**IE 4345/5345 Syllabus Spring 2015**

**APPLIED KNOWLEDGE ENGINEERING And DATA ANALYTIC APPLICATIONS. 3 Hours.**

**Name:** John W. Priest Ph.D. P.E.

**Office Number:** 404 Woolf Hall **Office Telephone Number:** 817-272-3092

**Email Address:** jpriest@uta.edu (best method for communication)

**Office Hours:**  Due to the level of research I do in the field and in 2 labs, I am rarely in my office. Email if you have any questions or want to schedule a meeting. I will meet your at any mutually agreed upon time and place.

**Book:**

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |
| Data Science for Business by Foster Provost and Tom Fawcett, 2013, O'Reilly |

Publisher, ISBN 978-1-449-36132-7

**Time and Place of Class Meetings:** UTA 4345 class Tuesday and Thursday at 12:30 PM and 5345 class Tuesday and Thursday at 2:00 PM

**Distance Student Requirements:**     Distance testing must follow all the College of Engineering guidelines, located at [http://www.uta.edu/engineering/future-students/engineering-online/proctor-information.php](https://owa.uta.edu/owa/jpriest%40exchange.uta.edu/redir.aspx?SURL=SNuavp_8o-7sgt3w58mZtk8b0Fm-cw0tBaWPPb7vrd6nmiTNE-jRCGgAdAB0AHAAOgAvAC8AdwB3AHcALgB1AHQAYQAuAGUAZAB1AC8AZQBuAGcAaQBuAGUAZQByAGkAbgBnAC8AZgB1AHQAdQByAGUALQBzAHQAdQBkAGUAbgB0AHMALwBlAG4AZwBpAG4AZQBlAHIAaQBuAGcALQBvAG4AbABpAG4AZQAvAHAAcgBvAGMAdABvAHIALQBpAG4AZgBvAHIAbQBhAHQAaQBvAG4ALgBwAGgAcAA.&URL=http%3a%2f%2fwww.uta.edu%2fengineering%2ffuture-students%2fengineering-online%2fproctor-information.php).

Students using Blackboard administered tests should review the Test Taking Tips information at [http://www.uta.edu/blackboard/students/test-taking-tips.php](https://owa.uta.edu/owa/jpriest%40exchange.uta.edu/redir.aspx?SURL=N1Vvlrwr8_IPEtEV1fUhWtRPh03eAIllDfX38TLtqounmiTNE-jRCGgAdAB0AHAAOgAvAC8AdwB3AHcALgB1AHQAYQAuAGUAZAB1AC8AYgBsAGEAYwBrAGIAbwBhAHIAZAAvAHMAdAB1AGQAZQBuAHQAcwAvAHQAZQBzAHQALQB0AGEAawBpAG4AZwAtAHQAaQBwAHMALgBwAGgAcAA.&URL=http%3a%2f%2fwww.uta.edu%2fblackboard%2fstudents%2ftest-taking-tips.php).

UTA expects all students, whether in class or online, to abide by its Honor Code. The code is posted at [http://www.uta.edu/engineering/current-students/academic-honesty.php](https://owa.uta.edu/owa/jpriest%40exchange.uta.edu/redir.aspx?SURL=9_uwmDBbJX6VZTPNnL-t9LoVGskQA7df30Khi39_K3mnmiTNE-jRCGgAdAB0AHAAOgAvAC8AdwB3AHcALgB1AHQAYQAuAGUAZAB1AC8AZQBuAGcAaQBuAGUAZQByAGkAbgBnAC8AYwB1AHIAcgBlAG4AdAAtAHMAdAB1AGQAZQBuAHQAcwAvAGEAYwBhAGQAZQBtAGkAYwAtAGgAbwBuAGUAcwB0AHkALgBwAGgAcAA.&URL=http%3a%2f%2fwww.uta.edu%2fengineering%2fcurrent-students%2facademic-honesty.php).

**No cell phones on desk or answered during exams. This will be considered cheating**

For problems viewing ClassRev (Echo360) recordings:   contact classroomsupport@uta.edu.

**Final Grade:** your final grade is based on exams and surprise quizzes nothing else. There are no extra credit projects, papers, lab work, etc. No exceptions, If you do poorly on the early exam(s), please drop the course; especially graduate students.

**Description of Course Content:**

Review of application issues in data analytics, knowledge engineering, and applied artificial intelligence. Topics include knowledge acquisition, decision support systems, data analytic techniques, big data, data mining, neural networks, expert systems, genetic algorithms, and case based reasoning. Prerequisite: accepted in an UTA engineering professional program.

Class learning objectives:

1. This is a professional course for students who will demonstrate an understanding of the **terminology, acronyms** and concepts of decision support systems, intelligent systems, knowledge engineering, knowledge management, applied A.I. and data analytics
2. For this area of knowledge, the objectives include

(i) Recognition of the need for, and an ability to engage in life-long learning (self learning)

(j) Knowledge of contemporary issues (current, modern)

(k) Ability to use the techniques, skills, & modern engineering tools necessary for engineering practice

Why this is important

* One of the fastest growing areas of technology with job opportunities
* Decision support, intelligent systems and data analytics are becoming an integral part of our work and life. (Who is not using software and wireless technologies every day to communicate and solve problems?) – smart phones, apps, NFC, etc.
* Applicable to any industry or organization

**Requirements:**

Self learning or active learning for enabling life-long learning is a goal of this class. This means that you will be given assignments that you will have to take an active role in learning the material on your own in order to complete the assignment. You will be asked to perform assignments that I have not previously completed or might not be able to do myself. As in industry and the “real world”, assignments may be vague and change throughout the class.

In addition, this is a “reading intensive and survey class” covering many new and state-of-the-art topics in decision support systems, knowledge management, knowledge engineering, intelligent systems, expert systems, data mining, etc. As a result, the lectures and notes are an integral part of this course. *The student is responsible for studying and learning the lectures and handout materials whether or not the particular topic is discussed in class. All tests will contain questions on reading/studying the materials that were not discussed in class.*

This course and topic areas are evolving so the course requirements will be defined as the course progresses. What portions of the class will help you in the future are hard to know at this time.

Attend class, take good class notes of lectures, stay current, read and study the handouts and texbook, do homework and you will have no trouble.

Computers used in class must only be used to take notes. This includes any open windows.

The syllabus can be viewed as a 'blueprint' for the course; changes in the syllabus can be made as needed. Students will be informed of any substantive changes in class lectures concerning examination, the grading or attendance policies and changes in project assignments.

I expect that we will have 3 tests

**Grading Policy**:

Final Grade Calculation

I expect that we will have 3 exams (1/3 each). Computation of the final average will almost always vary from the original syllabus. Final grades will depend as modified during the course including any pop/surprise quizzes and whether the final is comprehensive . Final grade is based on exams and quizzes; nothing else. No extra credit projects, papers, lab work, etc. No exceptions. If you do poorly on the early exam(s), please drop the course; especially graduate students

Tests and quizzes

All tests and quizzes are multiple choice, closed book and computer graded using web based blackboard. Anyone looking at their cell phones, computer and not using lockdown software during a test/quiz will be considered cheating.

No Whine Policy Concerning Test and Final Grades

*Tests will always be returned and reviewed in the next class period. Discussion of the test and test questions is limited to this class. All requests for a regrade or questions concerning grading of a person’s individual test must be submitted in writing before the start of the next class period. The student must state what question is to be reviewed and why more credit should be given. This can be written on the test or on a separate sheet of paper.*

*An individual’s test questions are not answered, reviewed or regraded while the student is in my presence.*

Special final grade requirements:

*Any special final grade requirements must be provided by e-mail to me in the 1. first 2 weeks of the class and 2. after final exam, to be considered in final grade considerations. (E.g. graduating senior, probation, must have a c grade to graduate or stay in school, I work full time, scholarship requirements etc.).*

**Attendance Policy: (Undergraduate and Graduate Students)**

Attendance starts from the first day of class regardless of the circumstances. Late registration, just arriving from overseas, visa problems, graduate school, staying in your country for medical/dental/wedding/birthday issues or any other circumstances does not change your responsibility to catch up on your own and any surprise quizzes.This does not include approved absences.

**Attendance:** At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, [insert your attendance policy and/or expectations, e.g. “I will not take attendance” or “I allow students to attend class at their own discretion” or “I have elected to take attendance but will not factor attendance into the grade” or “I have decided that attendance at class meetings is not required but strongly encouraged” or “I have established following attendance policy: …”]

[**Important!** Be sure that you include this section on attendance, even if you do not track attendance or factor attendance into the grade. It is important that students understand that any attendance rules applied in your course are your own and *not* a matter of institutional policy. Doing so will keep the University in compliance with Federal regulations as they apply to Title IV funding. (For a summary, see <http://www.tgslc.org/pdf/Program-integrity-R2T4-Taking-Attendance.pdf>.) If you are teaching a course in which attendance / hours must be tracked to meet other non-institutional requirements (e.g., to earn an academically-grounded professional credential), then be sure to clearly indicate the agency that has established the requirement.]

**No excuses for missing the scheduled final i.e wanting to leave school early to go home or attend some function.**

Excused Absences

The only acceptable excuses for missing exams/quizzes or project due dates is a signed medical doctor's note that specifically states that you are unable to attend the exam/quiz/project, a traffic report showing that you were in a wreck, death in family etc. Not arriving for the first few classes due to travel schedules is not an excused absence.

**Drop Policy:** I use the university drop policy

**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 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of 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 accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels.  Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at www.uta.edu/disability.   Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:**

UTA expects all students, whether in class or online, to abide by its Honor Code. The code is posted at [http://www.uta.edu/engineering/current-students/academic-honesty.php](https://owa.uta.edu/owa/jpriest%40exchange.uta.edu/redir.aspx?SURL=9_uwmDBbJX6VZTPNnL-t9LoVGskQA7df30Khi39_K3mnmiTNE-jRCGgAdAB0AHAAOgAvAC8AdwB3AHcALgB1AHQAYQAuAGUAZAB1AC8AZQBuAGcAaQBuAGUAZQByAGkAbgBnAC8AYwB1AHIAcgBlAG4AdAAtAHMAdAB1AGQAZQBuAHQAcwAvAGEAYwBhAGQAZQBtAGkAYwAtAGgAbwBuAGUAcwB0AHkALgBwAGgAcAA.&URL=http%3a%2f%2fwww.uta.edu%2fengineering%2fcurrent-students%2facademic-honesty.php).

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, and 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." (Regents’ Rules and Regulations, Series 50101, Section 2.2)

Anyone looking at their cell phones or computer during a test/quiz will be considered cheating.

*Copying any written or web based materials for a project without proper referencing will not be tolerated.*

*Xerox copies of the book that infringe on copyright laws will not be allowed in class.*

**Copyright Information:** Copyright 2015 J.W. Priest as to this syllabus, handouts and all lectures. Students are prohibited from selling (or being paid for taking) notes during this course to (or by) any person or commercial firm without the express permission of the professor teaching this course

**Student Support Services Available:**
The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental 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.

**Final Review Week:**
I will attempt to provide a period of five days prior to the first day of final examinations in the long sessions to be designated as Final Review Week.

**Librarian to Contact:**  Librarian located in the basement of Nedderman Hall

**E-Culture Policy:**

The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning registration, financial aid, payment of bills, and graduation may be sent to students through email.

All students are assigned an email account and information about activating and using it is available at [www.uta.edu/email](http://www.uta.edu/email). New students (first semester at UTA) are able to activate their email account 24 hours after registering for courses. There is no additional charge to students for using this account, and it remains active as long as a student is enrolled at UT-Arlington. Students are responsible for checking their email regularly.

*It is the classroom and distance students’ responsibility for all communications with Dr. Priest and the school administration****.*** *All emails should start with the class name “Knowledge” in the subject.*

**Make-up Exam Policy**:

*For classroom students* there are no make-up exams/quizzes or project due dates. The only acceptable excuse for missing exams/quizzes or project due dates is a signed medical doctor's note that specifically states that you are unable to attend the exam/quiz/project. For unexcused situations, penalties for missing an exam/quiz/project are at the discretion of Dr. Priest but will be at least one letter grade for the final grade.

**Grade Grievance Policy**: Refer to catalog on web site