# Course Syllabus

Topics in Industrial Organization (MECO 6360) Industrial Organization (ECON 6340) Naveen Jindal School of Management, The University of Texas at Dallas

# Course (Naveen Jindal School of Management)

Course Number/Section:	MECO 6360.001
Course Title:	Topics in Industrial Organization
Term:	Fall 2015

### **Course Meeting Time and Place**

When: Thursday, 4:00pm-6:45pm (first class is on September 3, 2015) Where: JSOM 2.722

### **Contact Information**

Professor:	Bernhard Ganglmair
Phone:	972-883-4736
Email:	ganglmair@utdallas.edu
Office:	JSOM II 14.316
Office Hours:	Thursday, 7-8:00p.m. or by appointment

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

Consent of instructor.

### **Course Description**

This course provides an introduction to Industrial Organization for graduate students in economics and management science. The course and the readings apply concepts from price theory and game theory to explain industry structure, conduct, and performance. Among the topics we will study are the determinants of market structure, strategic interactions between firms, the effects of structure and conduct on prices, non-price dimensions of market performance, vertical control, matching markets, two-sided markets, auctions, and contests and tournaments. The emphasis is on general theoretical principles.

The class is divided into a CORE section and a TOPICS section. The CORE section introduces students to basic concepts and techniques for modeling firms' interaction and strategies in various competitive and informational environments. The focus of this section is on the underlying modeling issues and solution strategies and not on specific applications or problems. The TOPICS section covers a number of (recent) developments in the literature on the theory of industrial organization and applied microeconomics.

Students are expected to have a firm background in microeconomics (MECO 6345 or ECON 6301) working knowledge of game theory at an introductory graduate course level (OPRE 6311 or ECON

7303). We will use basic game theoretic concepts (static and dynamic games with complete and incomplete information, repeated games) throughout the course. I recommend students refresh their game theory knowledge by consulting their favorite advanced game theory textbook or one of the following:

- chapter 11 in Jean Tirole (1988): The Theory of Industrial Organization, MIT Press, Cambridge;
- chapter 2 in Xavier Vives (1999): Oligopoly Pricing, MIT Press, Cambridge;
- or, for a more thorough treatment, Robert Gibbons (1992): A Primer in Game Theory, Pearson Academic, Harlow, England.

Students with insufficient background in game theory may want to consider taking Gary Bolton's course in Game Theory (MECO 6350) in Spring 2016 before taking MECO 6303: MECO 6350.

# Academic Calender

	Core
August 27	No class
September 3	Monopoly Pricing
September 10	Static Oligopoly
September 17	
September 24	Dynamic Oligopoly
October 1	Price Discrimination
October 8	
October 15	Vertical Control/Horizontal and Vertical Integration
October 22	Product Differentiation
October 29	Barriers to Entry, Limit Pricing, Predatory Pricing
	TOPICS
November 5	Search and Matching
November 12	Innovation and R&D
November 19	Midterm Exam
November 26	Thanksgiving: No class
December 3	Information Disclosure and Information Sharing
Date TBD	Two-Sided Markets and Platform Competition
Date TBD	Final Exam

\* If you have a religious holiday that conflicts with an exam, let me know and we reschedule.

# **Required Textbooks and Materials**

The primary text for the course is JEAN TIROLE (1988): The Theory of Industrial Organization, MIT PRESS, CAMBRIDGE. Another text on which we will heavily rely in the first part of the class

is XAVIER VIVES (1999): Oligopoly Pricing, MIT PRESS, CAMBRIDGE. A good secondary text is STEPHEN MARTIN (2002): Advanced Industrial Economics, BLACKWELL PUBLISHERS, OXFORD.

In addition to the text(s), a number of journal articles (and an occasional Handbook article) will be assigned each week. The readings will be posted on eLearning.

Read them carefully *before* each class meeting.

This is a PRELIMINARY list of the assigned readings.

# September 3: Monopoly Pricing

\* Tirole, chapter 1, pp. 65-94.

\* Gul, F., H. Sonnenschein, and R. Wilson (1986): "Foundations of Dynamic Monopoly and the Coase Conjecture," *Journal of Economic Theory*, 39, 155-190.

Further readings:

Vives, chapter 3.

Fudenberg, D. and J. Tirole (1998): "Upgrades, Tradeins, and Buybacks," *RAND Journal of Economics*, 29(2), 235-258.

Chevalier, J. and Austan Goolsbee (2009): Are Durable Goods Consumers Forward-Looking? Evidence From College Textbooks, *Quarterly Journal of Economics*, 124(4), 1853-1884. [empirical]

### September 10 and 17: Static Competition/Oligopoly Theory

\* Tirole, chapter 5 (incl. Introduction), pp. 205-238.

\* Vives, chapters 1, 5, 7, 8.1 and 8.2.

\* Kreps, D. and J. Scheinkman (1983): "Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes," *Bell Journal of Economics*, 14(2), 326-337.

### Further readings:

Bulow, J., J. Geanakoplos, and P. Klemperer (1985): "Multimarket Oligopoly: Strategic Substitutes and Complements," *Journal of Political Economy*, 93(3), 488-511.

Klemperer P. and M. Meyer (1989): "Supply Function Equilibria in Oligopoly under Uncertainty," *Econometrica*, 57(6), 1243-1277.

Martin, S. (2002): Advanced Industrial Economics, Blackwell Publishers, Oxford. Chapters 2 and 3 (Foundations of Oligopoly Theory I and II)

# September 24: Dynamic Competition/Collusion

\* Tirole, chapter 6, pp. 239-276.

\* Kreps, D., P. Milgrom, J. Roberts, and R. Wilson (1982): "Rational Cooperation in the Finitely Repeated Prisoners' Dilemma," Journal of Economic Theory, 27(2), 245-252.

\* Rotemberg, J. and G. Saloner (1986): "A Supergame-Theoretic Model of Price Wars during Booms," *American Economic Review*, 76(3), 390-407.

Further readings:

Vives, chapter 9. Martin, chapter 10. Selten, R. (1973): "A Simple Model of Imperfect Competition, where 4 Are Few and 6 Are Many," *International Journal of Game Theory*, 2(1), 141-201.

Porter, R. (1983): "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886," Bell Journal of Economics, 14(2), 301-314. [empirical]

Green, E. and R. Porter (1984): "Noncooperative Collusion under Imperfect Price Information," *Econometrica*, 52(1), 87-100.

Abreu, D. (1988): "On the Theory of Infinitely Repeated Games with Discounting," *Econometrica*, 56(2), 383-396.

### October 1 and 8: Price Discrimination

\* Tirole, chapter 3, pp. 133-168.

\* Schmalensee, R. (1981): "Output and Welfare Implications of Monopolistic Third-Degree Price Discrimination," *American Economic Review*, 71(1), 242-247.

\* McAfee, R.P., J. McMillan, and M. Whinston (1989): "Multiproduct Monopoly, Commodity Bundling, and Correlation of Values," *Quarterly Journal of Economics*, 104(2), 371-383.

\* Deneckere, R. and R.P. McAfee (1996): "Damaged Goods," Journal of Economics and Management Strategy, 5(2), 149-174.

\* Yoshida, Y. (2000): "Third-Degree Price Discrimination in Input Markets: Output and Welfare," *American Economic Review*, 90(1), 240-246.

Further readings:

Maskin, E. and J. Riley (1984): "Monopoly with Incomplete Information," *RAND Journal of Economics*, 15(2), 171-196.

Shepard, A. (1991): "Price Discrimination and Retail Configuration," Journal of Political Economy, 99(1), 30-53. [empirical]

Borenstein, S. and N. Rose (1994): "Competition and Price Dispersion in the U.S. Airline Industry," *Journal of Political Economy*, 102(4), 653-683. [empirical]

Sibley, D. and P. Srinagesh (1997): "Multiproduct Nonlinear Pricing with Multiple Taste Characteristics," *RAND Journal of Economics*, 28(4), 684-707.

Corts, K. (1998): "Third-Degree Price Discrimination in Oligopoly: All-Out Competition and Strategic Commitment," *RAND Journal of Economics*, 29(2), 306-323.

Armstrong, M. (2007): "Recent Developments in the Economics of Price Discrimination," chapter 4 in R. Blundell, W. Newey, and T. Persson, eds., *Advances in Economics and Econometrics, Theory and Applications, Ninth World Congress*, Vol. 2, Cambridge University Press, Cambridge.

Stole, L. (2007): "Price Discrimination and Competition," chapter 35 in M. Armstrong and R. Porter, eds., *Handbook of Industrial Organization*, Vol. 3, North Holland, New York.

Aguirre, I., S. Cowan, and J. Vickers (2010): "Monopoly Price Discrimination and Demand Curvature," *American Economic Review*, 100(4), 1601-1615.

### **October 15: Vertical Control**

\* Tirole, chapter 4, pp. 169-203.

\* Mathewson, G. and R. Winter (1984): "An Economic Theory of Vertical Restraints," *RAND Journal of Economics*, 15(1), 27-38.

\* Rey, P. and J. Tirole (1986): "The Logic of Vertical Restraints," American Economic Review, 76(5), 921-939.

# **October 22: Product Differentiation**

\* Tirole, chapter 7, pp. 277-303.

\* Dixit, A. and J. Stiglitz (1977): "Monopolistic Competition and Optimum Product Diversity," *American Economic Review*, 67(3), 297-308.

\* Mussa, M. and S. Rosen (1978): "Monopoly and Product Quality," *Journal of Economic Theory*, 37(3), 1067-1082.

\* Singh, N. and X. Vives (1984): "Price and Quantity Competition in a Differentiated Duopoly," *RAND Journal of Economics*, 15(4), 546-554.

#### Further readings:

Vives, chapter 6.

Martin, chapters 3.6-3.8, 4.

Shaked, A. and J. Sutton (1982): "Relaxing Price Competition Through Product Differentiation," *Review of Economic Studies*, 49(1), 3-13.

Eaton, C. and R. Lipsey (1989): "Product Differentiation," chapter 12 in R. Schmalensee and R. Willig, eds., *Handbook of Industrial Organization*, Vol. 1., North Holland, New York.

### October 29: Barriers to Entry, Limit Pricing, Predation

\* Tirole, chapter 8, pp. 305-359; 9.4-9.9, pp. 367-388..

\* Aghion, P. and P. Bolton (1987): "Contracts as a Barrier to Entry," American Economic Review, 77(3), 388-401.

\* Nalebuff, B. (2004): "Bundling as an Entry Barrier," Quarterly Journal of Economics, 119(1), 159-187.

\* Milgrom, P. and J. Roberts (1982): "Limit Pricing and Entry under Incomplete Information: An Equilibrium Analysis," *Econometrica*, 50(2), 443-459.

# Further readings:

Martin, chapters 8.2-8.4.

Dunne, T., M. Roberts, and L. Samuelson (1988): "Patterns of Firm Entry and Exit in U.S. Manufacturing Industries," 19(4), 495-515. [empirical]

Bresnahan, T. and P. Reiss (1991): "Entry and Competition in Concentrated Markets," Journal of Political Economy, 99(5), 977-1009. [empirical]

Golder, P. and G. Tellis (1993): "Pioneer Advantage: Marketing Logic or Marketing Legend?" Journal of Marketing Research, 30(2), 158-170. [empirical]

Berry, S. and J. Waldfogel (1999): "Free Entry and Social Inefficiency in Radio Broadcasting," *RAND Journal of Economics*, 30(3), 397-420. [empirical]

Ordover, J. and G. Saloner (1989): "Predation, Monopolization, and Antitrust," chapter 9.3 in R. Schmalensee and R. Willig, eds., *Handbook of Industrial Organization*, Vol. 1., North Holland, New York.

### November 5: Search and Matching

\* Diamond, P. (1971): "A Model of Price Adjustment," Journal of Economic Theory, 3(2), 156-168.

\* Salop, S. and J. Stiglitz (1977): "Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion," *Review of Economic Studies*, 44(3), 493-510.

\* Varian, H. (1980): "A Model of Sales," American Economic Review, 70(4), 651-659.

\* Stahl, D. (1989): "Oligopolistic Pricing with Sequential Consumer Search," American Economic Review, 79(4), 700-712.

and additional articles on matching (TBD)

Further readings:

Wolinsky, A. (1984): "Product Differentiation with Imperfect Information," *Review of Economic Studies*, 51(1), 53-61.

McMillan, J. and M. Rothschild (1994): "Search," chapter 27 in R. Aumann and S. Hart, eds., *Handbook of Game Theory with Economic Applications*, Vol. 2, North Holland, New York.

Stahl, D. (1996): "Oligopolistic Pricing with Heterogeneous Consumer Search," International Journal of Industrial Organization, 14(2), 243-268.

Sorensen, A. (2000): "Equilibrium Price Dispersion in Retail Markets for Prescription Drugs," *Journal of Political Economy*, 108(4), 833-850. [empirical]

Ellison, G. and S. Ellision (2009): "Search, Obfuscation, and Price Elasticities on the Internet," *Econometrica*, 77(2), 427-452. [empirical]

### November 12: Innovation and R&D

TBD

# **December 3: Information Disclosure and Information Sharing**

TBD

# Date TBD: Two-Sided Markets and Platform Competition

\* Rochet, J.-C. and J. Tirole (2003): "Platform Competition in Two-Sided Markets," Journal of the European Economic Association, 1(4), 990-1029.

\* Rochet, J.-C. and J. Tirole (2006): "Two-Sided Markets: A Progress Report," *RAND Journal of Economics*, 37(3), 645-667.

\* Armstrong, M. (2006): "Competition in Two-Sided Markets," *RAND Journal of Economics*, 37(3), 668-691.

# **Grading Policy**

Grades will be based on a midterm exam (25%) covering the CORE section (scheduled for November 19; covering material from classes until October 29) and a final exam (25%) covering the TOPICS section (date TBD), a number of problem sets (30%), and a referee report (20%) to be submitted at the end of the semester.

Grade Scale: A, B, C, F

# Course & Instructor Policies

No make-up exam will be given for absence from an exam (zero credit for the missing exam) unless a physician's note is provided. Flexibility on due dates is possible if you have a good reason. Class attendance is *not* optional.

#### **University Policies**

#### 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.

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* of the Board of Regents of the University of Texas System, *Part 1, Chapter VI, Section 3, and in Title V, Rules on Student Services and Activities of the Course Syllabus Page 8, University's Handbook of Operating Procedures.* Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members 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 the 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 Integrity

The faculty and administration of the School of Management expect from our students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work. We want to establish a reputation for the honorable behavior of our graduates, which extends throughout their careers. Both your individual reputation and the school's reputation matter to your success.

The Judicial Affairs website lists examples of academic dishonesty. Dishonesty includes, but is not limited to cheating, plagiarism, collusion, facilitating academic dishonesty, fabrication, failure to contribute to a collaborative project and sabotage. Some of the ways students may engage in academic dishonesty are:

- Coughing and/or using visual or auditory signals in a test;
- Concealing notes on hands, caps, shoes, in pockets or the back of beverage bottle labels;
- Writing in blue books prior to an examination;
- Writing information on blackboards, desks, or keeping notes on the floor;
- Obtaining copies of an exam in advance;
- Passing information from an earlier class to a later class;
- Leaving information in the bathroom;
- Exchanging exams so that neighbors have identical test forms;
- Having a substitute take a test and providing falsified identification for the substitute;
- Fabricating data for lab assignments;
- Changing a graded paper and requesting that it be regraded;
- Failing to turn in a test or assignment and later suggesting the faculty member lost the item;
- Stealing another student's graded test and affixing one's own name on it;
- Recording two answers, one on the test form, one on the answer sheet;
- Marking an answer sheet to enable another to see the answer;
- Encircling two adjacent answers and claiming to have had the correct answer;
- Stealing an exam for someone in another section or for placement in a test file;
- Using an electronic device to store test information, or to send or receive answers for a test;
- Destroying or removing library materials to gain an academic advantage;

- Consulting assignment solutions posted on websites of previous course offerings;
- Transferring a computer file from one person's account to another;
- Transmitting posted answers for an exam to a student in a testing area via electronic device;
- Downloading text from the Internet or other sources without proper attribution;
- Citing to false references or findings in research or other academic exercises;
- Unauthorized collaborating with another person in preparing academic exercises.
- Submitting a substantial portion of the same academic work more than once without written authorization from the instructor.

#### http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-Basicexamples.html

#### Updated: August, 2011

Plagiarism on written assignments, especially from the web, from portions of papers for other classes, and from any other source is unacceptable.

During tests and quizzes, students in this section are not allowed to have with them any food or drinks, scratch paper, course materials, textbooks, notes, invisible ink pens, or electronic devices, including iPads, iPhones, iPods, MP3 Players, earphones, radios, smart phones, cameras, calculators, multi-function timepieces, or computers. When possible, students should sit in alternating seats, face forward at all times, and remove any clothing which might conceal eye movements, reflect images of another's work, or hide course material for copying. Exam proctors will monitor any communication or signaling between students by talking, whispering, or making sounds, or by using your hands, feet, other body movements, the test paper itself or your writing implement.

Students in this course suspected of academic dishonesty are subject to disciplinary proceedings, and if found responsible, the following minimum sanctions will be applied:

- 1. Homework Zero for the Assignment
- 2. Case Write-ups Zero for the Assignment
- 3. Quizzes Zero for the Quiz
- 4. Presentations Zero for the Assignment
- 5. Group Work Zero for the Assignment for all group members
- 6. Tests F for the course

These sanctions will be administered only after a student has been found officially responsible for academic dishonesty, either through waiving their right for a disciplinary hearing, or being declared responsible after a hearing administered by Judicial Affairs and the Dean of Student's Office .

In the event that the student receives a failing grade for the course for academic dishonesty, the student is not allowed to withdraw as a way of preventing the grade from being entered on their record. Where a student receives an F in a course and chooses to take the course over to improve their grade, the original grade of F remains on their transcript, but does not count towards calculation of their GPA.

The School of Management also reserves the right to review a student's disciplinary record, on file with the Dean of Students, as one of the criteria for determining a student's eligibility for a scholarship.

#### Judicial Affairs Procedures

Under authority delegated by the Dean of Students, a faculty member who has reason to suspect that a student has engaged in academic dishonesty may conduct a conference with the student in compliance with the following procedures:

- 1. the student will be informed that he/she is believed to have committed an act or acts of academic dishonesty in violation of University rules;
- 2. the student will be presented with any information in the knowledge or possession of the instructor which tends to support the allegation(s) of academic dishonesty;
- 3. the student will be given an opportunity to present information on his/her behalf;
- 4. after meeting with the student, the faculty member may choose not to refer the allegation if he/she determines that the allegations are not supported by the evidence; or

- 5. after meeting with the student, the faculty member may refer the allegations to the dean of students along with a referral form and all supporting documentation of the alleged violation. Under separate cover, the faculty member should forward the appropriate grade to be assessed if a student is found to be responsible for academic dishonesty;
- 6. the faculty member may consult with the dean of students in determining the recommended grade;
- 7. the faculty member must not impose any independent sanctions upon the student in lieu of a referral to Judicial Affairs;
- 8. the faculty member may not impose a sanction of suspension or expulsion, but may make this *recommendation* in the referral documentation

If the faculty member chooses not to meet with the student and instead forwards the appropriate documentation directly to the dean of students, they should attempt to inform the student of the allegation and notify the student that the information has been forwarded to the Office of Dean of Students for investigation.

The student, pending a hearing, remains responsible for all academic exercises and syllabus requirements. The student may remain in class if the student's presence in the class does not interfere with the professor's ability to teach the class or the ability of other class members to learn. (See Section 49.07, page V-49-4 for information regarding the removal of a student from class).

Upon receipt of the referral form, class syllabus, and the supporting material/documentation from the faculty member, the dean shall proceed under the guidelines in the *Handbook of Operating Procedures*, Chapter 49, Subchapter C. If the respondent disputes the facts upon which the allegations are based, a fair and impartial disciplinary committee comprised of UTD faculty and students, shall hold a hearing and determine the responsibility of the student. If they find the student in violation of the code of conduct, the dean will then affirm the minimum sanction as provided in the syllabus, and share this information with the student. The dean will review the student's prior disciplinary record and assess additional sanctions where appropriate to the circumstances. The dean will inform the student and the faculty member of their decision.

#### 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.

#### Withdrawal from Class

The administration of this institution has set deadlines for 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. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

#### Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's Handbook of Operating Procedures.

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 originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

#### Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

#### **Disability Services**

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30

p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is: The University of Texas at Dallas, SU 22 PO Box 830688 Richardson, Texas 75083-0688 (972) 883-2098 (voice or TTY)

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. Disability Services 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**

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

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment 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 chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

#### **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 given below. Additional information is available from the office of the school dean. (http://www.utdallas.edu/Business Affairs/Travel\_Risk\_Activities.htm) These descriptions and timelines are subject to change at the discretion of the Professor.

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