I. Course Description

This course aims to provide knowledge and equip students with techniques to transform data into information that decision makers can use in order to make time critical decisions. It has been well documented that decision-making during a crisis is difficult as information is limited and established procedures may not be followed, thus increasing the amount of stress on individuals required to make those decisions. To improve crisis decision-making data collection, analysis, and synthesis on abundant and wide-variety of data are required in order to make an informed decision. This course will have didactic and application components where students will be able to apply the skills knowledge learned.

II. Course Prerequisites

None

III. Course Goals and Objectives

At the end of this course, participants will be able to:

- Describe the challenges of decision making in time-sensitive situations;
- Identify methods for solving applied problems;
- Apply analytical techniques that enhance decision making by converting data to information;
- Apply methods for interpretation of analyzed data
• Explain the role of technology in the collection and application of data for data-based decision making;
• Communicate data effectively both in written and oral presentations
• Apply data driven decision making using practical examples from a wide spectrum of fields;

IV. Methods of Instruction and Work Expectations

This course combines lectures with readings, exercises, demonstrations, and hands on activities. Students will be expected to spend about 1-2 hours reading materials and completing assignments before each class. Grades will be assigned for class participation, assignments, and participation in an exercise during the last class.

Assignments. (60% of course grade). Three assignments will be assigned during the course. These assignments will be due during the class following the one in which they are handed out. The goal of these assignments is to help students apply knowledge gained in using data to make decisions. Assignments will be graded on a 20-point scale. Late work will penalized 10% per day it is late.

Exercise (25% of course grade). During the last day of class, students will participate in an exercise that allows for the application of coursework. Students will be asked to articulate their decisions and data usage in a documented manner that handed in for final grading.

Student participation (15% of course grade). Students will be able to obtain full credit for classroom participation by asking questions and participating in discussions and hands-on activities.

V. Course Text and Readings

Required online readings & websites listed on the syllabus can be accessed by clicking on the weblink, if provided. Journal articles and other readings are available as PDF documents on the Moodle site associated with this course. Or, you can access them through PubMed or the University Libraries (see instructions listed below). Students are responsible for downloading all course materials and completing pre-course assignments.

Access Course Moodle Site

• go to www.umn.edu click on the “myU” button
• login with your University ID and password
• scroll to your course and click on the Moodle site link.

Access PubMed

• Type in the PMID number listed on the course materials, click the go button
• This takes you to a citation page, click on the author name
• This takes you to the abstract page, click on the journal title button
• This takes you to the full journal article

Access University Libraries

• Go to the U of MN libraries website at http://www.lib.umn.edu/#articlesanddatabases
• Type in the journal title in the “Search For” box, click the go button
• This takes you to a list of possible journal titles, click on the title you want
• This takes you to a search form, fill in citation information, click the go button
• You will be prompted to login with your X.500 number and password
• This will take you to the journal and the abstract of the article
• Find on the page where it says Full Text or PDF (it is different for each journal), click on that and the full text will open.
• journal), click on that and the full text will open.
Required Text:
Prior to class, students are asked to read:
- Predictably Irrational, Revised and Expanded Edition: The Hidden Forces That Shape Our Decisions - Dan Ariely; Paperback. ISBN-10: 0061353248  E-version also available on Kindle, Nook and iBook

Readings:
During the course assigned readings will be made available in the course Moodle page. A sample of these readings are below. Additional readings will be provided no later than two weeks preceding the course start date.

VI. Course Outline/Weekly Schedule

<table>
<thead>
<tr>
<th>Pre-Course Assignment</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read required text</td>
<td>Introductions, course overview and student expectations</td>
<td>Weighing the facts: Data Assessment</td>
<td>Implications of your decision</td>
<td>Decision making in the absence of data</td>
</tr>
<tr>
<td></td>
<td>Decision Theory</td>
<td>Asking the right questions and understanding root cause</td>
<td>Politics and decision making</td>
<td>Packaging and delivering good data for decision making</td>
</tr>
<tr>
<td></td>
<td>Understanding the pace of crisis</td>
<td>Predictably irrational</td>
<td>Case Study</td>
<td>Exercise (Student participation)</td>
</tr>
<tr>
<td></td>
<td>Using good science to inform decisions: Data's role</td>
<td>Lying and uncovering lies with statistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Case Study</td>
<td>Case Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictably Irrational, Revised and Expanded Edition: The Hidden Forces That Shape Our Decisions - Dan Ariely; Paperback. Available at UMN Bookstore, Amazon or Barnes and Noble. E-version also available for Kindle, Nook and iBook</td>
<td></td>
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</tbody>
</table>
VII. Evaluation and Grading

Student evaluation will be based on the following:

- Class participation (15 points, 15% of grade)
- Homework assignments (60 points, 45% of grade)
- Exercise (25% of grade)

All coursework and assignments should be completed prior to start of each class session. Late work will be penalized 10% per day it is late.

This course is offered A/F or S/N

- **A/F letter grade will be determined by total effort as follows:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 90-100%</td>
<td>(4.0) Represents achievement that is outstanding relative to the level necessary to meet course requirements.</td>
</tr>
<tr>
<td>B = 80-90%</td>
<td>(3.0) Represents achievement that is significantly above the level necessary to meet course requirements.</td>
</tr>
<tr>
<td>C = 70-80%</td>
<td>(2.0) Represents achievement that meets the minimum course requirements in every respect.</td>
</tr>
<tr>
<td>D = 60-70%</td>
<td>(1.0) Achievement that is worthy of credit even though it fails to meet fully the course requirements.</td>
</tr>
<tr>
<td>F = below 60%</td>
<td>Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.</td>
</tr>
</tbody>
</table>

- **S/N option must complete all assignments to a C- level (70%):**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Achievement that is satisfactory which is equivalent to a C- or better (achievement is at the discretion of the instructor but may be no lower than a C-).</td>
</tr>
<tr>
<td>N</td>
<td>Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.</td>
</tr>
</tbody>
</table>

**PLEASE NOTE:**

If applicable, students may change grading options during the initial registration period or during the first two weeks of the term. The grading option for a Public Health Institute 4-day course may not be changed after the second day of class. Or, after the first day of class for a 2-day course.

**Incomplete Contracts**

A grade of incomplete “I” shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an “I” requires that a contract be initiated and completed by the student before the last day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. Extension for completion of the work will not exceed one year (or earlier if designated by the student’s college). For more information and to initiate an incomplete contract, students should go to: www.sph.umn.edu/grades.
Course Evaluation
Beginning in fall 2008 the School of Public Health will collect student course evaluations electronically using a software system called CoursEval. The system will send email notifications to students when they can access and complete the course evaluations. Students who complete the course evaluations promptly will be able to access their final grades just as soon as the faculty member renders the grade. All students will have access to their final grades two weeks after the last day of the semester regardless of whether they completed the course evaluation or not.

Student feedback on course content and faculty teaching skills are important means for improving our work. Please take the time to complete a course evaluation for each of the course for which you are registered.

VIII. Other Course Information and Policies

Grade Option Change (if applicable)
For full-semester courses, students may change their grad option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester) can be found at onestop.umn.edu. The grading option for Public Health Institute courses may not be changed after the second day of class for 4-day courses. Grading options for 2 day courses may not be changed after the first day class.

Course Withdrawal
Students should refer to the Refund and Drop/Add Deadlines for the particular term at onestop.umn.edu for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw. See section below for rules about Public Health Institute courses.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at sph-ssc@umn.edu for further information

WITHDRAWAL POLICY FOR PUBLIC HEALTH INSTITUTE COURSES
School of Public Health students may withdraw from a 4-day course through the second day of class without permission and no “W” will appear on the transcript. Students enrolled in 2-day courses may withdraw only through the first day of class. After these withdrawal deadlines pass students are required to do the following.

- The student must contact and notify their advisor and course instructor informing them of the decision to withdraw from the course.
- The student must send an e-mail to the SPH Student Services Center (SSC) at sph-ssc@umn.edu. The email must provide the student name, ID#, course number, section number, semester, and year with instructions to withdraw the student from the course, and acknowledgement that the instructor and advisor have been contacted.
- The advisor and instructor must email the SSC acknowledging the student is canceling the course. All parties must be notified of the student's intent.
- The SSC will complete the process by withdrawing the student from the course after receiving all emails (student, advisor, and instructor). A “W” will be placed and remain on the student transcript for the course.

Student Conduct, Scholastic Dishonesty and Sexual Harassment Policies
Students are responsible for knowing the University of Minnesota, Board of Regents' policy on Student Conduct and Sexual Harassment found at www.umn.edu/regents/polindex.html.
Students are responsible for maintaining scholastic honesty in their work at all times. Students engaged in scholastic dishonesty will be penalized, and offenses will be reported to the Office of Student Academic Integrity (OSAI, www.osai.umn.edu).

The University’s Student Conduct Code defines scholastic dishonesty as “plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.”

Plagiarism is an important element of this policy. It is defined as the presentation of another’s writing or ideas as your own. Serious, intentional plagiarism will result in a grade of “F” or “N” for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity: http://writing.umn.edu/tww/plagiarism/.

Students are urged to be careful that they properly attribute and cite others’ work in their own writing. For guidelines for correctly citing sources, go to http://tutorial.lib.umn.edu/ and click on “Citing Sources”.

In addition, original work is expected in this course. It is unacceptable to hand in assignments for this course for which you receive credit in another course unless by prior agreement with the instructor. Building on a line of work begun in another course or leading to a thesis, dissertation, or final project is acceptable.

If you have any questions, consult the instructor.

Disability Statement
It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Disability Services to have a confidential discussion of their individual needs for accommodations. Disability Services is located in Suite180 McNamara Alumni Center, 200 Oak Street. Staff can be reached by calling 612/626-1333 (voice or TTY).

Mental Health Services
As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student’s ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health website at http://www.mentalhealth.umn.edu