CENTRAL TEXAS COLLEGE
SYLLABUS FOR RELE 1325
REAL ESTATE MATH

Semester Hours Credit: 3

INSTRUCTOR: _______________________

OFFICE HOURS: ___________________

I. INTRODUCTION

A. Includes mathematical logic, basic arithmetic skills, percentages, interest, time-value of money, depreciation, amortization, proration, and estimation of closing statements.

B. RELE 1325 is a special-topics course designed to meet the needs of both pre-licensing real estate students, and licensed agents who may wish to take the course for recertification purposes or as information to assist in a real estate career.

C. The course has been approved as a "core" real estate subject applicable to the educational requirements of both the salesman and broker's educational requirements, as contained in the Texas Real Estate License Act (TRELA).

D. Prerequisites: None

E. Alphanumeric coding used throughout this syllabus denotes integration of the Secretary’s Commission on Achieving Necessary Skills (SCANS) occupational competencies (CA, C1, 2, B, etc.) and foundation skills (B, C1, 2, FA, etc.) for this course. The instructor will ensure the designated SCANS competencies and skills are addressed in the course. A detailed description of each competency/skill is contained in “A SCANS Report for America 2000,” Executive Summary, furnished.
II. LEARNING OUTCOMES

Upon successful completion of this course, Real Estate Math, the student will be able to:

A. Calculate estimates of closing costs and prorations.
B. Calculate loan amortization problems.
C. Demonstrate proficiency in calculating area and volume problems.
D. Perform commission calculations and sales price problems.
E. Apply the concepts of total, part, and percent in problem solving when applicable.
F. Apply basic arithmetic skills to real estate-related computations.
G. Calculate area and volume in real estate applications, depreciation, and appraisal value adjustments.
H. Calculate interest, principal payments, load balances, and mortgage insurance premiums.
I. Calculate fees, discount points, loan qualifying ratios, loan amounts, and amortization.
J. Calculate real estate taxes.
K. Explain legal descriptions.

III. INSTRUCTIONAL MATERIALS

The instructional materials identified for this course are viewable through www.ctcd.edu/books

IV. COURSE REQUIREMENTS

A. Reading Assignments: Read text assignments prior to class and be prepared to discuss the text material, answering instructor questions orally with well-organized thoughts and ideas.

B. Class Performance: Classroom performance is measured as follows:

1. Regular attendance
2. Responses to directed questions and spot quizzes demonstrating familiarity with assigned reading and other assignments
3. Completion of course requirements
4. Performance on scheduled examinations
5. Responsibility for Examinations and Lecture Notes: Students are expected to be present for all scheduled meeting periods. In the event the student is not able to attend a particular class period, he/she should make arrangements with another class member to pick up any hand-outs or assignments given.
C. **Class Attendance: (FC1 & 4)** (Refer to CTC Catalog, Page 54 for detailed policy). You are expected to attend each class period, be on time and stay the full class period or be counted absent. You are responsible for all course material missed due to absence. The instructor does not provide class notes for classes missed.

V. **EXAMINATIONS**

Major Exams. There will be four major, scheduled examinations as follows:

1. First Exam
2. Second Exam
3. Third Exam
4. Final Exam

VI. **SEMESTER GRADE COMPUTATIONS**

A. The final grade for the semester will be computed as follows:

1. Four Major Examinations (scheduled) 60%
2. Final Exam 30%
B. Homework 10%

B. Letter grades will be assigned as follows:

<table>
<thead>
<tr>
<th>Numerical Value</th>
<th>Grades</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A = Superior</td>
<td>4</td>
</tr>
<tr>
<td>80- 89</td>
<td>B = Above Average</td>
<td>3</td>
</tr>
<tr>
<td>70- 79</td>
<td>C = Average</td>
<td>2</td>
</tr>
<tr>
<td>60- 69</td>
<td>D = Passing, but Unsatisfactory</td>
<td>1</td>
</tr>
<tr>
<td>Below 60</td>
<td>F = Failure</td>
<td>0</td>
</tr>
<tr>
<td>I = Incomplete</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>W= Withdrawal</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

VII. **NOTES AND ADDITIONAL INSTRUCTIONS FROM COURSE INSTRUCTOR**

A. **Course Withdrawal:** It is the student's responsibility to officially drop a class if circumstances prevent attendance. Any student who desires to, or must, officially withdraw from a course after the first scheduled class meeting must file a Central Texas College Application for Withdrawal (CTC Form 59). The withdrawal form must be signed by the student.

CTC Form 59 will be accepted at any time prior to Friday of the 12th week of classes during the 16-week fall and spring semesters. The deadline for sessions of
other lengths is as follows.

<table>
<thead>
<tr>
<th>Session Length</th>
<th>Last Day to Withdraw</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-week session</td>
<td>Friday of the 8th week</td>
</tr>
<tr>
<td>8-week session</td>
<td>Friday of the 6th week</td>
</tr>
<tr>
<td>5-week session</td>
<td>Friday of the 4th week</td>
</tr>
</tbody>
</table>

The equivalent date (75% of the semester) will be used for sessions of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

A student who officially withdraws will be awarded the grade of "W" provided the student's attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the College before they may be considered for withdrawal.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" or "FN" for nonattendance.

B. **Administrative Withdrawal:** An administrative withdrawal may be administered by the instructor when the student fails to meet College attendance requirements. The instructor will assign the appropriate grade on CTC Form 59 for submission to the registrar.

C. **Incomplete Grade:** The College catalog states, “An incomplete grade may be given in those cases where the student has completed the majority of the course work, but because of personal illness, death in the immediate family, or military orders, the student is unable to complete all the requirements for a course.” Prior approval from the instructor is required before the grade of “I” for Incomplete is recorded. A student who merely fails to show for the final examination will receive a zero for the final and an “F” for the course.

D. **Cellular Phones and Beepers:** Cellular phones and beepers will be turned off while the student is in the classroom or laboratory.

E. **Americans With Disabilities Act (ADA):** Disability Support Services provides services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Review the website at [www.ctcd.edu/disability-support](http://www.ctcd.edu/disability-support) for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

F. **Instructor Discretion:** The instructor reserves the right of final decision in course requirements.

G. **Civility: (FC3)** Individuals are expected to be cognizant of what a
constructive educational experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.

H. **Honesty and Integrity: (FC5)** All students are required and expected to maintain the highest standards of scholastic honesty in the preparation of all course work and during examinations. The following will be considered examples of scholastic dishonesty:

1. **Plagiarism:** The taking of passages from writing of others without giving proper credit to the sources.

2. **Collusion:** Using another’s work as one’s own; or working together with another person in the preparation of work, unless joint preparation is specifically approved in advance by the instructor.

2. **Cheating:** Giving or receiving information on examinations.

Students guilty of scholastic dishonesty will be administratively dropped from the course with a grade of “F” and will be subject to disciplinary action.

**VIII. COURSE OUTLINE**

A. **Unit One:** Review of Basic Math Skills: Fractions, Decimals, Percentages, and Commission (Chapters 1-3)

1. **Learning Outcomes:** Upon successful completion of this unit, the student will be able to:

   a. Reacquaint himself/herself with units of measure and basic mathematical formulas.

   b. Use like units of measure when setting up and solving problems and understand the sequence of entering numbers into a calculator.

   c. Accurately convert percentages and fractions to decimals.

   d. Apply the basic formulas for problem solving for part, total, or rate (percentage); and use a diagram as a tool in solving total, rate, and part problems.

   e. Accurately compute the total commission on a given sales price, calculate the listing broker’s and salesperson’s shares, and calculate the sales price when given the commission paid and the commission rate.

2. **Learning Activities:**

   a. Classroom lecture/discussion

   b. Reading assignment
c. Homework and other assignments designated by the instructor

3. **Lesson Outline:** Follow the sequence of unit learning outcomes.

**B. Unit Two:** Sales Price, List Price, Net Price, Area, Volume, and Depreciation (Chapters 4-6)

1. **Learning Outcomes:** Upon successful completion of this unit, the student will be able to:

   a. Help a seller price his/her property to recover his/her investment and achieve the profit margin being sought.
   b. Mathematically help a seller establish the correct asking price to give the seller his/her desired net in order to cover expenses and to pay the broker.
   c. Calculate the front feet of a lot, square feet and square yards; and cubic feet and cubic yards.
   d. Accurately calculate straight-line depreciation and calculate depreciation using the IRS cost recovery tables for residential and nonresidential properties.

2. **Learning Activities:**

   a. Classroom lecture/discussion
   b. Reading assignment
   c. Homework and other assignments designated by the instructor.

3. **Lesson Outline:** Follow sequence of the learning outcomes.

**C. Unit Three:** Appraisal Methods, Interest, and the Mathematics of Real Estate Finance (Chapters 7-9)

1. **Learning Outcomes:** Upon successful completion of this unit, the student will be able to:

   a. Adjust comparables while applying the sales comparison approach.
   b. Accurately calculate the replacement or reproduction cost and accrued depreciation for the application of the cost approach.
   c. Capitalize annual net operating income into an indication of value for an income-producing property.
   d. Calculate the interest paid when given the time, rate, and principal.
   e. Calculate the principal loan amount when given the time, rate, and interest paid.
   f. Determine the interest rate when given the time, principal, and interest paid.
   g. Calculate a loan amount, a down payment, and a monthly payment.
for an amortized loan payment.

h. Calculate points.
i. Compute an amortized loan payment.
j. Use the lender’s qualifying ratios to determine how much verifiable gross monthly income a purchaser must show to qualify for a particular loan amount.

2. Learning Activities:

a. Classroom lecture/discussion. (FA4)
b. Reading assignments. (FA1)
c. Homework and other assignments. (CC1, FC1)

3. Lesson Outline: Follow the sequence of unit learning outcomes.

D. Unit Four: Ad Valorem Taxes, Property Transfer Taxes, Legal Descriptions, and Prorations (Chapters 10-13)

1. Learning Outcomes: Upon successful completion of this unit, the student will be able to:

a. Compute annual ad valorem taxes:
   (1) based on the market value of property and an assessment ratio.
   (2) based on assessed value using a tax rate per $100 value.
   (3) given in mills.
   (4) using an equalization factor.
b. Compute transfer tax using the approaches applied by some states.
c. Accurately determine the number of acres in a tract of land described using the rectangular survey system.
d. Sketch a tract of land described by the metes-and-bounds system.

2. Learning Activities:

a. Classroom lecture/discussion. (FA4)
b. Reading assignments. (FA1)
c. Homework and other assignments. (CC1, FC1)

3. Lesson Outline: Follow the sequence of unit learning outcomes.

E. Unit Five: Closing Statements and Lease Calculations (Chapters 14 and 15)

1. Learning Outcomes: Upon successful completion of this unit, the student will be able to:
a. Calculate Prorations and learn to enter them on a closing statement.
b. Calculate the rent for a given number of square feet when rent is expressed as gross rent per square foot.
c. Calculate the total rent due under a percentage lease.
d. Calculate a rental increase called for in a lease with a CPI escalation clause.

2. Learning Activities:
   a. Classroom lecture/discussion. (FA4)
   b. Reading assignments. (FA1)
   c. Homework and other assignments. (CC1, FC1)

3. Lesson Outline: Follow the sequence of unit learning objectives.