

**Biology 3310-001, Tissue Culture, Spring 2008**  
**Mondays 1:00-4:00 pm, Room 111 ELAB**

**Instructor:** Dr. Malgosia Wilk, M.D., Ph.D. (M.A. Wilk-Blaszczak)

**Office:** Life Sciences Bldg. #353

**Laboratories:** 350/354, Life Science

**Office Hours:** Mon 12-1:00 pm or by appointment

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**Course Prerequisites:** Graduate enrollment in Biomed. Eng. MS/BS program or instructor approval for Biology majors.

**Required Textbook:** *Basic Cell Culture ed. J. M. Davis 2<sup>nd</sup> ed.*

Additional materials will be handed out in class.

**Student Learning Outcomes:**

This course focuses on the hands-on knowledge of animal and plant tissue culture for biomedical and biotechnology research. In addition to basic cell propagation techniques, selected protocols in genetic engineering and cell imaging will be performed.

**Attendance:**

Attendance at lecture classes is required for success in this course. Lectures will cover material that is not always included in the book. Protocols for the procedures to be performed during lab classes will be discussed during lecture classes. Attendance at lab classes is absolutely mandatory. **Missed labs CANNOT be made up** due to the nature of the experiments. You will lose points for the missed classes.

UT Arlington has adopted MavMail (e-mail) as an official means of communication with students. Please check MavMail regularly for last minute communications about class/protocols etc. Further information regarding your student email account can be found at: <http://www.uta.edu/oit/email/>

**Exams:**

Grades will be based on two theory exams and a lab grade according to the formula:

|  |             |
|--|-------------|
| Exam I (30 short answer questions)                 | 25%         |
| Exam II (30 short answer questions)                | 25%         |
| Lab grade (including knowledge of basic protocols) | 50%         |
| <b>Total</b>                                       | <b>100%</b> |

Labs will be graded on a 50 points scale and points will be assigned based on difficulty and importance of the procedures performed. Points will be awarded for a successful completion of the procedure, not the attendance. **Any absences will result in loss of points for the class and therefore lower your grade.**

Please schedule your appointments around class schedule. A notebook is required for this class. There will be a grade for your notebook. Homework grade will be included in the lab grade.

Grades: A = 90-100; B = 80-89; C = 70-79; D = 60-69; F = below 60.

Makeup exams (theory only) will only be given for medical problems, or emergency situations.

Incomplete grades may be assigned for a course if, in the opinion of the instructor, there are extenuating documented circumstances which prevent the student from completing the required work. The incomplete must be removed by the end of the final examination period of the following semester, excluding the summer session, for the student to receive credit for the course. If the incomplete is not removed during the allotted time period, it will revert automatically to an F.

**Drop Policy:**

Per university policy, it is the student's responsibility to initiate withdrawal from this course if they are doing poorly. Any student may withdraw with an automatic "W" at any time from the beginning of the semester to 3 days after the return of the first exam. If you decide to drop this course (or any other, for that matter) you must obtain a drop slip from the departmental undergraduate advisors office (for Biology, the advisor is Ms. Jane Pugh, Room 346 Life Science or you may go to the main office in the Biology Department 337 Life Science). Please fill it out, have the instructor of the course you wish to drop sign the slip and return it to the advisor's office or the Biology Office.

**Drop for non-payment of tuition:** Payment must be received by the term due date of January 9, 2008 or your registration will be cancelled. If your registration is cancelled for non-payment, you may reregister for classes but only if seats are available.

**Bomb Threats:** If anyone is tempted to call in a bomb threat, be aware that UTA will attempt to trace the phone call and prosecute all responsible parties. Every effort will be made to avoid cancellation of presentations/tests caused by bomb threats. Unannounced alternate sites will be available for these classes. Your instructor will make you aware of alternate class sites in the event that your classroom is not available

**Student Support Services:** The University supports a variety of student success programs to help you connect with the University and academic success. They include learning assistance, development education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

**After Hours Safety Escort** The Sam Mav Escort service provides a service to assist students, faculty, staff and campus visitors to reach their destinations after regular business hours. The hours of service are 7:00 p.m. to 1:00 a.m., Sunday through Saturday. 817-272-3381

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabi. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week.

**Academic Dishonesty:** It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."

**Americans with Disabilities Act:**

The university of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation: reference Public Law 93-112--The Rehabilitation "Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act - (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.

| Week | Date   |                    | Lecture Topic   |
|------|--------|--------------------|---|
| 1    | Aug 27 | First Class        | Cell culture, basic lab procedures                            |
|      | Aug 31 |                    | Cell culture maintenance, suspension cultures                 |
| 2    | Sep 3  | Labor Day Holiday  |   |
|      | Sep 7  |                    | Lab – suspension cell propagation                             |
| 3    | Sep 10 |                    | Plant cell culture  |
|      | Sep 14 | Census Date Sep12  | Lab – callus generation, organogenesis                        |
| 4    | Sep 17 |                    | Cell quantification + math counting, demo counting            |
|      | Sep 21 |                    | Lab – cell counting   |
| 5    | Sep 24 |                    | Adherent cells + demo adherent cultures                       |
|      | Sep 28 |                    | Lab – adherent cells propagation                              |
| 6    | Oct 1  |                    | Cryopreservation  |
|      | Oct 5  |                    | Lab – cryopreservation  |
| 7    | Oct 8  |                    |   |
|      | Oct 12 |                    | <b>Exam I</b>   |
| 8    | Oct 15 |                    | Cell imaging  |
|      | Oct 19 | Midsemester Oct 20 | Fluorescence  |
| 9    | Oct 22 |                    | Lab- fluorescent cell staining                                |
|      | Oct 26 |                    | Cell lines for biomedical research + cover dishes with poly-L |
| 10   | Oct 29 |                    | Lab – neuronal lab  |
|      | Nov 2  | Last Drop Nov 2    |   |
| 11   | Nov 5  |                    | Primary cell culture  |
|      | Nov 9  |                    | Lab – primary cell culture                                    |
| 12   | Nov 12 |                    | Lab – primary cell culture                                    |
|      | Nov 16 |                    |   |
| 13   | Nov 19 |                    | Cell death and apoptosis, lab – necrosis/ apoptosis assays    |
|      | Nov 23 | Thanksgiving Break | No Class  |
| 14   | Nov 26 |                    | Lab – necrosis/ apoptosis assays                              |
|      | Nov 29 |                    | <b>Exam II</b>  |
| 15   | Dec 3  |                    | Survival, proliferation assays, lab ELISA                     |
|      | Dec 7  | Last Class Day     | DNA extraction + lab  |