course satisfies the U1 LinC graduation guideline.

Texts:

BIOETHICS AND THE NEW EMBRYOLOGY by Scott F. Gilbert,  
Anna L. Tyler, and Emily J. Zackin, 2005

INTERVENTION and REFLECTIONS – Basic Issues in Medical Ethics  
8<sup>th</sup> edition by Ronald Munson, 2008

Course goals:

1. To investigate reproductive biotechnologies from an intertwining scientific and ethical perspective.
2. To reflect on and integrate reproductive information from a variety of scientific and societal resources.
3. To formulate and express (in both a verbal and written format) individual ethical perspectives within the context of an interacting societal milieu.

4. To respect the importance of understanding and compromising when considering sensitive reproductive topics and issues.

“Learn what is true in order to do what is right.”

Thomas Huxley

Course grade: The final letter grade will be determined by calculating a percentage score which is based on the following:

$$\text{earned points/possible points} = \text{percentage grade}$$

The percentage grade translates into a letter grade based on the scale:

90-100%	=	A
80-89%	=	B
70-79%	=	C
60-69%	=	D
below	=	F

Note + and - are added at the discretion of the professor.

Tentative point distribution:

Reflective reviews - select 10	(50 pts each)	500 pts
Presentation (for each student)		200 pts
Final exam		200 pts
Attendance/participation		200 pts
Individual “contracted” effort		200 pts
Class assignments		200 pts
Total		1500 pts

Class presentations guidelines/ suggestions:

1. Dress appropriately for a formal presentation.
2. Cover both scientific and ethical aspects of the topic (note-suggested topics are listed on syllabus).
3. Prepare a one-page outline of presentation content to give to the class (intent – to help them follow your presentation).
4. Be sure at least a portion of the presentation includes via power point slides and/or other types of audiovisuals. (Prepare a hard copy of power point slides to give to the instructor.)

- 5, Include situations (cases), discussion questions, or other class activities in the presentation which will involve students in the class.
6. Each student will complete a peer review of the presentation. Presenters will complete a review of self and partner(s).

#### Reflective reviews (select10)

The intent of these reviews is to (1) stimulate thinking and writing involving scientific and ethical information for each topic and (2) encourage personal reflection on a selected topic.

1. The review should follow the designated format and it should be neatly prepared (preferably hand written).
2. The selected topic should have a relatively narrow scope and it should relate to the material covered during the previous week.

#### Due dates for reflective reviews:

Date	General topic
Sept 8 -	Events associated with early development OR Ethical considerations in human clinical trials
Sept 15 -	Assisted reproductive technologies (ART)
Sept 22 -	Perinatal screening OR Pregnancy related events
Sept 29 -	Cloning (animal or human)
Oct 6-	Stem cells (embryonic or somatic)
Oct 20	Animal reproductive research OR The meaning of normal (genetics)/eugenics OR Genetic enhancement
Oct 27 -	Reproductive hormones OR

## Sex education

- Nov 3 - Birth control  
OR  
Human population growth (perhaps on Gag Rule)
- Nov 10 - Abortion
- Nov 17 - Sexually transmitted diseases
- Nov 24- Gender issues
- Dec 1 - Vaccines for reproductive conditions
- Dec 8 - Reproductive cancers

## Individual "contracted" learning

A contract should be submitted by September 15th

Possible avenues:

Paper on selected topic (must be an approved topic)

Video review(s)

Book review (s)

Reflective diary

Other

COMMENT: This is a opportunity for you to individualize your education and to gain information on a topic which is of personal interest.

## Class attendance

Student attendance and participation is essential in this type of class.

For each class students will confirm attendance via a question or comment related to the topic covered in class.

## Tentative Class Schedule

### **Week 1 - When does human life begin from a scientific and religious perspective?**

Sept 1	Early embryological development Conventional stages Multiple births	Gilbert 1
Sept 3	Ethics/bioethics	(General review) Munson Part V -782-791
	Philosophical, theological, scientific considerations related to “when life begins” (question based discussion)	Gilbert 2
	Clinical trials/informed consent Comparison of procedures in developed versus developing countries Key terminology Double blind study (control) Placebos	Munson 97, 123
	International Codes and Guidelines Nuremberg Code (1947) World Medical Association – Declaration of Helsinki (1964) International Ethical Guidelines for Biomedical Research Involving Human Subjects (1993)	

### **Week 2 - What are the opportunities and “rights and privileges” related to infertility treatment? Are we “playing God”? What is the meaning of “meant to be”?**

Sept 8	ARTs (Assisted Reproductive Technologies) Case: Louise Brown	Gilbert 3 Munson 387-388 367-447
Sept 10 (*1)	Pros and cons of ART Safety and ethical issues of ART	Gilbert 4

### **Week 3 - Under what conditions are screening and medical intervention appropriate during the perinatal period?**

Sept 15	Perinatal screening technologies	Gilbert 5
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Case: Down syndrome

Munson 276-287  
623-669

Newborn screening  
Targeted testing and universal testing  
Voluntary and mandatory testing

Teratogenesis – moral and social issues

Sept 17 (*2)	Pros/cons related to perinatal screening Ethical issues related to pregnancy sex selection prematurity ectogenesis birthing procedures	Gilbert 6 Munson 296-318 326-363
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**Week 4 - What problems and benefits are associated with cloning? Should humans be cloned?**

Sept 22	Science of cloning Case: Hello Dolly	Gilbert 7 Munson 384-386
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Sept 24 (*3)	Ethics and policies of cloning Cases: 438-452	Gilbert 8
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**Week 5 - Considerable “hype and hope” are associated with stem cells research in medical treatment and in gaining scientific information and understanding? What are the most significant issues in this topic?**

Sept 29	Stem cell technology Types: Embryonic Somatic Applications	Gilbert 9 Munson 271-276
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Oct 1 (*4)	Stem cell ethical situations/dilemmas Scenario 1 Munson 360	Gilbert 10 Munson 316-317
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**Week 6 What does the term “normal” currently imply for humans?  
Will society  
Desire (demand) “bigger and better” in the future?**

Oct 6	The meaning of “normal”. Societal Implications of the human genome project. Personal genomics Genomic privacy issues Genetic universality of life	Gilbert 11, 12, 13 Munson 29
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Genetic manipulation – recombinant DNA  
Trials and tribulation of gene therapy  
Pro : ADA story – DeSilva story  
Con: OTC story – Gelsinger story  
Disease diagnosis and treatment

Oct 8 Eugenics – Past, Present, Future Munson 288-290  
(\*5) Legal implications and issues 320-346  
Buck vs Bell (1927) case  
Lessons from the Nazi experience  
Future considerations (GATACA)  
Genetic enhancement  
Pharmacogenetics

**Week 7 Do animals have “reproductive rights”? What are the pros and cons of animal reproductive research? Is there an acceptable “middle ground?”**

Oct 13 Fall break

Oct 15 Animal reproductive studies Gilbert 14. 15  
(\*6) Relationship to human studies Munson – 79-96  
Animals rights/protectations  
Ethical standards in medical research

**Week 8 What type of reproductive education is appropriate for various age levels? What is the role of schools in sex education?**

Oct 20 Age appropriate sex education Guest: Dr. Melanie Davis  
Sociology Department  
Moravian College

**How do sex hormones influence the mind and body?  
Why is the Woman’s Health Initiative considered to be such an important medical study?**

Oct 22 Roles of natural and synthetic sex hormones  
Sexual development  
Menstruation  
Menopause  
Post-partum depression  
Hormone replacement therapy  
Environmental reproductive hormone considerations  
Woman’s Health Initiative  
Dangers associated with environmental estrogens

**Week 9      What technologies are involved in regulation of human reproduction? Should regulation of human population growth be considered a global priority?**

Oct 27      Birth control - Margaret Sanger story (video)  
                 Planned parenthood  
                 Critical concerns related to human population growth  
                 Gag Rule

Oct 29      Ethical and religious issues related to human birth control  
(\*7)

**Week 10     What types of legal and religious concerns and societal compromises are associated with abortion technologies?**

Nov 3      Scientific and legal aspects of abortion                      Munson 547-572  
                 Roe vs Wade Supreme Court decision  
                 "Angel of Ashland" book  
                 Vera Drake video

Nov 5      Abortion readings    Munson 573-616  
                 Class evaluation of the spectrum of philosophical  
                 perspectives on abortion  
                 Situational cases

**Week 11     What is the risk of contracting a STD?**

Nov 10     History: Classic study – Tuskegee syphilis study      Munson 212-214  
                 Brief review of categories of STDs  
                 Biotechnologies related to sexually transmitted disease  
                                      Diagnosis  
                                      Prevention  
                                      Treatment

Nov 12     HIV – Technologies/Ethical aspects                              Munson 174-210  
(\*8)                      Changing moral values associated with HIV

**Week 12     What types of reproductive technologies and ethical issues are associated with sexual identity and sexual orientation?**

Nov 17     Gender issues - sexual orientation and sexual identity  
                 Brief review of book: BOY RAISED AS A GIRL



Nov 19      Biotechnologies and ethical issues related to sexual variation  
(\*9)              Hermaphrodites  
                         Transsexuals

**Week 13    What types of biotechnologies relate to reproductive vaccine development?**

Nov 24      HPV and Cervical cancer – associated technologies and  
(\*10)              diagnostic technology – Pap smear  
                         prevention – vaccine

                         Scientific and ethical aspects of vaccine development and  
                         application

Nov 26      Thanksgiving holiday

**Week 14      What types of biotechnologies are associated with reproductive diseases and cancers?**

Dec 1        Female and male diseases of the reproductive system  
(\*11)

Dec 3        Female and male reproductive cancers – technologies and  
(\*12)              associated ethical concerns  
                         Female cancers - breast, ovarian, uterine  
   mammograms  
   BRCA1 and 2 genetic tests  
                         Male cancers - prostate and testicular cancers

**What are the emerging reproductive technologies and the concerns about their implementations?**

Dec 8        Briefly revisit the main reproductive topics of the course.  
                         Consider future developments for each topic  
                         Discuss focus questions for the final exam  
                         Course evaluation

