This course syllabus is intended as a set of guidelines for Statistics. Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Instructor Information:

Instructor’s Name: Gary Dickson  
Email Address: gdickson@deccd.edu  
Office Phone Number: 972-273-3500 (leave message)  
Office Location: P338  
Office Hours: by appointment

Course Information

Course title: Introductory Statistics  
Course number: Math 2342  
Section number: 73252  
Credit hours: Three (3)  
Class meeting time: Saturdays 8:30 am – 11:40 am  
Course description: Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.
Course prerequisites: This is an entry-level course and is open to any student meeting TSI standards of college readiness (student must have appropriate assessment test score or have successfully completed DMAT 0310).

Required Textbooks and Materials

The Textbook for this course is: A Brief Version Elementry Statistics, 7th Edition, by Bluman
(Formulas and tables will be provided by each test. The Data CD is optional). You may use one of the followings

1) Web Access to ConnectMath: McGraw-Hill's ConnectMath is a complete online homework system for mathematics and statistics with a powerful student assessment diagnostic tool. You can purchase it from the NLC bookstore (www.efollett.com). This software includes the textbook. Therefore if you are ok using an ebook there is no need to buy the textbook.
CONNECT PLUS: ConnectMath Access Code (standalone) ISBN 9781259401237 (includes eBook)

OR

2) Bluman Brief 7e (Loose-leaf version) w/ Connect Math ISBN-9781259441080 (includes eBook)

Optional Materials
1) Student’s Solution Manual

Course Objectives

The objective of the mathematics component of the core curriculum is to develop a quantitatively literate college graduate. Every college graduate should be able to apply basic mathematical tools in the solution of real-world problems. See appendix B for more details

Specific Course Learning Outcomes
Upon successful completion of this course, students will:

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics. (Empirical and Quantitative)
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems. (Communication)
8. Perform hypothesis testing using statistical methods (Critical Thinking)

**Means of Assessment of Course Learning Outcomes**
Course Learning Outcomes will be assessed by a variety of means.
1. Online and proctored written exams will be given to assess each Learning Outcome.
2. Homework will be assigned and assessed by using the software component.
3. Observation of student’s collaboration will be used to assess all outcomes.
4. Students will complete projects and learning activities that will address specific course learning outcomes.

**Course Outline**
Please see Appendix B attached to this syllabus for a complete and detailed course outline

**Assessment & Evaluation Procedures of Course Learning Outcomes**
The learning outcomes will be assessed through assignments and three proctored tests. 
The final grade will be based on the following:
- Test 1: 20%
- Test 2: 20%
- Test 3: 20%
- Quizzes: 20%
- Assignments: 101%
- Attendance: 10%
- Total: 100%

**Grading Scale**
Your course grade will be determined by the final grade average based on the following:
A = 90 – 100 B = 80 – 89 C = 70 – 79 D = 65 – 69 F = 0 – 64

**Discipline/ Course/ Department/Policies**

**ABSENCES/TARDIES:**
Absences are generally detrimental to one’s performance in a course. You are expected to attend regularly in order that you may increase your chances for a successful semester
in algebra. If you must miss a class, it is your responsibility to make up any missed work.

**Attendance is necessary to pass this class.** Roll will be taken every class period. A grade for attendance will count as 10% of your final course grade. The final attendance grade will be determined by the number of unexcused absences, using the following table.

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<tr>
<th>Absences</th>
<th>0 - 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11-14</th>
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<tr>
<td>Grade</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>0</td>
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</tbody>
</table>

Tardiness is strongly discouraged as it is disruptive to the class and thus the students who are on time. It is better to come late than not at all, however, as long as it is not a habit with one particular individual. If you anticipate a particular problem, please discuss it with me before or after class. Three tardies is the same as one absence.

**ASSIGNMENTS:** Class work completed outside of regular class time is an important learning tool in a course. The classroom environment is more favorable for learning when the student has studied the material in the text, has tried to work the problems, and uses the classroom to get supplementary information and assistance that is not available in the text. Each homework assignment is anticipated to require approximately 2 hours in addition to 3 hour of content review for a total of 5 hours.

**TESTING:** Three tests – each worth 100 points – will be given during the semester. These tests will be given during regular class in the classroom, though a student may take a test in the North Lake Testing Center, A425, upon approval of the instructor.

Six short quizzes - each worth 25 points – will be given. The quizzes will not be announced in advance and cannot be taken at a later time. Students must be present at the time the quiz is passed out to students in order to take the quiz. Each quiz will cover concepts discussed since the last quiz. The sum of the four (4) best quiz grades will become part of the final course grade.

Calculators may be used on all tests.

**RETESTS:** Students who score lower than 70 on either of the first two tests may request a retest. A higher grade on the retest will replace the original grade up to a maximum grade of 70. Retests must be taken in the North Lake Testing Center, A425.

**NLC TEST CENTER INFORMATION:**
See appendix C
NLC MATH LAB HOURS: Located in C-211. Students should verify the times shown.
Mon - Thurs. 8:00 a.m. - 9:00 p.m.  Saturday 9:00 a.m. - 2:00 p.m.
Friday 9:00 a.m. - 2:00 p.m.  Closed Sunday

INSTITUTIONAL POLICIES

ACADEMIC DISHONESTY
The Student Code of Conduct prohibits academic dishonesty and prescribes penalties for violations. According to this code, which is printed in the college catalog, "academic dishonesty", includes (but is not limited to) cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion".
Academic dishonesty may result in the following sanctions, including, but not limited to:
1. A grade of zero or a lowered grade on the assignment or course.
2. A reprimand.
3. Suspension from the college.

MATH DEPARTMENT POLICY:
1. A grade of zero will be given on the assignment for the first occurrence of dishonesty. Retests or makeups are not allowed on the assignment.
2. A grade of F will be given for the course after a second occurrence of dishonesty.
3. Other disciplinary action can be taken as determined by the college.

NOTIFICATION OF ABSENCE DUE TO RELIGIOUS HOLY DAY(S)
Students who will be absent from class for the observance of a religious holiday must notify the instructor in advance. Please refer to the Student Obligations section of the college catalog for more explanation. You are required to complete any assignments or take any examinations missed as a result of the absence within the time frame specified by your instructor.

REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT
In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, any student who feels that he or she may need any special assistance or accommodation because of an impairment or disabling condition should contact the ADA/ACCESS Office at (972) 273-3165 or visit Room A-430 at North Lake College. It is the policy of NLC to provide reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ADA/ACCESS Office.

DROP POLICY
If you are unable to complete this course, you must officially withdraw by, April 16, 2015.
Withdrawing is a formal procedure which you must initiate; your instructor cannot do it for you.
All Dallas County Community Colleges charge a higher tuition rate to students registering the third time for a course. This rule applies to the majority of credit and Continuing Education / Workforce Training courses. Developmental Studies and some other courses are not charged a higher tuition rate. Third attempts include courses taken at any DCCCD college since the fall 2002 semester. For further information, go online to: http://www.DCCCD.edu/thirdcourseattempt.
**FINANCIAL AID STATEMENT**

Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate are also subject to this policy.

To apply for financial aid in the DCCCD, students must complete FAFSA (Free Application for Federal Student Aid) on the web at [http://www.fafsa.ed.gov](http://www.fafsa.ed.gov).

**COUNSELING SERVICES**

Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no charge. With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills. To make an appointment call 972-273-3333 or visit A 430.

**STOP BEFORE YOU DROP**

For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: [https://www1.dcccd.edu/coursedrops](https://www1.dcccd.edu/coursedrops)

**WRITING CENTER (A309)**

The Writing Center supports and supplements classroom instruction by providing focused, individualized writing tutoring in response to the specific needs of the student. The tutors are skilled writing specialists who can help students clarify writing tasks, understand instructors’ requirements, develop and organize papers, explore revision options, detect grammar and punctuation errors, and properly use and document sources. Rather than merely editing or "fixing" your papers, the Writing Center staff focuses on helping you develop and improve your writing skills. Be sure to schedule an appointment in advance so that a tutor will be available to work with you. Walk-ins are welcome, but you may have to wait or come back at a later time.

You can also access the North Lake College Online Writing Lab through eCampus. Once you log into eCampus, click on the Community Tab at the top. Type in “Owl” in the search field to locate. Follow the instructions on the site to enroll in and receive services from the OWL. The Writing Center is housed in the Academic Skills Center, A-332. Hours are: Monday through Thursday 8:00 a.m. to 8:00 p.m., and Friday 8:00 a.m. to 2:00 p.m. Saturday hours are 9:00 a.m. to 1:00 p.m. during fall and spring semesters. Hours will vary during other sessions. Appointments may be scheduled by visiting the Writing Center, calling 972-273-3089, or emailing nlcwritingcenter@dcccd.edu.

**General Education Outcomes**
North Lake College has comprehensive general education outcomes and assures its graduates are able to meet those outcomes. Our graduates will acquire or improve skills that enable them to be productive citizens, lifelong learners, and effective employees. These skills include oral and written communication, critical/logical thinking, information literacy and technological competence, ethical and civic values, cultural diversity and global awareness, and workforce and interpersonal skills.

**Outcome 1: Communication Skills**
**Outcome 2: Critical Thinking Skills**
**Outcome 3: Information Literacy and Technological Competency**
**Outcome 4: Ethical and Civic Values**
**Outcome 5: Cultural Diversity and Global Awareness**
**Outcome 6: Workforce and Interpersonal Skills**

**Exemplary Educational Objectives**

All core mathematic courses must include a majority (greater than or equal to four) of the seven Exemplary Educational Objectives (EEO) listed below.

1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.
2. To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.
3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results.
5. To interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them.
6. To recognize the limitations of mathematical and statistical models.
7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understanding its connections to other disciplines.

[http://www.dcccd.edu/Employees/Departments/EA/Academic+Programs/Core+Curriculum/Faculty+Resources/](http://www.dcccd.edu/Employees/Departments/EA/Academic+Programs/Core+Curriculum/Faculty+Resources/)

**Core Curriculum Intellectual Competencies**
This course reinforces two of the 6 Core Curriculum Intellectual Competencies defined by the Texas Higher Education Coordinating Board. The CCIC identified by the DCCCD which is reinforced by statistics are:

1. Critical Thinking Skills: Critical thinking embraces methods of applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies.

Communication Skills:

Continue to next page
# Learning Activities, Outcomes, and Assessment

## 1. Learning Activity: Counting and probability calculations

**a. Learning Outcomes:** Students will demonstrate a basic understanding of probability and counting rules such as sample space, law of large numbers, permutations, combinations and their application to the statistical process.

**b. Assessment:** The concept will be assessed based on the completion of assignments for Chapter 4 and 5 and unit test two

**c. EEO’s and CCIC’s:**
- EEO’s 1, 2, 4, and 5:  CCIC: Critical thinking

## 2. Learning Activity: Finding the sample size

**a. Learning Outcomes:** The students will accurately calculate the minimum sample size needed for an interval estimate of the population mean

**b. Assessment:** The concept will be assessed based on the completion of assignments for Chapter 7 and unit test three

**c. EEOs:**
- 1, 4, 7
- CCIC: 5 Gen Ed 1.1, 2.2

## 3. Learning Activity: Constructing Confidence Interval

**a. Learning Outcomes:** The student will be able to establish confidence intervals to be used in estimating population mean when sample size is less than 30.

**b. Assessment:** The concept will be assessed based on the completion of Mathzone assignments for Chapter 7 and unit test three

**c. EEO’s and CCIC’s:**
- 3, 4, 5, 6, and 7: CCIC: Critical thinking
# Appendix B
## Course Outline and Content

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Subjects</th>
<th>Objective</th>
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<tbody>
<tr>
<td>1</td>
<td>Probability and Statistics</td>
<td>● Descriptive and Inferential Statistics</td>
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<tr>
<td></td>
<td></td>
<td>● Variables and Type of Data</td>
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<td></td>
<td></td>
<td>● Data Collections and Sampling Techniques</td>
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<tr>
<td></td>
<td></td>
<td>● Observational and Experimental Studies</td>
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<tr>
<td>2</td>
<td>Frequency Distributions and Graphs</td>
<td>● Organizing Data</td>
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<td>● Histograms, Frequency Polygons, and Ogives</td>
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<tr>
<td></td>
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<td>● Other Types of Graphs</td>
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<tr>
<td></td>
<td></td>
<td>● Paired Data and Scatter Plots (regression and the line of best fit from ch 10)</td>
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<tr>
<td></td>
<td><strong>unit one test</strong></td>
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<td>3</td>
<td>Data Description</td>
<td>● Measure of Central Tendency</td>
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<td>● Measure of Variation</td>
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<td></td>
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<td>● Measure of Position</td>
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<td></td>
<td></td>
<td>● Exploratory Data Analysis</td>
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<tr>
<td>4</td>
<td>Probability and Counting Rules</td>
<td>● Sample Space and Probability</td>
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<td></td>
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<td>● Addition and Multiplication Rules for Probability</td>
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<td>● Conditional Probability</td>
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<td></td>
<td></td>
<td>● Counting Rules</td>
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<td></td>
<td></td>
<td>● Probability and Counting Rules</td>
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<td>5</td>
<td>Discrete Probability Distributions</td>
<td>● Probability Distributions</td>
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<td></td>
<td></td>
<td>● Mean, Variance, Standard Deviation, and Expectations.</td>
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<td></td>
<td></td>
<td>● The Binomial Distribution</td>
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<td></td>
<td><strong>unit two test</strong></td>
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<tr>
<td>6</td>
<td>The Normal Distribution</td>
<td>● Properties of Normal distribution</td>
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<td></td>
<td>● The Standard Normal distribution</td>
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<td></td>
<td>● Applications of Normal distribution</td>
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<td></td>
<td>● The Central Limit Theorem</td>
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<td></td>
<td></td>
<td>● The Normal Approximation to the Binomial Distribution.</td>
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<td>7</td>
<td>Confidence Interval and Sample Size</td>
<td>● Confidence Intervals for the Mean</td>
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<td>● Confidence Intervals and sample size for Proportions</td>
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<td></td>
<td>● Confidence Intervals for Variances and Standard Deviations</td>
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<tr>
<td>8</td>
<td>Hypothesis Testing</td>
<td>● Steps in Hypothesis Testing</td>
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<td>● z Test for a Mean</td>
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<td>● t Test for a Mean</td>
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<td>● z Test for a Proportion</td>
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<td>● $\chi^2$ Test for a Variance or Standard Deviation</td>
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<td></td>
<td></td>
<td>● Confidence Interval and Hypothesis Testing</td>
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<td><strong>unit three test</strong></td>
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Apendix C

- You may not bring personal items into the Test Center. This includes bags, cell phones and pagers. Coin-reimbursable (quarter) lockers are available for student use. Please do not share lockers.

- Please show courteous and cooperative behavior while using the services provided by the Testing Center.

- **Do not bring children to the testing center.** You must make arrangements for the care of your children prior to your exam date. The police department will be notified of any unattended children.

- **Do not** take any testing materials with you when you leave the Testing Center. This includes the test, answers, charts, scratch paper. These items will be attached to your test.

**Academic Dishonesty**
The Dallas County Community District has established procedures and guidelines to protect the security and integrity of all exams. All incidents of academic dishonesty are documented and reported to the instructor, the Director of Testing and the Dean of Student Enrollment.

**Questions? Please visit the Testing Center (A425) or call 972-273-3160.**

**Monday – Thursday:** 8:30 a.m. – 8:00 p.m.
No tests will be issued after 7:00 p.m. Other cut-off times may be in effect for specific exams by the instructor's direction. All exams collected at 8:00 p.m.

**Friday - Saturday:** 8:30 a.m. – 3:30 p.m.
Other cut-off times may be in effect for specific exams by the instructor's direction. No tests will be issued after 2:30 p.m. All exams collected at 3:30 p.m.

**Sunday: CLOSED**

If your instructor requires you to complete an exam in the Testing Center, be sure to have the following information when you request your test.

- Instructor’s name
- Subject and course number (exp: HIST 1301)
- Exam number (1st, 2nd, 3rd, etc.)
- Exam deadline (Get this information from your instructor. The testing staff can not “look up” this information on computers.)

You should also bring the following supplies.

- Pencil
- Scantron answer sheet (If required)
- **A Test Request Form** must be completed before entering the Testing center.
- Eraser
- Only battery operated 4 function, non programmable scientific or TI83/TI 84 calculator are allowed (if permitted by instructor).
- Money for coin-return lockers (**quarter**). Please do not share lockers.

Important: Government- or school-issued photo identification is required & enforced.
Appendix C
Student Guidelines for Written Assignments

Writing mathematics is a lot like writing a composition paper. There is an introduction (the problem), body (work/steps), and a conclusion (the answer). Your work must flow in a clear, precise and logical order. You must use the proper notation and use the properties, theorems, and rules correctly.

Listed below are the expectations and guidelines for every assignment. Your grade will be based upon how well you follow these guidelines. The goal of these guidelines is to help you become a better thinker and presenter which will be beneficial for any career you choose.

Expectations for all written assignments:
1. If you use a spiral notebook and tear out the pages, you need to trim off the “shards” before turning in the assignment. Loose-leaf paper is preferred.
2. Your name, course number, and chapter and section from the text (if applicable) should be written in the upper right-hand corner of the first page. Each assignment should be stapled in the upper left-hand corner of the page.
3. The problem number or name of the assignment should be written down for each problem assigned. Next include a summary of the problem and directions. Be sure to include all the given information in your summary and a picture of the problem if necessary.
4. If the problem requires you to introduce variables in order to solve it, you must clearly define the variables. Variables must represent numerical quantities, not objects. Be sure to include the units of the variables (for example, feet, pounds, minutes, etc).
5. For word problems you will need to set up the equation(s) that model(s) the problem using the defined variables.
6. Write the steps of the problem down the left-hand side of the paper with each step directly under the previous one. Show every step. Don’t skip a step even if you may think it is easy. The steps should be clear and follow a logical order. If numeric computations are necessary, do them neatly on the right-hand side of the paper.
7. Make sure that every statement you write is a true statement and uses the correct notation.
8. Check your answer to make sure it is reasonable/correct with respect to the problem.
9. State your final answer using a complete sentence and include the correct unit of measure (i.e. inches, feet, minutes, square feet, etc).
10. Skip at least 1 line between each problem.