Course Objectives:
Introduce basic concepts of statistics methods to actuary students. Emphasize the understanding of the nature of randomness of real world problems, the formulation and analysis of real world problems using well known statistical methods to make meaningful decisions.

Textbook and Package:
2. MINITAB (http://www.minitab.com/products/minitab/student/)
3. Scientific calculator with statistical functions

Instructor: Mohammad F. Saleh  
Office: Bldg 5-rm 312  
Phone: 4410  
E-mail: mohfarah@kfupm.edu.sa

Office Hours: UTR 7:00 am – 7:50 am, UT 10:00 am – 10:50 am or by Appointment

Assessment
Assessment for this course will be based on quizzes, attendance, homework, lab, two major exams and a comprehensive final exam, as in the following:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes(^1), attendance, homework</td>
<td>10%</td>
</tr>
<tr>
<td>Lab</td>
<td>15%</td>
</tr>
</tbody>
</table>
| Exam 1: (Chapters 1, 2, 3 & 4)  
  Date: Oct. 13, 2016 from 6:00 PM to 7:30 PM | 15%    |
| Exam 2: (Chapters 5, 6, 7 & 8)  
  Date: Nov. 8, 2016 from 6:00 PM to 7:30 PM | 15%    |
| Exam 3: (Chapters 9,10, 12 & 13)  
  Date: Dec. 22, 2016 from 6:00 PM to 7:30 PM | 15%    |
| Final Exam (Comprehensive) | 30%    |

General Notes:
- Students are required to carry pens, note-taking equipment and a calculator with statistical functions to EVERY lecture, quizzes, and exams. It is strongly recommended to keep a binder for class-notes.
- Students are also expected to take class notes and organize their learning material in a binder for easy retrieval to help them in study and review for class, exams, etc.
  - It is to the student’s advantage to keep a binder for storing class notes, homework, and other graded assignments. Students who are organized will find it easier to find important materials when studying for exams.
- To successfully learn statistics, students need to solve problems and analyze data. The selected assigned problems are specifically designed to prepare you for class quizzes, lab, majors and final exam.
- Never round your intermediate results to problems when doing your calculations. This will cause you to lose calculation accuracy. Round only your final answers and you should not round less than 4 decimal places unless required otherwise.
- A formula sheet and statistical tables will be given for you in every exam, so you only need to bring with you pens, pencils, a sharpener, an eraser, and a calculator.
### Syllabus (Tentative)

<table>
<thead>
<tr>
<th>Week</th>
<th>Sections</th>
<th>Topics</th>
</tr>
</thead>
</table>
| Week 1  
Sep 18 – Sep 22 | 2.1-2.5 | Presenting data in tables and charts |
| Week 2  
Sep 25 – Sep 29 | 3.1-3.3 | Numerical descriptive measures |
| Week 3  
Oct 2 – Oct 6 | 3.4-3.6 | Cont. numerical descriptive measures |
| Week 4  
Oct 9 – Oct 13 | 4.1-4.2  
5.1 | Basic probability  
The probability distribution for a discrete random variables |
| Week 5  
Oct 16 – Oct 20 | 5.3.-5.5  
6.1-6.2 | The Binomial, Poisson and hyper geometric distributions  
The normal distribution |
| Week 6  
Oct 23 – Oct 27 | 6.3-6.6  
7.1-7.2 | Other distributions  
Type of sampling methods |
| Week 7  
Oct 30 – Nov 3 | 7.3-7.5 | Sampling distributions |
| Week 8  
Nov 6 – Nov 10 | 8.1-8.4 | Confidence interval estimation |
| **Mid-Term break 13-17 November** | | |
| Week 9  
Nov 20 – Nov 24 | 9.1-9.4 | One sample hypothesis testing |
| Week 10  
Nov 27 – Dec 1 | 10.1-10.3 | Two- sample hypothesis testing |
| Week 11  
Dec 4 – Dec 8 | 10.4  
12.1-12.3 | F test for difference between two variances  
Chi-Square tests |
| Week 12  
Dec 11 – Dec 15 | 13.1-13.5 | Simple linear regression |
| Week 13  
Dec 18 – Dec 22 | 13.7-13.8  
14.1-14.2 | Cont. Simple linear regression  
Introduction to multiple regression |
| Week 14  
Dec 25 – Dec 29 | 14.3-14.5  
16.1-16.3 | Cont. Introduction to multiple regression  
Time-series and index numbers |
| Week 15  
Jan 1 – Jan 5 | 16.4-16.8 | Cont. Time-series and index numbers |
| Week 16  
Jan 8 | | Normal Thursday classes & Last day of classes for the term |
Important Notes:

✓ We will explain the MINITAB commands in the class and the student free to do his homework any were he likes.
✓ In accordance with University rules, **NINE unexcused absences** will result in a grade of **DN**.
✓ **Attendance** on time is **very important**. Therefore, $\frac{1}{2}$ % will be deducted for **each lateness**. That is, **2 lateness equals to one absence**.
✓ Mostly, attendance will be checked within the **first five minutes** of the class. Entering the class after that, is considered as one late, and **every two times late equals to one absence**.

Homework Problems:

- Handout problems will be posted on the WebCT or in the instructor home page towards the end of each chapter.
- The **Homework** should be submitted in the first Saturday after completing the chapter **and no need for an announcement in advance**.
- No late homework will be accepted.