



# BIOL 489: Developmental Biology

(fall 2016)

## I. Instructor and Course Information

Name:	Dean Wilkinson DVM
Class Location:	
Class Days/Times:	Tuesday/Thursday 12:30-1:45pm
Office Location:	
Office Hours:	By appointment
Phone:	835-5612
Email:	deanw@nmt.edu

**II. Course Description:** This course will be an introduction to the science of developmental biology of primarily mammalian systems. We will focus on the basic germ cell layers and development of the nervous system and reproductive system. With emphasis on environmental factors affecting development and medical embryology

**Topics:**

Introduction

Types of reproductive strategies

Mate selection

Gametogenesis and fertilization

Sex determination

Environmental disruptors

Medical embryology

**III. Course Learning Outcomes:** By the end of the semester the student should be comfortable with the normal gamete production, and basic germ cell development and possible factors involved in abnormal development.

**IV. Textbook and Materials** There really is no one textbook that covers the subject matter completely. Suggested text includes one human anatomy and or animal anatomy text, and one reproductive physiology text. The text listed below is recommended supplemental reading material. The ones with asterisk are strongly encouraged.

*Veterinary Embryology, T.A. McGeady et.al*

*Basic Concepts in Embryology, Lauren J. Sweeney*

*Atlas of descriptive Embryology, Schoenwolf*

*\*Pathways to Pregnancy and Parturition P.L. Senger*

*Male Female the Evolution of Human Sex Differences, David C, Geary*  
*Drive, Neurobiological and Molecular Mechanisms of Sexual Motivation, Donald W. Pfaff*  
*\*Endocrine disruptors in the environment*

***Basic anatomy and physiology knowledge and text is highly recommended.***

Suggested Supplies:

Pencils & Pens  
Paper  
Highlighter  
3-ring binder  
Hole punch  
Brain (required)

## **V. Grading**

I'll be using the following grading scale: See point sheet

Course grades will be figured as follows: See points sheet

**Exams:** Exams may be composed of one or more of the following: multiple choice, true/false, matching, short essay and labeling questions.

**Homework, quizzes, etc.:** *Homework* is based on the readings in the textbook, lectures and handouts, and may be composed of one or more of the following: multiple choice, true/false, matching, short essay and labeling questions. *Quizzes* are based on lecture material. They will be given at the beginning of class so be on time because there will be no make-up quizzes allowed.

**Final Exam:** The Final Exam will be cumulative. The Final Exam may be composed of one or more of the following: multiple choice, true/false, matching, short essay and labeling questions. The Final Exam cannot be counted as a drop exam.

## **VI. Attendance**

### **What if I miss a class?**

Attendance is vital to passing this course! I understand, though, that life happens, and we sometimes have to miss class because of unforeseen circumstances. If you do miss class, you need to (1) contact me about missing class and (2) get as caught up as possible before returning to class. You cannot simply wait and come back to class asking "What did we do when I was absent?" **You are responsible for what you missed**, including assignments and any information, written or verbal, that I gave during class. Some things, like the case study or lab, cannot be made up due to the nature of the assignment. Quizzes cannot be made up.

## **What if I miss an exam?**

1. You notify me in person or email within 12 hours of the time of your absence.
2. You have an excuse/circumstances deemed reasonable by me and documentation is provided Within a reasonable amount of time (doctor's note, etc.) if warranted.
3. You make up the exam before the next class period.

## **VII. Classroom Civility**

Students are expected to contribute to a classroom environment that is respectful and conducive to learning. Inappropriate behavior in the classroom may result in a request to leave class and possible referral to the Dean of Students.

The nature of this subject lends itself to some potential issues, as such I ask that everyone remember we are adults in a higher educational environment and here to learn and broaden our horizons with both respect of other students and instructors and other ideologies and philosophies.

Classroom discussion is encouraged and a strategic part of the learning process of the class. Some topics are by nature controversial and potentially 'sensitive' areas of discussion. The purpose is to present these topics not to present of view point or believe but to open up the thought process in order to enhance learning, increase understanding, and instill excitement and enthusiasm on the subject. Discussion will be limited to relevant material and must be non-offensive in nature. This subject in particular still offers a lot of room for discovery and exploration with many widely held theories still unproven or under significant scrutiny. Many of the topics are presented as a means of encouraging thought and develop a new understanding of the material and topics presented.

## **VIII. Electronic Devices in Classes and Labs**

**Cell phones must be turned OFF or put on SILENT (NOT VIBRATE) during class.** You may be allowed to keep it on vibrate during class if you are expecting an important phone call but you must notify me **before** class begins. Electronic entertainment devices are to be turned off and headphones/ear buds removed. **Do not text during class.** Abuse of this policy may lead to a request to leave class and/or disciplinary action. Use of electronic devices during exams will be considered possible methods of cheating so do not take out or use any kind of electronic device during exams.

## **IX. Honor Code**

**Those of you going to Vet School will operate under an honor code system most likely. Therefore I would like to introduce the principle here. Basically that means cheating in any form or fashion is not tolerated. It is up to you to be responsible and honest enough to assure that you and your fellow classmates are not cheating on any assignments or exams. Respect of fellow students, teachers, guests, time, materials, and personal items will be expected. You should all know right from wrong and be responsible enough to remain honest and courteous. If you are caught or questioned the appropriate administrative faculty members will be notified immediately.**

**Counseling and Disability Services**

**Reasonable Accommodations:** New Mexico Tech is committed to protecting the rights of individuals with disabilities. Qualified individuals who require reasonable accommodations are invited to make their needs known to the Office of Counseling and Disability Services (OCDS) as soon as possible. In addition, New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by licensed professionals. To schedule an appointment, please call 835-6619.

**Academic Honesty:** New Mexico Tech's Academic Honesty Policy can be found starting on page 59 of the NMT catalog, [http://www.nmt.edu/images/stories/registrar/pdfs/2013-2014\\_UNDERGRADUATE\\_Catalog\\_FINAL.pdf](http://www.nmt.edu/images/stories/registrar/pdfs/2013-2014_UNDERGRADUATE_Catalog_FINAL.pdf)

You are responsible for knowing, understanding, and following this policy.