

**Syllabus: Math of Finance (Fall 2013) 10-804-144-1**

**Instructor:** Murray Heitzer

**Phone:** 608-822-2657

800-362-3322- Ext 2657

**Prerequisite:** Math Review if required

**email:** mheitzer@swtc.edu

**Meeting Times:** Mon 2:30-3:20, Tues 1:30-2:20, Wed 12:30-1:20, Thurs 1:30-2:20

**ASC Hours:** Mon 7:30-9:20, 12:30-1:20, Tues 11:30-12:20, Wed 8:30-9:20, Fri 7:30-9:20

**Office Hours:** Tues 10:30-11:20, Wed 9:30-10:20, Fri 9:30-10:20

**Required Resources (text/equipment/materials):**

Shao and Shao, Mathematics for Management and Finance, 8<sup>th</sup> edition, South-Western College Publishing, 1998

Calculator: Texas Instruments BA II + . **Students have had difficulty if they chose to use a different calculator.**

**Course Description:** Students will work with calculations of the value of money based on timelines. They will solve problems involving simple and compound interest. Students will use discounting to solve problems. They will calculate the components of annuities certain including complex annuities. Students will solve problems using financial formulas, a business calculator, and spreadsheets. Students will become familiar with the components of major financial statements and the relationships among financial statements. Finally, students will use descriptive statistics and chart applications to interpret financial data.

**Course Competencies:**

1. Solve simple interest scenarios
2. Solve simple (bank) discounting scenarios
3. Solve compound interest scenarios
4. Solve annuity scenarios
5. Solve amortization scenarios
6. Perform statistical calculations

Competency	Learning Objectives	Schedule
1 – Simple Interest	Draw financial timelines Distinguish between ordinary and exact interest Compute any variable of the simple interest formula Determine partial payments using the US or Merchants Rule	Aug 19 - 29
2 - Bank Discount	a. Identify typical uses of discounting b. Distinguish between simple interest and simple discounting (principal vs. proceeds, etc) c. Solve for any component of the simple discount formula d. Compute an equivalent simple interest rate from a discount problem <b>EXAM 1</b>	Sept 3 – Sept 10

Competency	Learning Objectives	Schedule
3 - Compound Interest	a. Differentiate between simple and compound interest b. Explore financial functions of the business calculator c. Compute any component of the compound interest formula d. Convert between nominal and effective rates <b>EXAM 2</b>	Sept 11 – Sept 26
4 – Annuities	a. Understand/Identify annuities by term, by dates of payment and by length of payment interval and interest conversion period b. Identify typical applications for the various types of annuities defined above c. Become familiar with the use of the financial calculator for determining annuity variables including amount, present value, interest rate, and number of payments for all types of annuities <b>EXAMS 3 and 4</b>	Sept 30 – Nov 7
5 – Amortization	a. Define amortization and sinking funds including uses and examples of each b. Create amortization and sinking fund tables manually c. Explore functions and formulas in Microsoft Excel d. Create amortization tables and sinking fund tables using Microsoft Excel d. Modify spreadsheet based amortization and sinking fund tables based on changing conditions <b>Exam 5</b>	Nov 11 – Nov 27
6– Statistics	a. Explore functions and formulas in Microsoft Excel b. Create graphs in Microsoft Excel c. Calculate measures of central tendency (mean, median, mode) d. Calculate measures of variability (range, standard deviation) e. Describe features of normal distributions f. Solve problems based on normally distributed data <b>Exam 6</b>	Dec 2 – Dec 13

**Chapter Tests / Quizzes** (90%) – EXAMS must be taken as scheduled. If a student believes he/she cannot complete exams on schedule, the instructor should be contacted in advance. Late EXAM scores will be reduced by 10%. Tests delayed beyond one week may or may not be taken and will result in a reduction of 20%.

The final grade will be determined by dividing the points earned by total points possible and will be determined based on the following percentages:

**90-100% - A**

**80-89% - B**

**70-79% - C**

**60-69% - D**

**Ethics/Conduct Policy:** When an instructor has evidenced dishonest behavior by a student or students, the student(s) will be withdrawn from the course for the semester. A letter describing the infraction shall be sent to the student and the division dean and filed with student services. The student(s) involved will be required to meet with the division dean, counselor and instructor.

Both instructors and students have a right to an educational environment that is conducive to meaningful learning. It is the responsibility of instructors to create and maintain this environment in their respective classes, which may be in classrooms, labs, shops, clinical sites, field trips, contests, or other related places. If a student(s) engages in behavior that is not respectful of this educational environment, it may be necessary for a student(s) to be removed from the class, temporarily or permanently. Such student(s) have a right to due process that ensures fair treatment. Behaviors that are not respectful of the educational environment include harassment,

crude or rude behavior, and other distracting actions that prevent or impede a student(s) or instructor(s) from participating.

**Withdraw Policy: Important Note Regarding Final Withdrawal.** The last day to withdraw from this course is prior to 80% completion. The official withdraw date is when students file the course change form in Student Services. Please refer to page 56 of the current Student Handbook for complete details. If a student does not withdraw (or declare an audit), the instructor must issue a grade. Should that final grade be an "F", this letter grade remains as a permanent mark on your official SWTC transcript. Even when you repeat the course, the original "F" still remains on the transcript.

**ADA Information:** Students with disabilities, who need accommodations, should contact the office of the Support Services Specialist, Building 100, Room 108, (608) 822-2631, 800-362-3322, ext. 2631, TTY/TDD (608) 822-2072, or e-mail [lgarvey@swtc.edu](mailto:lgarvey@swtc.edu).

**ASC Statement:** If you would like some additional help understanding the course material, you can stop at the Academic Success Center (Building 100, Room 107). Instructors are available at all times to answer any questions you may have regarding this course. This service is provided free of charge to all SWTC students.