Dr. Farzin Madjidi

MBA 671.24

Statistical Methods and Research Design

Thursdays
6:00 P.M. – 10:00 P.M.

FALL 2003

PEPPERDINE UNIVERSITY PLAZA

SYLLABUS
Introduction:

This course, Statistical Methods and Research Design, deals with the practical applications of research methodology and statistical techniques as they relate to the management decision-making process. Material presented in the course will emphasize application of statistics to the business environment.

The theme in the business environment is renovation, continuous improvement, and renewal. Global competition and emergence of new technologies have added to the complexities of day-to-day decision-making. This complexity no longer allows the manager to simply rely on "hunches". Contemporary decision-making, quality management, and production of goods and services require a myriad of information and analysis. Therefore, skills in research design, data collection, statistical analysis, and interpreting and understanding statistical findings, have become essential to managers.

Unfortunately, Statistics is one of the more dreaded courses in any management curriculum. Our fear of mathematics and anxiety with number crunching often gets in the way of understanding statistics. Fortunately, Managerial Statistics is not as dependent on number crunching as traditional statistics courses. You can't do statistics without numbers, but as a practicing manager, you will have access to many tools that can assist you with numerical analysis.

Course Description

This course provides the students with the understanding and skills necessary to conduct business research programs and projects. Specific areas covered include descriptive and inferential statistics (data organization, measures of central tendency and dispersion, hypothesis testing and both parametric and non-parametric statistical testing) and research design (questionnaire design, sampling methods, concepts and measures of reliability and validity, and data collection and interpretation). During the course, the student is expected to propose, design, and execute a business management research project.
Course Objectives
Accordingly, this course will focus on:

- Understanding the basics of research methodology and their application to business decisions.

- Understanding the application of measurement and statistics in the production of goods and services and Global Competition.

- Application of statistical tools to process control and quality including the works of W. Edward Deming.

- Developing critical thinking skills required to using and understanding both descriptive and inferential statistics and in conducting research.

- Utilizing computer software to conduct statistical analysis, and interpreting statistical findings

- Enhancing your communication skills, both oral and verbal, in the context of technical communication.

- Identifying and discussing ethical issues regarding research design and application of statistics.

Course Contents:
The course is divided into three parts:

Part One, Research Methodology
In this part of the course, you will learn how to formulate research questions, prepare a research proposal, devise an appropriate design, identify variables and ways to measure them, select the proper statistical analysis, prepare a sampling plan, design a survey instrument and assess its reliability and the validity, and present your completed research. We will spend two or three weeks on these topics.

Part Two, Descriptive Statistics
This is the most number-crunching oriented portion of the course. You will learn about measuring variables, compute (both manually and with the aid of a computer), interpret, and present most statistical descriptors such as the mean, median, mode, range, standard deviation, variance, coefficient of variation, coefficient of determination, and the standard error of estimate. We will discuss presentation of data in graphic and tabular form and explore probability and decision theory. Application of these techniques to production of goods and services will be discussed and standards of measurement in the international arena will be discussed. We will spend four to five weeks on these topics.
Part Three, Inferential Statistics

In this part of the course, we will discuss hypothesis testing, Z tests, t tests, Chi Square analysis, Analysis of Variance (ANOVA), regression and correlation analysis, and forecasting. This part of the course requires only a modest level of number crunching. However, heavy emphasis will be placed on learning to use computer software to perform statistical analysis. We will spend four to five weeks on these topics. Finally, we will explore application of statistical tools to managing systems and processes including the works of W. Edward Deming.

Texts and Course Materials

The primary textbook used in the course is the latest edition of Essentials of Statistics for Business and Economics by Anderson, Sweeny and Williams. This text covers descriptive and inferential statistics and is primarily used for the second and third parts of the course.

You will not need a powerful calculator for this class. All you need is a simple calculator that can do simple addition, subtraction, division, and multiplication. If you have a calculator that can do means and standard deviation, so much the better.

Do not purchase any of the following until after the first night of class
You will need to own, or have access to a personal computer (IBM or compatible). IBM personal computers are abundantly available in our computer labs. You will need to select and learn to use one the following statistical software packages:

1. Number Cruncher Statistical Software For Windows (NCSS) by Heinz.
   There are two versions of this software available: Student version, and regular version. The student version is not as powerful as the regular version. If you intend to do your own statistical analysis in the future, this is the package for you. My lectures on inferential statistics are based on the output produced by this software. The cost for the student version is about $45.00 and our computer lab supports the software.

2. Statview for Windows or Mac – This software package is best suited for those students who are only familiar with the Mac operating system.

You may need some reference material on preparing a research paper and its format. Several books on the subject are available in our libraries. If you wish to buy one, I will be glad to recommend a few.

Grading

I do not grade on a curve. There are 1000 points possible:

<table>
<thead>
<tr>
<th>Homework</th>
<th>100 points</th>
</tr>
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<tbody>
<tr>
<td>Research Proposal</td>
<td>100 points</td>
</tr>
<tr>
<td>Midterm</td>
<td>250 points</td>
</tr>
<tr>
<td>Research Paper</td>
<td>200 points</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>350 points</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1000 points</strong></td>
</tr>
</tbody>
</table>
I use a university point scale:

94% (940) - 100% (1000)   A
90% (900) - 93.9% (939)   A-
87% (870) - 89.9% (899)   B+
83% (830) - 86.9% (869)   B
80% (800) - 82.9% (829)   B-
77% (770) - 79.9% (799)   C+
73% (730) - 76.9% (769)   C
70% (700) - 72.9% (729)   C-
67% (670) - 69.9% (699)   D+
63% (630) - 66.9% (669)   D
60% (600) - 62.9% (629)   D-
Below 60% (599 or less)   F

If you have any questions regarding your grades, please ask them during a break or at the end of the class.

Attendance
 Attendance the first night of class is mandatory. You will miss a great deal of work every time you miss class. If you cannot attend class, make sure to notify me at least 24 hours ahead of time.

Class Participation
 To facilitate class participation and reduce professional embarrassment, please use a two-sided nameplate during every class throughout the semester without being asked. Simply fold an 8 ½ by 11 piece of paper into three lengthwise sections, use one side as a base, and put your name on the other two sides with a broad-tipped black marker.

Course Procedures
a. I require that you form a study group during the first class meeting. You should meet with your study groups regularly (I recommend at least once a week) to compare homework and review class notes. The in-class research exercise and your term paper are both group assignments that you will prepare with your study group. Groups of four to five are optimal for encouraging ample feedback without restricting airtime.

b. Feel free at any time to raise questions concerning any relevant material. Occasionally, I will ask you to reserve your question for a later time (minutes or weeks) when it will be more propitious; i.e., easier to answer. When in doubt, ask your question and let me decide whether it is relevant or timely. Remember that the only dumb question is the one that is not asked.
c. The nature of the Pepperdine program makes it difficult for me to have regular office hours. I may be able to talk to you before class, and always after class. I can meet with you at a mutually convenient time and place if you make an appointment with me.

d. Due to the time and duration of class, food and beverages are permitted.

e. To keep you awake in the later parts of the evening and to maintain a steady level of energy in the class, I will keep the temperature of the room on the cooler side. If that makes you uncomfortable, please bring a sweater or a jacket with you.

**Homework**

There are 10 points possible for each of the approximately ten assignments.

Begin each homework assignment by attempting all of it yourself. Then meet with your study group and compare results. Give special attention to those areas where one or more member's homework is incomplete or confused, being very mindful of the need to contribute any approaches that you know of through readings or experience.

Please type all work on 8½ by 11 papers. Handwritten work will receive a 10% penalty. Math problems need not be typed. Where verbal answers are called for, do not call me with an oral answer. "Verbal" means "with words" as opposed to using numbers or pictographs.

To facilitate grading, please place your Name, Day of the week class is held, and the assignment Number in the upper left hand corner of the first page of answers (do not use a cover page); be sure to number all your answers. To avoid losing pages, staple the pages in the upper left corner at a 45-degree angle.

All assignments are to be submitted (placed on my desk) before the beginning of the lecture. I accept homework that is turned in one week late. I will assess a 20% penalty for late homework that I receive by the Saturday immediately after it is due, and 50% if I receive it on or before the next session. Homework turned in more than one week late WILL NOT be accepted. You may not resubmit a homework assignment. I will not accept any material faxed to me. If you need to send me your homework, please mail to address on the first page.

**Research Proposal**

You are required to turn in a research proposal. This is a study group project and is worth 100 points. This is a very detailed proposal will be the basis for your term paper. I will discuss the details of this exercise in class.
Research Paper/Presentation

After I have approved your research proposal, you will develop it into a research paper. This is a group project and is worth 200 points; however, you will receive an individual score based on your contribution. Every member of a study group will be required to rank the contributions of each group member. Individual scores for this project will be determined based on this ranking. The paper should be approximately 40 to 50 pages long. I will give you more detail as you progress through the course. You are required to turn in the data you collect. A presentation of your paper is also required. I strongly recommend that you use Microsoft PowerPoint or equivalent software for your presentation.

Examinations

Both the midterm and the final exam are closed book and closed-notes. We will decide together before each exam what material you may use during the exam.

Exam format is a combination of problems and cases. The questions will be patterned after homework assignments.

You may use a calculator. I don't allow scratch paper. Use the back of the page if you need more room to present your answer and call attention to it with a note.

I do not give make-up exams. You MUST take the final exam to receive a grade in the course. If you miss a midterm, or the in-class research exercise, I will prorate your score on the final exam to compensate.

The midterm and the final exams ARE NOT collaborative efforts. They represent your individual work. Please keep your eyes on your own paper, and your answers covered. If you need a hint or clarification during the exam, ask me. Any collaboration on the exam will be constituted as cheating. Any student(s) caught cheating will be excused from the course and will automatically receive an F grade. As a courtesy to your fellow students attempting to concentrate, please do NOT leave your seat during the last five minutes of an exam.

Conduct

"The University expects from all of its students and employees the highest standard of moral and ethical behavior in harmony with its Christian philosophy and purposes. Engaging in or promoting conduct or lifestyles inconsistent with traditional Christian values is not acceptable.

The following regulations apply to any person, graduate or undergraduate, who is enrolled as a Pepperdine University student. These rules are not to be interpreted as all-inclusive as to situations in which discipline will be invoked. They are illustrative, and the University reserves the right to take disciplinary action in appropriate circumstances not set out in this catalog. It is understood that each student who enrolls at Pepperdine University will assume the responsibilities involved by adhering to the regulations of the University. Students are expected to respect order, morality, personal honor, and the rights and property of others at all times. Examples of
improper conduct for which students are subject to discipline are as follows:

- Dishonesty in any form, including plagiarism, illegal copying of software, and knowingly furnishing false information to the University.
- Forgery, alteration, or misuse of University documents, records, or identification.
- Failure to comply with written or verbal directives of duly authorized University officials who are acting in the performance of assigned duties.
- Interference with the academic or administrative process of the University or any of the approved activities.
- Otherwise unprotected behavior that disrupts the classroom environment.
- Theft or damage to property.
- Violation of civil or criminal codes of local, state, or federal governments.
- Unauthorized use of or entry into University facilities.
- Violation of any stated policies or regulations governing student relationships to the University.

Disciplinary action may involve, but is not limited to, one or a combination of the alternatives listed below:

- **Dismissal** – separation of the student from the University on a permanent basis.
- **Suspension** – separation of the student from the University for a specified length of time.
- **Probation** – status of the student indicating that the relationship with the University is tenuous and that the student’s records will be reviewed periodically to determine suitability to remain enrolled. Specific limitations to and restrictions of the student’s privileges may accompany probation.” GSBM Catalog, pgs. 221-222.

**Policy on Disabilities**

**Assistance for Students with Disabilities**

“Students with disabilities, whether mental or physical, are encouraged to contact the Equal Opportunity Office before the academic year begins or soon after classes are in session. This office will assist each student by providing general information about campus facilities and available resources. The office will assist in providing reasonable accommodation to students with disabilities pursuant to applicable laws. Inquiries should be directed to equal opportunity officer, (310) 506-6500. (Students who wish to file a formal grievance should refer to the “Nondiscrimination Policy,” which is listed in the “Legal Notices” section of this catalog.)” GSBM Catalog, pg. 33.
Pepperdine University Affirms

THAT GOD IS

That God is revealed uniquely in Christ

That the educational process may not, with impunity, be divorced from the divine process

That the student, as a person of infinite dignity, is the hearth of the educational enterprise

That the quality of student life is a valid concern of the University

That truth, having nothing to fear from investigation, should be pursued relentlessly in every discipline

The spiritual commitment, tolerating no excuse from mediocrity, demands the highest standard of academic excellence

That freedom, whether spiritual, intellectual, or economic, is indivisible

That knowledge calls, ultimately, for a life of service
### Readings and Assignments
(All readings are assigned from STATISTICS for Business and Economics)

<table>
<thead>
<tr>
<th>Seminar</th>
<th>Reading</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 25</td>
<td>Handouts</td>
<td>Introduction, problem formulation, research design</td>
</tr>
<tr>
<td>Sept. 4</td>
<td>Handouts</td>
<td>Measurement and data collection</td>
</tr>
<tr>
<td>Sept. 11</td>
<td>Ch. 1 – 2</td>
<td>Summarizing Data/Frequency Distributions and Graphic Presentation</td>
</tr>
</tbody>
</table>
| Sept. 18  | Ch. 2 – 3  | Describing Data • Measures of Central Tendency/Dispersion and Skewness  
Research Paper Topic/Plan Due |
| Sept. 25  | Ch. 4 – 5  | Basic Probability theory, Discrete Probability Distribution |
| Oct. 2    | Ch. 5 – 6  | Normal Probability Distribution  
Sampling Methods • Sampling Distribution |
| Oct. 9    | Ch. 7 – 8  | Fundamentals of Hypothesis Testing/ – Estimation         |
| Oct. 16   | **Midterm Exam** |                                                        |
| Oct. 23   | Ch. 9 – 10 | Hypothesis Testing – Single populations                 |
| Oct. 30   | Ch. 9 – 10 | Hypothesis Testing – Two populations                    |
| Nov. 6    | Ch. 10/Handout | Hypothesis Testing • ANOVA and other c-sample tests     |
| Nov. 13   | Ch. 11/Handout | Hypothesis Testing • Chi-Squared Analysis       |
| Nov. 20   | Ch. 12-13/Handout | Correlation Analysis/Linear Regression Analysis/Multiple Regression |
| Nov. 27   |            | **Thanksgiving Holiday**                               |
| Dec. 4    | **Final Exam** |                                                        |
MBA 671
Assignment 1

You are the Vice President of Human Resources at a medium size manufacturing company. As a result of recent cuts in defense spending, your revenues have dropped over the past three quarters. To reduce costs, you have been instructed to identify fringe benefits that can be cut and submit a proposal to the CEO.

You are considering one of the following four options: cutting down vacation times by 10% a year, decreasing health benefits by 15%, reducing the work week by 4 hours, and reducing tuition reimbursement by 50%. You are also open to a plan that would allow different groups selecting one particular option. That is, you may allow single employees to ask for decreased health benefits, older employees to fall in the tuition reimbursement reduction program, etc. However, you have no idea what combinations to propose.

You have decided to conduct a survey and find out which groups are willing to lose what benefits, if they had to pick only one. Your questionnaire asks for the respondent's sex, ethnicity, position with the company (blue Collar, administrative, management, or other), annual income, education, age, and marital status. Also, the respondents are given a list of the four choices listed above and asked to select the one they could most afford to lose. The question reads:

Of the four options considered for cutback, which could you most afford to lose (choose only one)?

- Cutting down vacation times by 10% a year
- Decreasing health benefits by 15%
- Eliminating overtime pay
- Reducing tuition reimbursement by 50%

You will select a sample 500 employees by going to the company's cafeteria and passing out questionnaires at the door and asking to get them back the next day. You would do this on 3 consecutive Tuesdays.

a. What is the problem statement (2 pts)?
b. What are the objectives of the study (2 pts)?
c. State five research questions (5 pts)
d. Identify the variables and their level of measurements (Attr, or Num) (3 pts)
e. For each research question, identify the dependent and the independent variables. (3 pts)
f. What statistical technique would you apply to each research question? (3 pts)
g. Is there anything you could improve on in this design? How? (2 pts)
Group Member Evaluation

List the names of the members in your study group, including you, in the space provided below. Give yourself a 5. Grade the remaining members of your group based on their relative contribution to the paper. For example, if one member has done as much as, or more work than you, give that member a 5. If s/he has done less work than you have, give him/her a lower score such as a 4 or a 3.

<table>
<thead>
<tr>
<th>Individual Team Member</th>
<th>The same contribution or more</th>
<th>Virtually no contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 4 3 2 1</td>
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Your individual grade for the group assignment will be calculated as follows:

Suppose the group receives a score of 93 on the paper. Also suppose that John Doe, a group member, has received three 5s, one 4, and one 3 on this Group Member Evaluation Form. John has therefore received a total of 22 out of 25 possible points, or 88%. John will receive 88% of the group’s score of 93, or an individual score of 82 points (0.88 x 93 = 81.84, rounded up to 82). John’s individual score on the assignment is therefore 82 points.
Case Study

You are the president of a medium size marketing research and management consulting firm. ZYX INC. has hired you for a new management-consulting project. After interviewing the top management at ZYX, you have made the following notes:

- ZYX Inc. is a publicly owned electronics-manufacturing firm with over 1,500 employees. The company was started in 1965 by its current president and CEO Bob Frakar. ZYX went public in 1981 and its stock trades on the NASDAQ.

- For the past 35 years, ZYX's offices manufacturing plant was located in Thousand Oaks. Last year, the company announced that it will move its entire operations to Irvine, where it has been able to secure a lease for a larger facility that can accommodate all its future expansion plans more cost effectively than its present location. The company moved its operations to Irvine six months ago.

- According to Pat Reyes, VP of Human Resources, the news of the move was poorly received by the employees and her office received over 300 complaints the day after the move was announced.

- A recent management audit of the company revealed that absenteeism and the number of sick leaves has tripled since the company moved to Irvine. The number one stated cause of sick leaves was stress related ailments.

- According to Don Rosenfeld, head of the personnel department, turnover rate at the company has doubled in the past 4 months. Since most employees at ZYX have been there for a long time, Don complains that it will be very difficult to replace those employees and train the new ones. This could have an adverse affect on the company's bottom line.

- Paul Richardson, VP of marketing has told you that he had personally spoken to a number of employees who had left his department and had been told that the main reason behind their departure was poor job satisfaction.

Bob Frakar has told you that he wants your firm to find out what is going on in his company and what recommendations you will have for him. He has also told you that you should conduct your own investigations without anybody interfering with your efforts. Finally, he has said that although he does not want to stick his nose into your business, you really should look into his employee’s job satisfaction and especially stress levels since he does not want any frivolous lawsuits.

Accordingly, you have developed a questionnaire that measures one's stress level and job satisfaction. You have also asked about the respondents’ demographic characteristics (i.e., occupation, income, education, commute time, and gender) as well as their view with respect to the company's recent move. You intend to do a complete analysis of this data (use the data diskette provided).

You have designed a five-phase process to complete this task:
Phase I:
In phase I, you will develop the following:

a. The problem statement
b. Statement of purpose/objectives
c. Three research questions (at least one must examine a relationship between two variables)
d. Identify all variables you will be measuring in your study and state their level of measurement (attribute, or numeric)
e. For the three research questions stated, identify the dependent and independent variables (if appropriate) and state the statistical technique you will use in your analysis.

Phase II:
In phase II you will conduct descriptive analysis of your data including:

a. Summary measures of all variables
b. Appropriate charts and graphs
c. A brief statement of your findings

Phase III:
In this phase you will investigate the relationship between a respondent's view of the recent move and his/her demographic characteristics:

Phase IV:
In this phase you will investigate the relationship between job satisfaction and demographic characteristics as well as views with regard to the company's recent move:

a. State the appropriate Research questions and hypothesis
b. Perform the appropriate statistical analysis
c. A brief statement of your findings

Phase V:
In this final phase, you will investigate the relationship between job satisfaction and stress:

a. Describe the relationship between job satisfaction and stress
b. Can you mathematically predict a person's stress level based on their job satisfaction? Give an illustration
c. How reliable is this prediction?
Stress & Job Satisfaction Survey

Instructions: Circle the appropriate answer for each question below. Only circle one answer.

Your occupation/position:
- Managerial
- Professional/Technical
- Blue Collar
- Administrative
- Other

What is your annual individual income level ($ 000):
- Less than $25,000
- $25,000-$35,000
- $36,000-$45,000
- $46,000-$55,000
- $56,000-$65,000
- Over $65,000

Your highest level of education:
- High School
- AA/Some College
- Bachelor's Degree
- Master's Degree
- Doctorate Degree

How long is your two-way commute:
- Less than 30 Minutes
- 30 Minutes to 1 Hour
- 1.1 Hours to 2 Hours
- 2.1 Hours to 3 Hours
- Over 3 hrs

You are:
- MALE
- FEMALE

It was in the best long-term Interest of the company to move to its new location
- Strongly Agree
- Agree
- Don't Know
- Disagree
- Strongly Disagree
How satisfied are you with your job? Answer the next 18 questions by circling the number that best applies to you.
(5) Almost Always, (4) Often, (3) Sometimes, (2) Rarely, (1) Never

My job is like a hobby to me. 5 4 3 2 1
My job is usually interesting enough to keep me from getting bored. 5 4 3 2 1
It seems that my friends are more interested in their jobs. 5 4 3 2 1
I consider my job rather unpleasant. 5 4 3 2 1
I enjoy my work more than my leisure time. 5 4 3 2 1
I am often bored with my job. 5 4 3 2 1
I feel fairly well-satisfied with my present job. 5 4 3 2 1
Most of the time I have to force myself to go to work. 5 4 3 2 1
I am satisfied with my job for the time being. 5 4 3 2 1
I feel that my job is no more interesting than others I could get. 5 4 3 2 1
I definitely dislike my work. 5 4 3 2 1
I feel that I am happier in my work than most other people. 5 4 3 2 1
Most days I am enthusiastic about my work. 5 4 3 2 1
Each day of work seems like it will never end. 5 4 3 2 1
I like my job better than the average worker does. 5 4 3 2 1
My job is pretty interesting. 5 4 3 2 1
I find real enjoyment in my work. 5 4 3 2 1
I am disappointed that I ever took this job. 5 4 3 2 1


How stressful has your life been in the past six months? The following items are believed to cause stress. Please read each item carefully and place an "X" in front of every item that relates to you.
The following events have occurred in my life in the past three months:

1. Death of spouse
2. Divorce
3. Marital separation
4. Jail term
5. Death of close family member
6. Personal injury of illness
7. Marriage
8. Fired at work
9. Marital reconciliation
10. Retirement
11. Change in health of family member
12. Pregnancy
13. Sex difficulties
14. Gain of new family member
15. Business readjustment
16. Change in financial state
17. Death of a close friend
18. Change to different line of work
19. Change in number of arguments with spouse
20. Mortgage over $100,000.00
21. Foreclosure of mortgage
22. Change in responsibilities
23. Son or daughter leaving home
24. Trouble with in-laws
25. Outstanding personal achievement
26. Spouse begin or stop work
27. Begin or end school
28. Change in living conditions
29. Revision of personal habits
30. Trouble with boss
31. Change in work hours or conditions
32. Change in residence
33. Change in schools
34. Change in recreation
35. Change in church activities
36. Change in social activities
37. Mortgage or loan less than $100,000.00
38. Change in sleeping habits
39. Change in number of family get-togethers
40. Change in eating habits
41. Vacation
42. Christmas
43. Minor violation of the law

To score the Job Satisfaction instrument, use the following steps:

**Step 1:** Items 1, 2, 5, 7, 9, 12, 13, 15, 16, and 17 are positively phrased. That is, an "Almost Always" response indicates high job satisfaction, and a "Never" response indicates low job satisfaction. For these items, simply add the responses marked.

**Step 2:** Items 3, 4, 6, 8, 10, 11, 14, and 18, are negatively phrased. That is, an "Almost Always" response to these questions indicate low job satisfaction, while a "Never" score indicates high job satisfaction. Accordingly, to be consistent with the other questions on the survey, the scores of these items must be reversed. Therefore, if 5 is circled, replace 5 with a one; if 4 is circled, replace the 4 with a 2 and vice versa. If a 3 is circled, make no changes.

**Step 3:** After reversing the responses, add the reversed scores to the total obtained in step 1 above to obtain a total job satisfaction score.

To score the Life Stress instrument:

To score the Life Stress survey, assign 5 points to any item marked among the first 15 items. Assign 3 points to items marked among questions 16 through 30. Assign 1 point to any remaining marked question.
Chapter 1:

Abstract:
An outline of the entire paper. Absolutely less than two pages. Only (and must) highlights the key areas of the paper.

Introduction:
Use this section to introduce your topic. Begin the process of narrowing down the focus of your paper. State the key facts, issues, players, and other elements involved. Set all your facts up such that they lead right into your problem statement.

The Problem:
A problem in this context is defined as "a deviation from a norm." State the problem that is the broadest view of the deviation. This is a short, precise statement that offers a problem, not a solution.

The Purpose:
Many aspects of your problem can be studied. You will only attempt to study a few of these aspects. Those aspects of your problem that you choose to study are the purposes of your study.

Research Questions:
For every purpose in your study, there may be one or more research questions. Research questions ask specific questions that will be analyzed/researched in the study. They are always presented as questions! These are NOT the questions that will appear on your questionnaire.

Significance of the Study:
Here, you must convince the reader of the value your study and state what practical uses your findings will have and why they are important. If I am approving your study, I am most interested in this section.

Limitation/Assumptions of the Study:
Discuss consideration you should have made in your study and for various reasons you didn't. This includes time limitations, assumptions, etc.

Example

Abstract:
The landscape of business in the United States has significantly changed in the past few years. According the Wall Street Journal (May 2002), the incredible growth and potential of the dot-com business has come to a sudden stop. An interesting phenomenon during this halt has been the career changes that executives of these Dot-Com firms have experienced. Many have lost their jobs and have been unable to find new comparable employment. Yet, there is little known about the makeup of the executives who remain comparably unemployed and how they differ in that makeup from their colleagues who have not suffered a similar fate.

The Problem:

The Purpose:

Research Questions:

Significance of the Study:

Limitation/Assumptions of the Study:
Chapter 2:

Introduction:
Introduce the Chapter, not the study. Tell the reader what the chapter is going to cover and how is the chapter organized.

Review of literature:
The purpose of this section is to present balanced arguments regarding your research questions. You will review articles and perhaps books on the subject that either supports, or argue against your research questions. You will appropriately cite your sources using a standard style (e.g. APA). I require that you consult at least 20 sources.

Summary of Findings:
Summarize the key findings in your literature review.
Chapter 3:

Introduction:
Introduce the Chapter. Tell the reader what the chapter covers and how is it organized.

Nature of the Study:
Tell the reader whether your study is a Descriptive study (and why), or an Inferential Study (and why). Keep in mind it is quite common for a study to be both.

Hypothesis:
If you have research questions that lend themselves to inferential analysis, you need to setup a Null and an Alternate hypothesis for them. Hypotheses prepare the research question for statistical analysis.

AU/Sample/Population:
State who/what your Analysis Unit is and define your sample and population.

Sampling Plan:
Describe how intend to select those who will respond to your survey. Give all the detail.

Variables Measured:
To analyze every research question, you need to measure variables that are contained in them. Identify these variables and state their level of measurement.

Operational Definitions:
State what you mean by each variable so that everyone will interpret the variable the same way.

Data Collection Plan:
State how intend to get each questionnaire to each respondent. Give all the details such as: "We will go to the xxx High School on every other Wednesday and....."

Instrument:
Attach a copy of your actual questionnaire/data collection instrument you intend to use.
Chapter 3 (Contd.):

Validity of the Instrument:
In your questionnaire/data collection instrument, under every question, explain why that question is included and how it relates to your research questions.

Preparation of Data:
State here how you anticipate coding the data, grouping it, or altering it in any way before analyzing it.

Statistical Techniques:
For every research question, state what statistical technique you would employ. Be very specific with both your descriptive and inferential techniques.

Grammar and Format

Grammar and Sentence Structure:
Your paper will be evaluated for grammar and sentence structure. You are held to the highest standards of quality here.

Form and Style:
You are required to follow one of the 4 major forms and style guide. If you have never used one, I recommend APA.
Chapter 4, Findings:

a. Introduction
Introduce the Chapter and the topics that will be discussed in the Chapter.

b. Data collection
How did your sampling and data collection procedure turn out? How many surveys did you collect, what was the % responses?

c. Analysis of data, research question by research question
For every research question, state your analysis and findings. Use appropriate tables and summary charts.

d. Summary of findings
Summarize your key findings of the study, both descriptive and inferential.

Chapter 5, Conclusions and Recommendations

a. Introduction
Introduce the Chapter and the topics that will be discussed in the Chapter.

b. Conclusions
State the conclusions you draw based on the totality of your findings. This conclusion must address the main problem statement of your study. Draw your conclusion based on your findings in Chapter 4. Avoid repeating what you have already said in Chapter 4.

c. Recommendations
What recommendations do you make based on your conclusions. This could even be an implementation plan. The key is to base your recommendations on your conclusions drawn.

d. Recommendations for future research
What would you have done differently? What are the factors future researchers should consider when conducting similar analysis? What other areas regarding this topic could be investigated?
Presentation Outline

1. Introduction

2. Problem Statement

3. Research Questions

4. Importance of the Study

5. Summary of Findings - Literature Search

6. Data Collection Procedures (Sampling Method/Data Collection)

7. Summary of Findings (for Research Questions)

8. Conclusions/Recommendations

9. Experiences/Things you would have done differently