

Syllabus for Biol 7270/6100 - Spring 2006

Mary Ann Asson-Batres - Biol 7270

Telephone: 5779

Email: massonbatres@tnstate.edu

Office hours: By appointment

Michael Ivy – Biol 6100

Telephone: 7796

Email: mivy@tnstate.edu

Office hours: By appointment

Course Title: Reading, Analyzing, and Communicating Scientific Data

Meeting Times: Class will meet 1:50-4:50 PM, Friday afternoons in Room 104, McCord Hall and Room 11, Academic Computing, McCord Hall. In addition, students will be required to attend Friday Seminars at 11:30AM-12:30PM on the days that invited speakers visit campus (7 speakers, see attached seminar schedule for name of presenter, topics, meeting place, and times)

Course Focus: *Stem Cells, their potential as research tools for investigating development and for treating human illnesses such as **Diabetes**, and the genetics and pathology of **Obesity***

Readings: Original research articles will be assigned throughout the term. In addition, students will be responsible for finding articles to support their own area of interest as related to class objectives and assignments.

Course Objectives:

- To learn what it means to critically evaluate scientific data in written and oral presentations by participation in class exercises and assignments
 - Practice reading and comprehending scientific articles within a reasonable amount of time by applying techniques learned during this course
 - Practice critical thinking skills and learn to discriminate levels of inquiry based on Bloom's Taxonomy
 - Practice discussing and presenting ideas, procedures, and conclusions from scientific articles in a concise and knowledgeable manner by applying approaches demonstrated by class instructors and invited seminar speakers
 - Organize and write a focused summary or short synopsis of a group of scientific articles by applying and practicing approaches presented in the course
 - Demonstrate the ability to prepare for and ask relevant questions regarding approaches, methodologies, and findings of invited speakers during their formal and informal research presentations
 - Become aware of journal submission policies, proper etiquette and ethics of scientific manuscript submission and peer review

Syllabus for Biol 7270/6100 - Spring 2006

Mary Ann Asson-Batres - Biol 7270

Michael Ivy – Biol 6100

Grading Policy:

- Attendance – 1/2 point per class – chalktalk – seminar session 8 points
- Assignments –
 - Submitted Questions: 1 point for each that qualifies 18 points
 - Qualifying Questions asked at seminar/chalk talk 6 points
 - Class Participation: 1 point for each class 4 points
 - Written Synopsis 10 points
 - Oral Presentation 10 points
 - Essay 1 3 points
 - Essay 2 3 points
 - Essay 3 3 points
 - Eval of Peer Essay 3 points
 - Eval of Peer Oral Presentation 2 points
- Final Exam 30 points
- Handicap Points 6 points

Total Points Possible

106 points

A	100-90%
B	89.9-80%
C	79.9-70%
D	69.9-60%
F	Below 60%

Grade of C and below is unsatisfactory for graduate work

COURSE SCHEDULE

JAN 20 - CLASS:

20 MIN: INTRODUCTION TO THE COURSE, ASSIGNMENTS, EXPECTATIONS, AND GRADING POLICY

40 MIN: METHODS FOR READING ARTICLES QUICKLY AND CRITICALLY / BLOOM'S TAXONOMY

10 MIN: BREAK – Move to Academic Computing Room

50 MIN: Practice reading REPRINTS FOR FIRST FIVE SEMINAR SPEAKERS within a reasonable amount of time by applying suggested methods. Practice composing the six types of questions categorized in Bloom's taxonomy

JAN 27 - SEMINAR AND CHALK TALK: Dr. Daniela Drummond-Barbosa

Submit three questions and ask at least one during seminar and/or chalk talk

FEB 3 - SEMINAR AND CHALK TALK: Dr. Christopher Wright

Submit three questions and ask at least one during seminar and/or chalk talk

FEB 10 - SEMINAR AND CHALK TALK: Dr. Juan Dominguez Bendala

Submit three questions and ask at least one during seminar and/or chalk talk

- FEB 17 - SEMINAR AND CHALK TALK: Dr. Kevin Niswender
Submit three questions and ask at least one during seminar and/or chalk talk
- FEB 24 - SEMINAR AND CHALK TALK: Dr. Dr. Bruce Boston
Submit three questions and ask at least one during seminar and/or chalk talk
Midterm grade due

Syllabus for Biol 7270/6100 - Spring 2006

Mary Ann Asson-Batres - Biol 7270

Michael Ivy – Biol 6100

- MAR 3 - **CLASS:** Download Reprints for all invited speakers and bring to class.
50 MIN: METHODS FOR IDENTIFYING KEY QUESTIONS AND CONCEPTS.
10 MIN: BREAK
60 MIN: Practice discussing and evaluating ideas, procedures, and conclusions from scientific articles by applying approaches demonstrated by class instructors and invited seminar speakers
- MAR 10 - **SPRING BREAK**
- MAR 17 - **CLASS:** Bring Reprints for all invited speakers to class.
50 MIN: METHODS FOR DISCUSSING AND PRESENTING IDEAS
10 MIN: BREAK
60 MIN: Practice discussing and presenting ideas, procedures, and conclusions from scientific articles in a concise and knowledgeable manner by applying approaches demonstrated by class instructors and invited seminar speakers
- MAR 24 - SEMINAR AND CHALK TALK: Dr. Fred Levine
Submit three questions and ask at least one during seminar and/or chalk talk
- MAR 31 - **CLASS:** Bring reprints for all invited speakers to class. Select topic area of one speaker and bring reprints of three relevant articles.
50 MIN: METHODS FOR WRITING AND PRESENTING A FOCUSED SHORT SYNOPSIS OF A GROUP OF SCIENTIFIC ARTICLES
10 MIN: BREAK
60 MIN: Organize and write a first draft of a focused short synopsis of a group of scientific articles
- APR 7 - **CLASS:** Bring Reprints for all invited speakers and bring to class.
50 MIN: PEER REVIEW, JOURNAL REQUIREMENTS, ETHICS, AND PROPER SUBMISSION AND REVIEW OF SCIENTIFIC MANUSCRIPTS
10 MIN: BREAK
60 MIN: Meet in Academic Computing. Look up selected Journals. Practice writing a sample manuscript and applying guidelines.
- APR 14 - SEMINAR AND CHALK TALK: Dr. Brigid Hogan
Submit three questions and ask at least one during seminar and/or chalk talk
Good Friday – NOT A HOLIDAY

APR 21 - **CLASS:** Bring reprints for all invited speakers to class. Bring final draft of focused synopsis summarizing selected group of scientific articles. Be prepared to present a 5-10 MIN POWERPOINT PRESENTATION on your summary.

50 MIN: Presentations

10 MIN: Break

60 MIN: Presentations

APR 28 - **CLASS:** Complete Presentations

APRIL 29 – MAY 6 – FINAL EXAM

Syllabus for Biol 7270/6100 - Spring 2006

Mary Ann Asson-Batres - Biol 7270

Michael Ivy – Biol 6100

2006 SPRING SEMINAR CHALK TALK FORUM SERIES

“Stem Cells, Diabetes, and Obesity”

Formal Seminar

Place: McCord Hall Room 206

Time: Friday, 11:30AM – 12:30PM

Informal Chalk Talk

McCord Hall Room 104

Friday, 1:50PM – 4:50PM

Seminar/Chalk Talk Website: <http://www.tnstate.edu/biology/chalktalk/Spr2006SeminarSchedule.htm>

January 27, 2006	Dr. Daniela Drummond-Barbosa Cell and Developmental Biology Vanderbilt University Medical Center Drummond-Barbosa Research Info	Stem Cells, Insulin, and the Nutritional Regulation of Drosophila Oogenesis
February 3, 2006	Dr. Christopher V. Wright Cell and Developmental Biology Vanderbilt University Medical Center Wright Research Info	Molecular Triggers of Pancreas Formation from Stem Cells
February 10, 2006	Dr. Juan Dominguez Bendala Diabetes Research Institute University of Miami Miller School of Medicine Dominguez Bendala in the News	Stem Cells and Protein Transduction: Novel Approaches To Induce Pancreatic Differentiation
February 17, 2006	Dr. Kevin D. Niswender Diabetes, Endocrinology, & Metabolism Division Vanderbilt University School of Medicine Niswender Research Info	Obesity: Are Our Thrifty Genes Doing Us In?
February 24, 2006	Dr. Bruce Boston Department of Pediatrics Oregon Health & Science University Boston Research Info	Is It the Genes or the Jelly Beans? The Genetic Contribution to Obesity in Children and Adults
March 24, 2006	Dr. Fred Levine UCSD Cancer Center The Burnham Institute Levine Research Info	Adult Pancreatic Endocrine Stem Cells; Do They Exist?
April 14, 2006	Dr. Brigid Hogan Department of Cell Biology Duke University Medical Center Hogan Research Info	The Mouse Lung: Embryonic Progenitors and Adult Repair

Syllabus for Biol 7270/6100 - Spring 2006

Mary Ann Asson-Batres - Biol 7270

Michael Ivy – Biol 6100

The following taken from [Bloom's Taxonomy](http://www.coun.uvic.ca/learn/program/hndouts/bloom.html)
(<http://www.coun.uvic.ca/learn/program/hndouts/bloom.html>)

Bloom's Taxonomy

Benjamin Bloom created this taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings. The taxonomy provides a useful structure in which to categorize test questions, since professors will characteristically ask questions within particular levels, and if you can determine the levels of questions that will appear on your exams, you will be able to study using appropriate strategies.

Competence	Skills Demonstrated
Knowledge	<ul style="list-style-type: none">• observation and recall of information• knowledge of dates, events, places• knowledge of major ideas• mastery of subject matter• <i>Question Cues:</i> list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Comprehension	<ul style="list-style-type: none">• understanding information• grasp meaning• translate knowledge into new context• interpret facts, compare, contrast• order, group, infer causes• predict consequences• <i>Question Cues:</i> summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	<ul style="list-style-type: none">• use information• use methods, concepts, theories in new situations• solve problems using required skills or knowledge

	<ul style="list-style-type: none"> • <i>Questions Cues:</i> apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Analysis	<ul style="list-style-type: none"> • seeing patterns • organization of parts • recognition of hidden meanings • identification of components • <i>Question Cues:</i> analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Synthesis	<ul style="list-style-type: none"> • use old ideas to create new ones • generalize from given facts • relate knowledge from several areas • predict, draw conclusions • <i>Question Cues:</i> combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite
Evaluation	<ul style="list-style-type: none"> • compare and discriminate between ideas • assess value of theories, presentations • make choices based on reasoned argument • verify value of evidence • recognize subjectivity • <i>Question Cues</i> assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize

* From Benjamin S. Bloom *Taxonomy of educational objectives*.
Published by Allyn and Bacon, Boston, MA. Copyright (c) 1984 by Pearson Education.
Adapted by permission of the publisher.

Syllabus for Biol 7270/6100 - Spring 2006

Mary Ann Asson-Batres - Biol 7270

Michael Ivy – Biol 6100

Question Submission Format (must be typed).

Questions will only be accepted if submitted *before* the formal seminar on the day of the invited speaker's visit to TSU.

Your Name: _____

Course Number: _____

Date: _____

Name of Speaker: _____

Topic: _____

Question Number 1: *(as many lines as necessary)* _____

Reprint Reference: _____

Type of Question based on Bloom's Taxonomy: _____

Question Number 2: _____

Reprint Reference: _____

Type of Question based on Bloom's Taxonomy: _____

Question Number 3: _____

Reprint Reference: _____

Type of Question based on Bloom's Taxonomy: _____