

COURSE OUTLINE

**Developmental Skills Lab 027
Applied Mathematics**

I. Catalog Statement

Developmental Skills Lab 027 is designed to help students use mathematical principles and computations in everyday living. This course may be taken as a high school elective in math.

Units — 0.0

Total Laboratory Hours — 100.0

Recommended preparation: ESL 040 or equivalent

Note: This is a self-paced course in an open-entry, open-exit lab environment. Successful completion of this course is worth 5 credits (.5 unit) towards a high school diploma.

II. Course Entry Expectations

Skills Level Ranges: Reading: 4; Writing: 4; Listening/Speaking: 4; and Math: 1.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

1. perform basic operations using whole numbers, decimals, fractions and percents;
2. perform basic operations on a calculator;
3. estimate answers;
4. compute weekly and annual wages;
5. calculate the cost of purchases;
6. calculate consumer expenses;
7. read and interpret W-2 forms;
8. construct and analyze a household budget;
9. determine yields of investments;
10. calculate probabilities;
11. translate words into algebraic expressions.

IV. Course Content

A.	Basic Operations	20 hours
	1. Whole numbers, decimals, fractions, and percents	
	2. Calculation of mean, median, and mode	
B.	The Calculator and Estimation	4 hours
	1. Operations on a calculator	
	2. How to estimate	
	3. When to estimate	
C.	Employment	8 hours
	1. Computing pay	
	2. Computing tips	
	3. Calculating social security taxes	
	4. Computing salary	
	5. Calculation of overtime, commission, and deductions	
D.	Basic Purchases	4 hours
	1. Calculation of prices, discounts, and mark-ups	
	2. Computation of sales tax	
E.	Expenses	8 hours
	1. Fixed and variable finance rates	
	2. Installment price and loan interest	
	3. Loan payments	
	2. Variable expenses for automobiles	
F.	Transportation	4 hours
	1. Reading bus, train, subway, and airline schedules	
	2. Computing taxi fares and cost of trips	
G.	Taxes	8 hours
	1. W-2 forms	
	2. Exemptions, deductions, and taxable income	
H.	Housing	8 hours
	1. Mortgage payments and closing costs	
	2. Real estate and assessment taxes	
	3. Homeowner's insurance.	
I.	Personal Finance	18 hours
	1. Household budget	
	2. Computing inflation rate	
	3. Checking and savings accounts	
	a. reconciling a checking account statement	
	b. computing simple and compound interest	
	4. Investments	
	a. computing yields	
	b. comparing instruments of savings	
J.	Probability	4 hours
	1. Independent and dependent variables	
	2. Predicting outcomes	

K. Equations

4 hours

1. Order of operations
2. Solving two step equations

V. **Methods of Presentation**

The following instructional methodologies may be used in the course:

1. independent study using worksheets and texts;
2. computer-aided instruction;
3. small group instruction;
4. video instruction.

VI. **Assignments and Methods of Evaluation**

Students must complete the entire individualized contract.
Unit tests.

VII. **Textbook**

Fredrick, M., et. al. Practical Mathematics. 3rd Edition.
Orlando: Holt, Rinehart and Winston, 1998.
8th Grade Textbook Reading Level. ISBN: 0-03-051339-1.

VIII. **Student Learning Outcome**

- estimate and compute basic operations involving whole numbers, decimals, fractions and percentage with pencil and paper and then with a calculator;
- compute weekly and annual wages in conjunction with household budgets;
- read and analyze W-2 forms and use state and federal forms for reporting income;
- utilize mathematics in various trade situations such as carpentry, plumbing, masonry, painting, and electrical contracting;
- determine the yield of investments;
- determine probabilities and make predictions on event outcomes.