Course Syllabus

BIOL6385=BMEN6389 – Computational Biology
http://www.utdallas.edu/~prr105020/biol6385/

Course Information

Course number: BIOL6385=BMEN6389
Title: Computational Biology
Room: CB 1.214
Time: Tuesday & Thursday 2:30pm-3:45pm,
Semester: Spring 2018
(Jan 9-Apr 26, 30 Units)

Instructor Information

Instructor:
Michael Q. Zhang
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Office location: NSERL 4.742

Assistant instructor:
Pradipta Ray
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Office location: BSB 10.806

Teaching Assistant:
Peng Xie
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Office Hours: Friday 4-6 pm
Office Location: NSERL 4.702 Cubicle Complex

Course Details

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Elementary statistics/probability or introductory bioinformatics (such as BIOL5376, or BIOL5460) or equivalent would be very helpful, but not necessary if having a good college math background. Recommendation: use Perl / Python to manipulate sequence data and use R / Matlab to do statistical computing / graphing / algorithm development. Use of the LINUX environment is preferred. There are many tutorials online (e.g. http://heather.cs.ucdavis.edu/~matloff/r.html for R Tutorial; http://docs.python.org/2/tutorial/ for Python Tutorial; http://perl-tutorial.org/ for Perl Tutorial; https://blog.udemy.com/matlab-tutorial/ for Matlab tutorial)

Course Description

Computational biology (3 semester hours): Machine learning and probabilistic graphical models have become essential tools for analyzing and understanding complex systems biology data in biomedical research. This course introduces fundamental principles and methods behind the most important high throughput data analysis tools. Applications will cover sequence alignment, molecular evolutionary models, DNA/protein motif discovery, gene prediction, high-throughput sequencing and microarray data analysis, computational modeling of gene expression

regulation, and biological pathway and network analysis.

Textbooks and other Material

(Required):

Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids by Richard Durbin, S. Eddy, A. Krogh, G. Mitchison; Cambridge University Press, 1998. ISBN: 0521629713 (2006 reprint). Click here for copies in libraries near you.

(Optional):

Statistical Methods in Bioinformatics : An Introduction (Statistics for Biology and Health) by Warren J. Ewens, Gregory R. Grant; Springer, 2005. ISBN: 0387400826. Click here for copies in libraries near you.

Computational Molecular Evolution (Oxford Series in Ecology and Evolution) by Ziheng Yang, Oxford University Press, USA (2006). ISBN-13: 978-0198567028. Click here for copies in libraries near you.

(References):

Machine Learning and Probabilistic Graphical Model References:

Learning From Data (http://work.caltech.edu/lectures.html) by Yaser S. Abu-Mostafa.
Machine Learning: A Probabilistic Perspective by Kevin P. Murphy
The Elements of Statistical Learning: Data Mining, Inference, and Prediction by Hastie, Tibshirani and Friedman.

Course & Instructor Policies

Active participation in class room discussion is expected. Attendance is **mandatory**.

Comp. Biol. Class schedule Spring, 2018: (Last Day for registration 1/5)

Week	Date	Topic	Date	Topic	Biological Applications
1	1/9	Introduction	1/11	Background (cont'd): Probability Theory	
2	1/16	Background (cont'd): Statistical Inference	1/18	Bayes Nets I. Modeling and Estimation	Gene Regulation Network
3	1/23	Bayes Nets II. Bayes net/inference	1/25	HW1, Alignment I. Scoring Models	Decision Trees Phylogenetic trees
	1/24	***Last day to drop without a "W"***			

4	1/30	Alignment II. Dynamic Progr. & Global Align.	2/1	Alignment III. Local Align. & heuristic	Sequence homology detection

5	2/6	Karlin-Altschul Statistics & Score Significance	2/8	Markov Nets I. Markov Chain	Database search Dayhoff matrix
6	2/13	HW2, Markov Nets II HMM: Segmentation	2/15	Markov Nets III HMM: Viterbi, Forward/Backward	CpG Islands ChIP-seq
7	2/20	Markov Nets IV B-W algorithm, PHMM	2/22	Markov Nets V Profile HMM	Sequence functional domains
8	2/27	**Midterm Exam review**	3/1	**Midterm Exam** (in class - covers material up to 2/23)	
9	3/6	Markov Nets VI HMM vs. CRF	3/8	Evolutionary models I.	Gene prediction Functional site detection
10	3/13	SPRING BREAK	3/15	SPRING BREAK	No lecture
11	3/20	Evolutionary models II.	3/22	Phylogenetic trees I.	Evolution dynamics
12	3/27	HW3,Phylogenetic trees II.	3/29	Motif finding (Greedy, EM, Gibbs sampling)	Phylogenetic relationship
	3/26	***Last day to withdraw with an automatic "W"* (For graduate students)**			
13	4/3	Evaluation of significance of motifs	4/5	Discriminant motif finding (DWE/DME) Functional motif finding (Regression: CART,MARS)	TF-binding sites Cis-regulatory elements discovery
14	4/10	SVM and Kernel method	4/12	Ensemble learning, Boosting (Random Forest)	DNA methylation prediction, Promoters, enhancers
15	4/17	Lasso, Sparsity, Regularization	4/19	Deep Learning Tutorial	Big Data Learning Algorithms
16	4/24	**Final Exam review**	4/26	**Final Exam** (in class)	

(UTD General Dates: 5/1 – 5/7 Finals week, 5/10 Final Grade Due)

Policies for homework grading

- Homework MUST be submitted individually. Collaboration is allowed, but **all** collaborators must have an in-depth understanding of the whole solution, and should be prepared to explain the analysis in person to the instructor / TA. Students must indicate on each homework who they collaborated with. Failure to do this is tantamount to plagiarism.
- All intermediate steps: data, code and processing steps in an analysis MUST be submitted with the homework. Points may be deducted if all intermediate steps are not clearly shown.
- Homework can be submitted in person or by email to the TA or instructors. If submitting by email, it is the responsibility of the student to ensure his homework was received by the instructor / TA / Homework is DUE at the beginning of class on the due date. It is considered late after that and can only be submitted to instructors after that by acknowledging the duration of lateness of submission.
- Students are allowed a total of 24 hours grace period for submission of late homework during the entire course before incurring grade penalties. Once these 24 hours have been used up, the grading policy for late homework is as follows:
    - Homework is worth full credit at the beginning of class on the due date.
    - It is worth 75% for the next 24 hours.
    - It is worth 50% credit from 24 to 96 hours after the due date.
    - It is worth zero credit after that.

- Students must turn in all 3 homeworks, even if for no credit, in order to pass the course.

- If a student feels that there is an error in grading the homework, please turn in your homework with a *written* explanation to Pradipta Ray for consideration of a regrade request. Please note: regrading of a homework may cause a grade to go up or down.

Policies for exams

- The examinations will be 75 minutes in duration.
- The midterm and final examinations will be open book and open notes. Computers or communication devices like cellphones are not be allowed, irrespective of whether networking features are switched on / off.
- Mid-term exam date: **March 2, class hours, in class**
- Final exam date: **Apr 27, class hours, in class**
- Rescheduling of exams: It is impossible to accommodate individual requests to reschedule the exam date and times. It is the student's responsibility to ensure they are in town and available for the final exam. Only in the most extreme of documented emergencies will such requests be considered.

Letter Grade Assignment Policy

The requirements of this course consist of participating in lectures, midterm and final exams, and 3 problem sets (homework). This is a PhD level class, and the most important thing should be in depth understanding of the material to solve real problems of modest complexity. Numeric scores for the whole course will be proportionally weighted from homeworks (50%), midterm (25%) and final exam (25%). At the end of the course, the numeric scores will be converted to a letter grade by using hierarchical clustering of the weighted scores and assigning a letter grade for each cluster of students . Please keep in mind that we do NOT assign grades on an absolute scale

(since course materials and exams can vary in difficulty) and we also do not grade on a curve (due to small class sizes). Please discuss with your TA if you need feedback about grading policy and your position in class.

List of UT Dallas policies

UT System Regents' rules and regulations can be found at : http://www.utsystem.edu/board-of-regents/rules

A list of relevant UT Dallas undergraduate and graduate student policies are kept updated at : http://catalog.utdallas.edu/2016/undergraduate/policies/

Field Trip Policies, Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address: https://policy.utdallas.edu/utdbp3023 Additional information is available from the office of the school dean. Typically, this course does not require field trips, or off campus visits. Primary course activities are limited to attendance of classes, recitations, review sessions and examinations, and solving homework problem sets.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UT Dallas publication, A to Z Guide, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations*, Board of Regents, The University of Texas System, Series 50101 and in Student Discipline and Conduct, UTSP5003 (http://policy.utdallas.edu/utdsp5003) . Copies of these rules and regulations are available to students in the Office of the Dean of Students where staff are available to assist students in interpreting the rules and regulations (SSB 4.400, 972-883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating its standards of conduct whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct.

Academic Dishonesty.

(Online at https://www.utdallas.edu/conduct/dishonesty/)

Academic dishonesty includes but is not limited to plagiarism, collusion, cheating, fabrication, facilitating academic dishonesty, failure to contribute to a collaborative project, and sabotage.

Examples of Academic Dishonesty

Some of the ways students may engage in academic dishonesty are:

1. Failing to provide accurate, appropriate acknowledgement for works of another.
2. Working with another student to complete an individual academic exercise.
3. Changing a graded paper and requesting that it be graded again.
4. Citing false references or findings in research or other academic exercises.
5. Concealing notes on hands, caps, shoes, in pockets or the back of beverage bottle labels.
6. Consulting assignment solutions posted on websites of previous course offerings.

7. Coughing and/or using visual or auditory signals in a test.
8. Destroying or removing library materials to gain an academic advantage.
9. Downloading text from the Internet or other sources without proper attribution.
10. Encircling two adjacent answers and claiming to have had the correct answer.
11. Exchanging exams so that neighbors have identical test forms.
12. Fabricating data for lab assignments.
13. Failing to turn in a test or assignment and later suggesting the faculty member lost the item.
14. Having a substitute take a test and providing falsified identification for the substitute.
15. Marking an answer sheet to enable another to see the answer.
16. Obtaining copies of an exam in advance.
17. Passing information from an earlier class to a later class.
18. Recording two answers, one on the test form, one on the answer sheet.
19. Signing a roll sheet for someone who is not in attendance.
20. Submitting a substantial portion of the same academic work more than once without written authorization from the instructor.
21. Submitting a paper or computer program written by another person.
22. Stealing an exam for someone in another section or for placement in a test file.
23. Stealing another student's graded test and affixing one's own name on it.
24. Taking another student's computer assignment printout from a computer lab.
25. Transferring a computer file from one person's account to another.
26. Transmitting posted answers for an exam to a student in a testing area via electronic device.
27. Unauthorized collaborating with another person in preparing academic exercises.
28. Using an electronic device to store test information or to send or receive answers for a test.
29. Writing in blue books prior to an examination.
30. Writing information on blackboards, desks or keeping notes on the floor.

How Does Academic Dishonesty Affect You?

- It may affect your grade if scoring is based on a curve.
- It destroys "equal opportunity" in competitive atmospheres.
- It hinders development of self-reliance.
- It affects the reputation of UT Dallas and your particular academic program.

What Can You Do To Help?

- Prepare thoroughly for examinations and assignments.
- Take the initiative to prevent other students from copying your exam or assignments by shielding your answer sheet during examination, and not lending assignments to other students.
- Inform your instructor if you suspect someone is cheating.
- Do not look in the direction of other students' papers during examinations.
- Refuse to assist students who cheat.

Plagiarism

To submit to your instructor a paper or comparable assignment that is not truly the product of your own mind and skill is to commit plagiarism. To put it bluntly, plagiarism is the act of stealing the ideas and/or expression of another and representing them as your own. It is a form of cheating and a kind of academic dishonesty that can incur severe consequences. It is important, therefore, that you understand what constitutes plagiarism, so that you will not unwittingly jeopardize your college career.

The Most Obvious Form — Plagiarism can take several forms. The most obvious form of plagiarism is the purchase of prepared papers from commercial term paper companies or another individual and the submission of such papers as one's own work.

Proper Footnoting Essential — A second obvious form of plagiarism is a word-for-word copying of someone else's work, in whole or in part, without appropriate acknowledgement, whether that work be a journal or magazine article, a portion of a book, a newspaper piece, another student's paper, or any other composition not your own.

Any such verbatim use of another's work must be acknowledged by (1) appropriate indention or enclosing all such copied portions in quotation marks and by (2) giving the original source in a footnote. As a general rule, you should make very little use of directly quoted matter in your research paper. If you do not know how to footnote properly, ask your instructor for guidance.

Paraphrasing vs. Original Work — A third form of plagiarism is the paraphrasing for the structure and language of another person's work. Changing a few words of another's composition, omitting a few sentences, or changing their order does not constitute original composition and therefore can be given no credit. If such borrowing or paraphrasing is ever necessary, the source must be scrupulously indicated by footnotes. How then, you may ask, can I be original? Am I to learn nothing from others? There are several answers to such questions. Of course you have come to the University to learn, and this means acquiring ideas and exchanging opinions with others. But no idea is ever genuinely learned by copying it down in the phrasing of somebody else. Only when you have the thought through an idea in terms of your own experience can you be said to have learned; and when you have done that, you can develop it on paper as the product of your own mind.

Using the Instructor as a Resource — If an assignment baffles you, discuss it with your instructor. And if you are directed to use printed sources, consult your instructor about how to proceed. There is an art to taking notes for research; careless note taking can lead to plagiarism.

Consequences of Plagiarism — Why be so concerned about plagiarism? Because it defeats the ends of education. If students were given credit for work that is not their own, then course grades would be meaningless. A college degree would become a mere sheet of paper and the integrity of the University would be undermined. To protect conscientious students, therefore, and to guarantee the quality of their education, the University assesses significant sanctions against those who plagiarize.

The University's *Handbook of Operating Procedures* provides sanctions for plagiarism, which range from an "F" grade to dismissal from the University. If these sanctions seem severe, remember that your integrity and the integrity of the University itself are at stake. These rules and regulations are available to students through the Dean of Students office (https://www.utdallas.edu/deanofstudents/contact/) , where staff are available to assist students in their understanding of the various rules and regulations governing student conduct.

Finally, the University cannot prevent students from plagiarizing, but it can make sure that they know what plagiarism is, what the sanctions for it are, and how it may jeopardize their future careers. If you do not understand it fully, consult your instructor. If you have any doubts about the originality of an assignment you plan to turn in, see your instructor before you submit.

Collusion

In class or out-of-class academic exercises are representations of a student's individual ability and scholarly achievement. Each student is expected to exercise independent scholarly thought, expression and aptitude. While there is much to be gained through a well-functioning study group, participating in an act of collusion will prove detrimental. Absent specific authorization from the course instructor, each academic exercise is presumed to be prepared and submitted by one student acting individually and not in

concert with others.

Acts of collusion can be purposeful or unintentional. Common examples are:

- Two students in the same class submitting a substantially similar essay, homework or computer program assignment.
- One student providing another with a copy of a completed assignment, only to have the assignment duplicated and submitted for credit with a new name.
- Study or lab partners submitting duplicate solution reports.

Cheating

Attempting to or succeeding in gaining an unfair advantage in the academic arena is an act of academic dishonesty. Whether it is copying from another student's exam paper, knowingly using or buying homework solutions or submitting a substantial portion of the same academic work more than once without prior written authorization from the instructor, cheating is a violation of the rules and will not be condoned at UT Dallas.

The motivation to cheat is varied among college students. Sometimes the motivation originates with the desire to secure admission into a graduate or professional school, to enhance employment opportunities or to continue eligibility for financial assistance. While they may be significant motivating factors to some, to the student with personal honor and integrity, they are not sufficient to jeopardize a higher education investment.

Fabrication

Proper citation of references is generally addressed by the assigned or adopted writing-style manual. Occasionally, however, papers are submitted that contain false references. The following represent the most common occurrences of false references:

- References cited within the text body are omitted in an ending bibliography or end notes page.
- Entries contained in the end notes listing are not cited within the body of the text.
- Information contained within the reference is fabricated.
- The entire reference is fabricated.

Minimize the opportunity for an allegation of academic dishonesty for using false references by incorporating the following into your preparation:

- Allow sufficient time to thoroughly research and gather all information necessary for proper citation and reference format.
- Learn what the prescribed writing style requires for references and use it.
- Double check the completed document with your research notes for accuracy.

Hazing

(Online at http://catalog.utdallas.edu/2016/undergraduate/policies/hazing)

Hazing, submission to hazing, or failure to report first-hand knowledge of the planning or occurrence of specific hazing incidents is prohibited by state law and, in addition to disciplinary actions, is punishable by fines up to $10,000 and confinement in county jail for up to two years. Moreover, any hazing offense that causes the death of another person is a state jail felony. Hazing is defined by state law as, "... any intentional, knowing, or reckless act, occurring on or off the campus of an educational institution, by one person alone or acting with others, directed against a student, that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining membership in an organization." Any person who reports a specific hazing incident involving a student to the Dean of Students is immune from civil or criminal liability that he/she might otherwise incur as a result of the report. Any persons who have further questions about hazing or activities that may be considered hazing should call the Dean of Students' office at (972) 883-6391.

Copyrighted Material

(Online at http://catalog.utdallas.edu/2016/undergraduate/policies/copyrighted-material)
Unauthorized distribution of copyrighted material may subject students to civil and criminal penalties. All UT Dallas syllabi are required to include, whether in text or a hyperlink, student conduct policies including a copyright notice. This notice directs students to UT Dallas' Policy Regarding Photocopying Copyrighted Materials (UTDPP1043) (http://provost.utdallas.edu/policy/utdpp1043) and UT System's copyright website (http://www.utsystem.edu/ogc/intellectualproperty/copyrighthome.htm) . Further, the Director of Information Security (infosecurity@utdallas.edu) is identified as the University's contact for copyright questions or concerns. See www.utdallas.edu/copyright .

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts. Information security guidelines for email use can be found at : https://policy.utdallas.edu/utdbp3096

Add / Drop / Withdrawal from Class

The administration of this institution has set deadlines for add / drop / withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. The instructor cannot drop or withdraw any student. The student must do the proper paperwork to ensure that they will not receive a final grade of "F" in a course if they do not attend class once they are enrolled.

Deadlines for adding / dropping class :

http://catalog.utdallas.edu/2016/undergraduate/policies/registration#dropadd

Rules for dropping and withdrawing :

http://catalog.utdallas.edu/2016/undergraduate/policies/registration#dropping-and-withdrawing

Student Grievance Procedures:

(Online at http://catalog.utdallas.edu/2016/undergraduate/policies/academic#grievances)
A student having a grievance regarding academic concerns may have the issue considered. In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originated (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. Procedures for student grievances are found in the University's Student Grievances Policy, UTDSP5005 (http://policy.utdallas.edu/utdsp5005) .

Incomplete Grade Policy

(Online: http://catalog.utdallas.edu/2016/undergraduate/policies/academic#incomplete-grades)

A grade of Incomplete may be given, at the discretion of the instructor of record for a course, when a student has completed at least 70% of the required course material but cannot complete all requirements by the end of the semester. An incomplete course grade (grade of 'I') must be completed within the time period specified by the instructor, not to exceed eight weeks from the first day of the subsequent long semester. Upon completion of the required work, the symbol 'I' may be converted into a letter grade (A through F) by the instructor. If the grade of Incomplete is not removed by the end of the specified period, it will automatically be changed to F. Extension beyond the specified limit can be made only with the permission of the instructor, the student's Associate Dean and the Undergraduate Dean. A student may not re-enroll in a course in which a grade of 'I' remains. Students may obtain a petition/documentation form for an Incomplete in the office of the student's Undergraduate Associate Dean. The form is to be submitted to the instructor from whom the Incomplete is sought. If a significant fraction of a semester is missed with cause, see the section on "Dropping and Withdrawing" at catalog.utdallas.edu/2016/undergraduate/policies/registration#dropadd.

An instructor assigning an Incomplete ('I') must submit the petition/documentation form containing a description of the work required to complete the course to the Undergraduate Associate Dean of the school offering the course. Upon approval, a copy of the petition will be forwarded to the student's Undergraduate Associate Dean to be retained with the student's academic record. The instructor alone will be responsible for determining whether the requirements for completion are met and for assigning a grade in the course.

However, if the instructor who has signed the Incomplete ('I') is no longer associated with UT Dallas and the work is completed within the time allowed before the Incomplete lapses to an F, the Associate Dean of the instructor's college may assign a committee of appropriate faculty to evaluate the material and/or obtain any other information that may be required to assign a grade in the course.

Disability Services

(Details at http://www.utdallas.edu/studentaccess/)

It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow one week advance notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion. OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at (972) 883-2098, or by email at studentaccess@utdallas.edu

More details are at http://www.utdallas.edu/studentaccess/ .

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Student AccessAbility provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

(Online at http://catalog.utdallas.edu/2016/undergraduate/policies/religious-holy-days)

The University of Texas at Dallas will excuse a student from class or other required activities, including examinations and travel time, for the observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, of the *Texas Tax Code*.

Students are encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment.

Excused students will be allowed to take missed exams or complete assignments within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or

assignment within the prescribed period may receive a failing grade for that exam or assignment. If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the President (http://www.utdallas.edu/president/contact) of UT Dallas or from the President's designee. The chief executive officer or designee must take into account the legislative intent of *Texas Education Code* 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the professor.

Some additional guidelines for the course as well as these policies will be kept updated at: http://www.utdallas.edu/~prr105020/biol6385/about.html