

Instructor Information

| | | | |
|----------------------|---|----------------|--|
| Name | Julie González | E-mail address | jegonzalez2@dmacc.edu |
| Phone number | (515) 964-6379 | Fax number | (515) 965-7083 |
| Office location | Building 4; Room 11A | Office hours | MWF 12:50-1:50 TR 12:20-2:20 |
| Online login page | https://dmacc.blackboard.com/webapps/login/ | | |
| Instructors web page | http://www.dmacc.edu/Instructors/jegonzalez2/ | | |

Course Information

| | | | |
|---------------------|--|------------|---------------------------------|
| Semester | Fall | Year | 2010 |
| Course title | Cell & Molecular Biology – Proteins | | |
| Course number | BIO 251 | Credits | 5 (includes lab) |
| Section number | WB1 | CRN number | 15401 |
| Days & Time | MWF 2:00-6:00pm October 25 th – December 16 th | Location | Ankeny Campus Bld. 4 Room 14 |
| Course description | This course is designed to provide training in techniques related to protein Chemistry and is a requirement for biotechnology majors. The course will focus on processes related to synthesis, control of synthesis and trafficking of proteins within the cell. Protein structure and function will be studied with special emphasis on enzymes and immunoproteins. The study of differential protein expression and regulatory mechanisms will also be included. The lab component of the course will train the student in purification, characterization, handling and storage of proteins, enzyme mechanisms and kinetics, immunoassays and two-dimensional gel electrophoresis. | | |
| Course competencies | http://www.dmacc.edu/competencies/ | | |

Important Dates

| | |
|---------|---|
| Midterm | http://www.dmacc.edu/academiccal.asp |
| Final | http://www.dmacc.edu/academiccal.asp |

Textbooks & Materials

| | |
|--------------------|--|
| Required textbooks | <p>Lecture:</p> <ul style="list-style-type: none"> • <u>Essential Cell Biology</u> 3rd ed. by Alberts, et al., Garland Science, 2010 <p>Lab:</p> <ul style="list-style-type: none"> • <u>Basic Laboratory Methods for Biotechnology: Textbook and Laboratory Manual</u> 2nd ed. by Seidman and Moore, Pearson, 2009 • <u>Cold Spring Harbor Laboratory Research Notebook</u>, Jones and Bartlett Publishers, Inc. |
| Required materials | Three ring binder, Sharpie marker, Basic Calculator (no cell phones) |

Course Policies

| | |
|------------|---|
| Attendance | <p>Regular attendance is essential for success in this course. Absence and tardiness interfere with the learning process, <i>even if for legitimate reasons</i>.</p> <ul style="list-style-type: none"> • Daily Participation slips will help track attendance. • Repeated tardiness is not acceptable. • If you miss a class <ul style="list-style-type: none"> ○ You are responsible for any material covered and any assignments given. Call a friend, get the assignment, and be prepared for the next class. It is your responsibility to stay caught-up in this course. • Announced and unannounced quizzes and in-class assignments will be given at the instructor's discretion. <ul style="list-style-type: none"> ○ Missed quizzes and in-class assignments <u>cannot</u> be made up this includes missing a quiz due to tardiness. |
|------------|---|

| | |
|--|--|
| Lecture | <p>Attached is a general outline for the online lecture portion of this course. Online courses require more accountability from students in terms of organization, scheduling, motivation and ethics. Completion of the course within the allocated time is up to the student. There is much less personal communication with the instructor. However, there is much more flexibility. Students can complete the course in their own home and at their own schedule. The material is available 24 hours a day, 7 days a week.</p> <ul style="list-style-type: none"> • Computer technology increases the capability for plagiarism. Do not copy and paste information from other people or websites. The instructor will be checking all student submissions for plagiarism. There are a number of software packages that facilitate such checking. Be honest and do your own work. |
| Lab | Attached is a tentative lab schedule. You are required to attend each lab, participate in and complete all activities during the lab period. Failure to be actively involved in lab activities results in a loss of points. |
| Lab Safety | Laboratory safety is of paramount importance. It is essential that you follow proper procedures at all times. Some of the materials you will be handling are dangerous! No food, drink, tobacco or gum is permitted in the lab. Safety equipment such as a lab coat or smock, safety glasses or goggles and gloves will be required for certain activities. Pay close attention to safety precautions (concerning chemicals, equipment, etc.) as outlined by the instructor during each lab. Ask for the instructor's advice whenever in doubt about the safe handling of lab materials and equipment. |
| Instructor Communication | All course information sent to students will be sent to your DMACC e-mail account. If you have not yet set up the account or are unable to access it contact the help desk at 515-965-7300 or 1-800-362-2127, ext. 7300. |
| Study expectations | Learning happens in the minds of individuals. It is not the doing that causes learning; it is the thinking about the doing, the thinking about the experience that causes learning. Therefore, each of you is responsible for your own learning . All experiences and assignments for this course have been designed to promote your acquisition of enduring understandings about the course content. You are not doing any of the assignments for me; you are doing them for yourself. And, you deserve to do high quality work for yourself . |
| Assignments | <p>Homework will be assigned throughout the semester. These may include (but are not limited to) working problems, brief oral presentations, current literature searches, etc. Specific assignments will be made at appropriate times throughout the course.</p> <ul style="list-style-type: none"> • All work handed in must be neatly and properly done. • Assignments will not be accepted if they are messy. • When writing answers, you must be certain that you have answered all parts of a question. • If you do not understand an assignment or a question, it is your responsibility to look for help. You may come to me, go to the tutoring center or ask a friend. But your not understanding something will not be accepted as an excuse for incomplete work. |
| Late assignments | Missed lab exercises, in class activities and quizzes cannot be made up this includes missing them due to tardiness. Most outside assignments will be accepted up to two in-session days after the due date, the score will be reduced by 30%. |
| Exams | Lecture examinations will cover the textbook; material presented online, lab activities and related readings. Each student is responsible for the contents of the textbook and supplemental material unless the instructor specifically desires to omit a certain portion of material. |
| Alternate activities & class cancellations | You will always receive notification of alternate activities and class cancellations. Notice may be given in advance via in-class announcements or e-mail and for unanticipated events a notice will be posted on the classroom door. |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|--|--------|----|-------|----|-------|---------|-------|----|--|--|-------|----|-------|---|-------|----|--|--|-------|----|-------|---|-------|----|--|--|--|--|--|--|--|---------|
| Classroom conduct | <p>“Students are expected to conduct themselves in such a manner as to show respect for faculty, staff and fellow students, exhibit and maintain integrity and honor in all matters related to the College and not interfere with or disrupt the orderly educational processes of the College.”</p> <p>For additional information refer to the DMACC Student Handbook: http://www.dmacc.edu/handbook/welcome.asp</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grading criteria | <p>Grades will be assigned according to the following scale:</p> <table border="0"> <tr> <td>100-90</td> <td>A</td> <td>89-87</td> <td>B+</td> <td>86-84</td> <td>B</td> <td>83-80</td> <td>B-</td> </tr> <tr> <td></td> <td></td> <td>79-76</td> <td>C+</td> <td>75-71</td> <td>C</td> <td>70-66</td> <td>C-</td> </tr> <tr> <td></td> <td></td> <td>65-62</td> <td>D+</td> <td>61-58</td> <td>D</td> <td>57-55</td> <td>D-</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0- 54 F</td> </tr> </table> <ul style="list-style-type: none"> • Students can keep track of their own grades using returned assignments or they may use the following website, which will be updated throughout the semester. • Grades may be viewed online at: http://www.eclassinfo.com • This is a secure website which keeps track of grades, assignments and attendance. The information is private so that only you can view your grades online using an individual <u>Student ID</u> and <u>Password</u>. <p>If you ever forget, misplace or wish to change your ID and Password contact me.</p> | 100-90 | A | 89-87 | B+ | 86-84 | B | 83-80 | B- | | | 79-76 | C+ | 75-71 | C | 70-66 | C- | | | 65-62 | D+ | 61-58 | D | 57-55 | D- | | | | | | | | 0- 54 F |
| 100-90 | A | 89-87 | B+ | 86-84 | B | 83-80 | B- | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 79-76 | C+ | 75-71 | C | 70-66 | C- | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 65-62 | D+ | 61-58 | D | 57-55 | D- | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 0- 54 F | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Weather policy | <p>“Individual circumstances such as health, childcare, rural roads, distance from the College, etc. can vary greatly among students and staff. It is always DMACC’s goal to provide safe learning conditions, as well as provide the opportunity for students to attend classes when the vast majority is able to safely attend. The final decision to come to College can only be made by the individual student based on their specific extenuating circumstances that may make it unsafe for them to travel...”</p> <ul style="list-style-type: none"> • If the campus is closed due to inclement weather, check your <u>DMACC email</u> for instructions from me for problems or assignments which will be due for the next class period. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Academic dishonesty | <p>“Academic integrity, doing one’s own work in course assignments and in tests, is one of the most important values in higher education. Receiving credit for plagiarizing or cheating violates the value of all degrees conferred. It is unacceptable for students to submit another person’s work as their own. If students quote, summarize, paraphrase or use an author’s idea, they must acknowledge the source, otherwise they are plagiarizing. Allowing others to accept credit for work not their own in tests or in written and oral reports is also cheating. Students who plagiarize or cheat will be held accountable by their instructor and are subject to the following sanctions.”</p> <ul style="list-style-type: none"> • All incidences of academic dishonesty, based on my perception, will be reported to the college. During this course the first offence will result in a 0 for the work and the second offence will result in an F for the course. Severe offences may result in an immediate F for the course. <p>For additional information refer to the DMACC Student Handbook: http://www.dmacc.edu/handbook/welcome.asp</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DMACC Information Web Sites | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DMACC home page | http://www.dmacc.edu/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Instructor home pages | http://www.dmacc.edu/Instructors/jegonzalez2/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Admissions & registration | http://www.dmacc.edu/potenti.asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cellular phone use statement | http://www.dmacc.edu/student_services/cellphone.asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Blackboard | https://dmacc.blackboard.com/webapps/login/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Student handbook | http://www.dmacc.edu/handbook/welcome.asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Add/drop dates | http://www.dmacc.edu/registration/add_drop.asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Refund policy | http://www.dmacc.edu/refund.asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Support Services | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|---|---|
| Accommodations | "It is the policy of DMACC to accommodate students with disabilities. Any student with a documented disability who requires reasonable accommodation should contact the special needs coordinator at 515-964-6850 voice or 515-964-6810 TTY." |
| Services for students with disabilities | http://www.dmacc.edu/student_services/disabilities.asp Contact the special needs coordinator at 515-964-6850V , 515-964-6809 TTY or the counseling & advising office on any campus for an Application for Accommodation. |
| Academic & educational advising | http://www.dmacc.edu/advising/welcome.asp |
| Career counseling | http://www.dmacc.edu/counseling/ |
| Library | http://www.library.dmacc.edu/ Building 6, room 3 Monday – Thursday 7:30 am to 9:00 pm Friday – 7:30 am to 4:00 pm Saturday – 8:00 am to 1:00 pm |
| Academic Achievement Center | http://www.dmacc.edu/student_services/academic_achievement_center.asp Provides academic assistance for students on a drop-in basis. Also serves as a make-up testing center. 515-964-6558 or 1-800-362-2127 ext. 6558 Building 6, Room 20 Monday – Thursday 8:00 am to 7:00 pm Friday – 8:00 am to 2:30 pm |
| Testing Center | Building 6, Room 23 Sufficient time should be allowed for test completion during office hours. A photo ID is required for all testing. Fall & Spring Mon–Thu: 8 a.m. – 8 p.m. Friday: 8 a.m. – 4:30 p.m. Summer Mon, Thu, Fri: 7:30 a.m. – 4 p.m. Tue & Wed: 7:30 a.m. – 7 p.m. Spring & May Breaks Mon–Fri: 7:30 a.m. – 4 p.m. https://go.dmacc.edu/testingcenter/pages/acankenya.aspx |
| Computer labs | http://www.dmacc.edu/helpdesk/pc_labs.htm Building 6 Monday – Thursday 7:30 am to 10:00 pm Friday – 7:30 am to 4:00 pm Saturday – 7:30 am to 1:00 pm |
| Disclaimer | |
| "This syllabus is representative of materials that will be covered in this class; it is not a contract between the student and the institution. It is subject to change without notice. Any potential exceptions to stated policies and requirements will be addressed on an individual basis, and only for reasons that meet specific requirements. If you have any problems related to this class, please feel free to discuss them with me." | |
| Nondiscrimination Policy | |
| Des Moines Area Community College shall not engage in or allow discrimination covered by law. This includes harassment based on race, color, national origin, creed, religion, gender, sexual orientation, age, and disability. Veteran status in educational programs, activities, employment practices, or admission procedures is also included to the extent covered by law. Individuals who believe they have been discriminated against may file a complaint through the College Discrimination Complaint Procedures. Complaint forms may be obtained from the DMACC Web site, the Ombudsperson, Judicial Officer, Human Resources Department, the campus Provost's Offices, and Academic Deans' Offices. Students who wish additional information or assistance may contact the Executive Dean, Student Services, Laurie Wolf , Building 1, 515-964-6437 or the EEO/AA Officer, Dr. Sandy Tryon , Human Resources, Bldg. 1, 515-964-6301 or they may refer to Student Services procedure 4645 located on the DMACC Intranet at http://my.dmacc.edu/procs.aspx . Go to Policies & Procedures and choose Student Services Procedures. Employees and applicants who wish additional information or assistance may contact the EEO/AA Officer, Dr. Sandy Tryon , Human Resources, Bldg. 1, 515-964-6301 or refer to HR Procedures 3000, 3005, 3010, 3015, and 3020 at http://www.dmacc.edu/hr/hrpp.asp . For requests for accommodations, the Accommodation/Section 504/ADA Coordinator, Sharon Bittner , can be contacted at 515-964-6857. Students with requests for accommodations should refer to the Student Services procedure 4610 located on the DMACC Intranet at http://my.dmacc.edu/default.aspx . Go to Policies & Procedures and choose Student Services Procedures. | |

Cell & Molecular -Proteins Tentative Schedule for Fall 2010

| | | | Online Lecture (Text: Essential Albert's 3ed) | Chap. | Online Lecture (Text: Seidman & Moore) | Chap. | Lab (approximate order of activities) | |
|-------------|-------------|------------|---|--------------|--|--------------|---|--|
| Week | Date | Day | | | | | | |
| | | | | | | | Orientation & Safety | |
| 1 | Oct 25 | M | Cells & Cell Chemistry Review | 1, 2 | Industry Overview | 1, 2 | Proteins & Computer Modeling | |
| | 27 | W | | | | | Protein Concentrations | |
| | 29 | F | | | | | Enzyme Substrates & Effectors | |
| 2 | Nov 1 | M | Energy & Proteins | 3, 4 | Product Quality | 4-8 | | |
| | 3 | W | | | | | Protein Chromatography Methods | |
| | 5 | F | | | | | | |
| 3 | 8 | M | | | | | | |
| | 10 | W | | | | | Protein Diversity SDS-PAGE | |
| | 12 | F | Membrane Structure & Transport | 11, 12 | Basic Separation Methods | 31-33 | | |
| 4 | 15 | M | | | | | GFP Extraction & Purification | |
| | 17 | W | | | | | | |
| | 19 | F | | | | | EcoRI Purification & Analysis | |
| 5 | 22 | M | Cellular Energy Conversion | 13, 14 | Quality Assays | 24, 25 | | |
| | 24 | W | | | | | ELISA | |
| | 26 | F | Holiday -- College Closed | | | | | |
| 6 | 29 | M | | | | | | |
| | Dec 1 | W | | | | | Western blotting | |
| | 3 | F | Vesicles, Communication & Cytoskeleton | 15,16,17 | Computers in the Lab | 34-36 | | |
| 7 | 6 | M | | | | | Isoelectric focusing | |
| | 8 | W | | | | | PAGE | |
| | 10 | F | | | | | Company Presentations | |
| 8 | FINAL | M | Comprehensive Final (December 13th 3:30-5:30) | | | | | |

The majority of the information during this course will come from the chapters listed above, however relevant information from additional sources may also be included. Tours to nearby industry will be planed whenever tour availability will fit into the laboratory schedule.

This is the approximate schedule we will follow. The instructor reserves the right to alter this schedule as necessary during the course of the semester, including the dates and number of exams.