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#### ABSTRACT

Following a review of the mathematics topics taught in accounting, electronics, auto, food and clothing, and metals courses at Linn-Benton Community College, Albany, Oregon, recommendations were made to grant one semester of mathematics credit for completing a two-year sequence of these courses. The other required semester of mathematics should be acquired in a new course team taught by a mathematics teacher and a vocational-technical education teacher. (This report contains a checklist of mathematics competencies offered in the vocational-technical courses.) (KC)



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#### **RECOMMENDATIONS**

**FOR** 

ALTERNATIVE CREDIT

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#### Recommendations for Alternative Credits

I reviewed the math topics taught in Accounting, Electronics, Auto, Food and Clothing, and Metals with the instructors of those courses. Each of these courses has a two-year sequence. After comparing and matching the math topics taught with the math checklist provided, I feel all of the courses provide math topics in at least 25% of the two-year sequence. Most of the courses teach just the material covered in the math checklist and are cross-referenced with the course objectives from each class. Electronics offers more than the checklist covered. In addition to the cross-referenced objectives, the topics of logarithms, logic, and different number bases as well as sections of trigonometry are covered. Metals also does some work with the use of trigonometric functions.

All of the courses offered instruction in the math topics taught, but the majority of the class time is spent on practical applications of the topics being covered. The practical application of the material is the essential part of this recommendation. Practical application is the motivating factor for some of the students in these courses to learn the math. Practical application not in a book, but in a hands-on lab situation.

I feel each of the course sequences reviewed should receive one semester of math credit for completing and passing the two-year sequence. The courses are:

Accounting I & II

Electronics I & II

Auto I & II with Advanced Auto II & IV

Clothing I, II, III & IV

Foods I & II with Food Service

Metal Fabrication with Advanced Metals I

#### Voc/Tech Math Class

To provide for the other semester of math credit (one semester for the two-years vocational/technical course), a vocational/technical math class could be offered. There are several options I have explored for this class. One obvious option is to teach a semester course, offered each semester, to be taught by either a math or a vocational/technical teacher. My feeling is that this is defeating the purpose of the class. A math teacher would do well with the concepts and the vocational/technical teacher would do well with the applications. We now offer year-long courses that currently meet these needs. We are trying to add something new for the voc/tech student. My proposal is to offer the course once during the second semester or once each semester if the enrollment were large enough. The enrollment would need to be a minimum



of forty students. The course would be taught by <u>both</u> a math and a voc/tech teacher. The class could be split into two groups. The math teacher would present the math concepts to one group of the students in the classroom and the voc/tech teacher would provide labs to the other group to reinforce the math concepts presented. The labs would be subjects from all of the voc/tech courses which could be presented in the Auto and Metals building. Below are some suggested topics by course which could be taught in the Vocational/Technical Math Class.

#### Accounting

Simple interest (credit, notes, etc.)
Depreciation
Dealing with uncollectible accounts
Payroll and Taxes (time cards)
Reconciliation (checkbook, bank statements, etc.)
Cost mark-up and mark-down
Sales tax
Invoices (extentions)

#### **Electronics**

Reading scales (meters, rulers, extrapolating, interpolating, etc.)
Color codes (metric system,
Balancing equations (balance outer valence shell)
Use of a calculator (RPN and Polish notations)
Ohm's Law
Concepts of base units and constants
Current nodes
Resistance
Lead, lag, radians, degrees, pi, angles, square roots, trig functions
Circles (Cartesian system and quadrants)
Plotting and graphing
Gears and gear ratios
Tensile strength

#### Foods

Recipe conversion
Measuring (volume)
Pricing (budget sheets)
Calculating yield
Cost comparisons
Converting metric to standard and vice versa
Problem solving (ingredient substitutions, microwave to range, use of time,
elapsed time, evaluating recipes, etc.)
Charts and tables (weight control, nutrients, statistics, etc.)
Temperatures



Business management (cost control, % gain or loss, inventory, mark-ups)
Serving control
Cash registers
Counting change
Writing money figures

#### Clothing

Linear measure
Pricing
Budgets
Converting metric to standard and vice versa
Time use
Charts and tables on pattern envelopes
Alterations
Cost comparisons (homemade versus store bought)
Mark-ups, mark-downs, profit, loss (percents)
Fashion merchandising
Clothing layouts
Clothing companies cutting corners (cost control)
Sales
Unit conversions in length (yards to feet to inches and vice versa)
Purchasing (estimating and rounding)

#### Auto

Compression ratio Cylinder volume Linear measurement (to 1/64 and .001) Reading metered scales Percent calculations Fractions to decimals and vice yersa Maximum allowable variation (in measure and percent) Reading specification charts Calculating mechanics pay Calculating clearances Using a brake drum gauge Reading a micrometer and dial indicator Nut and bolt sizing (SAE and metric) Wrench sizing (SAE and metric)
Inch per pound and foot per pound torque (conversion) Calculating force (using formulas - hydrolics) Ohm's Law Gear ratio calculations Leverage calculations Cost/benefit analysis



### <u>Metals</u>

Measurement (rulers, micrometers, diocalipers, dial indicators, pyrometers)
Angles (measurement and use of protractors)
Figuring spindle RPM on machining equipment
Thread depths
Tap drill sizes
Tapers
Cost (materials, labor, total cost of projects)
Reading tables, charts, and graphs
Ordering (buying) materials

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	Accounting	Accounting	
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COURSE GOALS	8	Ac	
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1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE	i -		
KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.			ł
1.1 The student will be able to understand the	i	i	
meaning of numbers.			İ
1.1.1 whole numbers	1 X	i. X	<del>-    </del>
1.1.2 fractions	i X	Y	
1.1.3 decimals	·χ	<del>                                     </del>	
1.1.4 percents	! X	X I	
1.1.5 integers		<del>- ^ -</del>	
1.1.6 ratio and proportion	<u> </u>	X	
1.2 The student will be able to count numbers.	<u>.                                    </u>	X L	
1.3 The student will be able to order and compare	<u> </u>	<u> </u>	_!!
numbers.	1		
1.3.1 whole numbers	<u> </u>	X	
1.3.2 fractions	<u> </u>	<u> </u>	
1.3.3 decimals	! !		
1.3.4 percents	<u> </u>	X !	!!
1.3.5 integers	<u>!i</u>	<u> </u>	
1.4 The student will be able to read and write	<u> </u>	X_!	
numbers.		i	1 1
1.4.1 whole numbers	<u>! x                                   </u>	<u> </u>	
1.4.2 fractions	<u> </u>	χ!	
1.4.3 decimals	<u> </u>		
1.4.4 integers	<u> </u>		
1.5 The student will be able to demonstrate			
knowledge of place value.	<u> x</u>	χΙ	}
1.5.1 whole numbers	ΙχΙ	ΧI	
1.5.2 decimals	1		
1.5.3 integers			_
1.6 The student will be able to round numbers		X I	
1.6.1 whole numbers		χİ	
1.6.2 fractions		<del>-^-</del> -	
1.6.3 decimals	1	χi	
1.6.4 integers		<del>-^ }-</del>	
1.7 The student will be able to recognize		+_	<del></del>
equivalent forms of fractions			
1.8 The student will be able to identify and know to	1	<del></del> ;	
the value of United States currency	ŀ	,	
the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SKILL	2 11	<u> </u>	
2.1 The student will be able to perform basic	2 · X	X	
operations on whole numbers.			
2.1.1 add	<u> </u>	X	
2.1.2 subtract	<u> </u>	X !	
	XL	<u> </u>	



		<del>,</del>	
COURSE GOALS	Accounting I	Accounting II	
2.1.3 multiply		+	
2.1.4 divide	l X	X	
2.1.5 find averages	X	X	
2.2 The student will be able to perform basic		X	
operations on fractions.			1
2.2.1 find equivalent forms			
2.2.1.1 reduce fractions	!]		i
2.2.1.2 change mixed numbers to		1	
impropos fractions			
improper fractions 2.2.2 add			
2.2.3 subtract			1
2.2.4 multiply			i i
2.2.5 divide	l i		1
2.2.6 find averages	1	1	1
2.2.8 change a fraction to an equivalent	!		
UEC. INIA I	1		
2.2.9 change a fraction to an equivalent	X	<u> </u>	i
DELCENI		1	
2.3 The student will be able to perform basic	<u>                                       </u>	<u> </u>	
		1	
2.3.1 change a decimal to an equivalent	<u>il</u>	i	
fraction			1
2.3.2 change a decimal to an equivalent			_
percent percent			
2.3.3 add		<u> </u>	
2.3.4 subtract		ΧΙ	
2.3.5 multiply		Χİ	
2.3.6 divide		ΧI	
2.3.7 find averages		Х	
2.4 The student will be able to solve problems		Х	
INVOLVING DELCENIC			j
2.4.1 change a percent to an equivalent			
L CACLION 1			
2.4.2 change a percent to an equivalent		!	
uec illa i	1		
2.4.3 find a percent of a number		Х	
2.4.4 find what percent one number is of		Χİ	
anniber	1	1	
2.4.5 find a number when the percent of it			
	l l		
2.5 The student will be able to solve ratio and i		!	
proportion problems.			
[ Propromot		L	



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		<del></del> -	
COURSE GOALS	Accounting I	Accounting II	
2.5.1 determine the ratio between two given		<u>i</u>	
YUANTITIES	X	x	
2.5.2 find the fourth term of a proportion when three terms are given	1		<u> </u>
2.6 The student will be able to evaluate formulas.	<u> </u>		
2.6.1 evaluate a formula, given the values	<u>!</u>		
IOF the variables	l		
2.7 The student will be able to perform basic	<u> </u>	χ Ι	
operations on integers.			
2.7.1 add	! <u> </u>	<u> </u>	
2.7.2 subtract	<u>  X                                   </u>	X	<del> </del> -
2.7.3 multiply	<u>'                                    </u>		_
2.7.4 divide	<del></del>		
2.7.5 find averages	<del> </del>	<del></del>	<del>-                                    </del>
2.12 The student will be able to perform basic	<u> </u>	<del></del>	-
operations on variables and algebraic		l	
expressions.		į	
2.12.1 have an awareness of variables	У	γ ·	<del>-                                    </del>
4.12.2 Write and explain algebraic	i		
expressions using variables	. ;	i	
2.12.3 simplify by combining similar terms 2.13 The student will be able to write	ì		
mathematical equations.			
2.13.1 change a mathematical equation in cond			
with the second control of the second contro	J		i
form to one using symbols  2.15 The student will be able to perform basic			
operations using exponents.	-	Ī	
2.15.1 read, write and explain exponents			
2.15.6 read, write and explain numbers			!
USING Scientific notation 1			
2.16 The student will be able to factor.			
.2.16.1 numbers	<del></del>	<u>-</u>	_ļJ
2.16.2 find the greatest common factor of			
Humbers or numerical evaposations	1		
2.10.3   IIId the lowest common multiple of	<del></del>	: <del> </del>	- <del></del>
HUHDERS OF DIMERICAL AVANCAGE	1		1 1
2.10 The Student Will be able to use the bacin	<del></del>	<del></del>	
properties of arithmetic.			
2.18.1 order of operations	<del></del>	<del>-                                    </del>	<del>-                                    </del>
2.18.2 commutative	<u> </u>		
2.18.3 associative	———— <u>—</u>	<del></del>	<del></del>
2.18.4 distributive	<u>-</u>	<del></del> -	<del></del>



	nting I	nting II	
COURSE GOALS	Accounting	Accounting	
3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING SKILLS.			i
3.1 The student will know and use units of time.			
3.1.1 identify units of time			
3.1.2 tell time			
3.1.2.1 use concepts of time			
3.1.3 figure elapsed time	X!	Χ :	
2 1 A make conversions with	X		
3.2 The student will know and use units of length		Χ'	
3.2 The student will know and use units of length. 3.2.1 non-standard units of length			
3.2.2 metric system			
3 2 3 English eveter		<u>i</u>	
3.2.3 English system 3.2.4 read a ruler		!	
3.3 The student will know and use units of mass	<u>i</u>		
3.3 The student will know and use units of mass and weight.	i	İ	i
3.3.2 metric system	<u>'</u>	<del></del> ;-	
3.3.3 English system	!		
3.3.4 weigh an object			
3.4 The student will know and use units of volume.			<del></del>
3.4.2 metric system			
3.4.3 English system		<del></del>	
3.4.4 determine the volume of an object	<u>-</u>	<u> </u>	
3.5 The student will know and use temperature	!	<del></del>	
scales.	İ		1
3.5.1 Celsius	<del></del>		
3.5.2 Fahrenheit			
3.6 The student will know and use units of angle	<del> :</del>		
measurement.	İ		- [
3.6.1 different angle measures	<del></del>		
3.6.1.1 degrees	<u>'</u>		
3.6.2 measure an angle	<del>i</del>	<del></del> }	
3.6.2.1 protractor		<del>  -</del>	
4. THE STUDENT WILL KNOW GEOMETRIC CONCEPTS	<del></del> :		
4.1 The student will be able to identify,	<u>:</u>	<del></del>	
illustrate and use spatial concepts and			
relationships.	1	1	
4.1.1 identify, copy, illustrate and	<del></del>	<del></del>	<del></del>
construct open and closed one, two.		1	
and three-dimensional figures			
4.1.2 recognize and use symmetry	<del></del>	<u></u> _	
4.3 The student will be able to recognize and		<del></del>	<del></del>
apply relationships and properties of angles.	1		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	———		



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COURSE GOALS	Accounting I	Accounting [I	
4.3.1 identify and name an angle 4.7 The student will be able to determine the beau			
The paragraph in the dole to defellible the bold	ndary	1	<del>i</del>
or geometric flaures.			- 1
4.7.1 given figure	<del>                                     </del>		
4.7.2 perimeter of a polygon	<del>                                     </del>		——i
4.7.3 circumference of a circle	<del> </del>		—— <u> </u>
4.8 The student will be able to determine the are	<u> </u>	! !	!
of geometric figures.	1		l
4.8.1 given figure	<del> </del>		'
4.8.2 polygon	<del>!</del> !	1 1	!
4.8.2.1 square	<del>                                     </del>	! !	!
4.8.2.2 rectangle	!!	<u> </u>	'
5. THE STUDENT WILL BE ABLE TO USE CALCULATORS.	<u>                                     </u>	<u>ii_</u> _	1
5.1 The student will be able to follow the stone		!!	
	1 1	1 1	
to enter information on a calculator.  5.2 The student will be able to identify	<u>  X  </u>	X	į
The boarding will be able to lifelifile	1	1	
appropriate uses of calculators.  6. THE STUDENT WILL BE ABLE TO USE DOOP FOR SOLVEY	Ιχ	x : I	i
The property waste of Doll III have british but all a lost		1 :	
SKILLS AND STRATEGIES.	1 1		!
6.1 The student will be able to analyze and	1	1 ,	
CPITTE THE BYONIAM	X	$x \mid I$	- 1
6.2 The student will be able to guess, check	1 1		—— <u> </u>
and retine.	x	x	- 1
6.3 The student will be able to look for a	<del>.                                    </del>		
_ pattern.	i l	1 1	-
6.4 The student will be able to make a	<del>`                                    </del>	<del></del> -	
Systematic list	<sub>X</sub>		J
6.5 The student will be able to make and use a	<del>;                                    </del>	_ X   _	
uldwilly, uldgram, model, fable or graph		.,	
6.6 The student will be able to eliminate	<u> </u>	_X - ! - ! -	
possibilities.	1 [		- 1
6.7 The student will be able to devise a	1 x 1	<u> </u>	!
Simpler problem.	j		- 1
6.8 The student will be able to work backward.	! !	<del></del>	
6.9 The student will be able to evaluate the	<u> </u>	<u> X ! </u>	i
solution.			
6.10 The student will be able to communicate	<u> </u>	Х '	_
strategies used when solving problems.	!	1 1	
6 11 The student will be able to the	<u> </u>		!
6.11 The student will be able to know that		- i	
problems may have multiple solutions or no solutions.		.	
SUTULTUIIS.	x	x	
			——J



7. THE STUDENT WILL BE ABLE TO USE ESTIMATION AND	Accounting I	Accounting II	
APPROXIMATION SKILLS AND RECOGNIZE REASONABLENESS OF RESULTS.			
7.1 The student will be able to use number concepts to estimate quantity. 7.2 The student will be able to estimate			
measurements.  7.3 The student will be able to estimate		<u> </u>	
computations.  7.4 The student will be able to recognize		i	
reasonableness of results.  8. THE STUDENT WILL BE ABLE TO USE NUMER CAL	<sub>X</sub>	х	
INFORMATION DISPLAYED IN A VARIETY C. GRAPHIC FORMS.			
8.1 The student will be able to read tables, charts, and graphs.  8.2 The student will be able to construct tables	I x	x!	
8.2 The student will be able to construct tables, charts, and graphs.  8.3 The student will be able to interpret tables,	۱ ,, ۱	x	
charts, and graphs.  THE STUDENT WILL KNOW HOW MATHEMATICS IS USED TO	. <u>x</u> !	_ <u>x</u> !	
MAKE PREDICTIONS.  9.1 The student will be able to make			
predictions based upon collected data.  10. THE STUDENT WILL BE ABLE TO APPLY MATH TO	<u> </u>	X	
EVERYDAY SITUATIONS.  10.1 The student will be able to select			
appropriate numbers and number operation. to solve real world problems.			
10.2 The student will be able to solve problems involving money.	X	$\frac{1}{x}$	
10.3 The student will be able to solve problems involving measurement.			
10.4 The student will be able to solve problems involving geometric concepts.	ļ		
10.5 The student will be able to solve problems involving numerical information in a variety of forms.			
10.6 The student will be able to recognize ways that math concepts and skills are useful to		$-\dot{\vdash}$	
themselves and others.	<u> </u>	x_!	



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	CS	CS		
	Electronics	Electronics		
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	1 1	;;	1	
CUURSE GOALS	) <u>ö</u>	<u> </u>		
COUNTY CONTES	іш	E		
1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE	<del> </del>	<u> </u>		
KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.		!!		
1.1 The student will be able to understand the	1	<u> </u>		
meaning of numbers.				
1.1.1 whole numbers	<del></del>			
1.1.2 fractions	<u> </u>	! !	<del></del>	
1.1.3 decimals	<u> </u>	<del>!                                    </del>		
1.1.4 percents	<u> </u>			
1.1.5 integers	<del> </del>	<u> </u>		
1.1.6 ratio and proportion	1 X	X		
1.2 The student will be able to count numbers	<u> </u>			
1.3 The student will be able to order and compare	<u> </u>			
numbers.	1		İ	
1.3.1 whole numbers				
1.3.2 fractions	1			
1.3.3 decimals	! .	1		
1.3.4 percents	<u> </u>	i		
1.3.5 integers	!	<u> </u>		
1.4 The student will be able to read and write	Ιχ	X 1		
numbers.	i i	l		
1.4.1 whole numbers	<u> </u>	<del></del>		
1.4.2 fractions	<u> </u>	<del></del> ¦-		
1.4.3 decimals	<u> </u>	<del></del>		
1.4.4 integers	<u> </u>	<del>- ,  </del>	<del> </del>	
1.5 The student will be able to demonstrate	<u>  X                                   </u>	X		
knowledge of place value.		1	ĺ	
1.5.1 whole numbers	1 1	<del></del>		
1.5.2 decimals	X 1			!
1.5.3 integers		$\frac{1}{X}$		
1.6 The student will be able to round numbers	<u>                                     </u>	-^-		
1.6.1 Whole numbers	! !		<del></del>	
1.6.2 fractions	<del></del>			!
1.6.3 decimals	v	<del>¦</del>		إ
1.6.4 integers	<u> </u>			
1.7 The student will be able to recognize	<u> </u>			!
equivalent forms of fractions	1	1		1
1.8 The student will be able to identify and know		<del> </del>		
the value of United States currency			İ	
4. THE STUDENT WILL BE ABLE TO TISE COMPUTATIONAL CUTT	9 1		<del>-´</del>	
2.1 The student will be able to perform basic			<del></del> -	إ
Operations on whole numbers.		1	1	
2.1.1 add	<del>  </del>	<del>!</del> -		
2.1.2 subtract	<u> </u>			
	X			



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rages	<del>                                     </del>	<del></del>	<u>'                                    </u>
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tractions.			
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decimal to an equivalent		! !	
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percent to an equivalent		!	
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rcent of a number	<del>-                                    </del>	<del>-                                    </del>	<del></del>
percent one number is of	<del>'</del>		<del></del>
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mber when the percent of it		<del>- ^ ·</del>	<del></del>
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lone able to solve ratio and		· ·	1
i cas .	<u>'/ X  </u>	- 4	
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- 13 -			
	rages fraction to an equivalent fraction to an equivalent ll be able to perform basic decimals. decimal to an equivalent decimal to an equivalent  rages l be able to solve problems ents. percent to an equivalent percent to an equivalent ercent of a number percent one number is of mber when the percent of it l be able to solve ratio and lems.  14	rages  ll be able to perform basic fractions.  ivalent forms  reduce fractions  change mixed numbers to improper fractions  rages  fraction to an equivalent  fraction to an equivalent  ll be able to perform basic decimals.  decimal to an equivalent  decimal to an equivalent  : X  : X  : X  : X  : X  : X  : X  :	rages   In be able to perform basic fractions.   ivalent forms



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	}		i
	S	S	İ
	Electronics	Electronics	
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	<u>ئ</u> ـ ا	L.	
COURCE COALC	ည္မ	ပ္က !	i
COURSE GOALS			
		"	
2.5.1 determine the ratio between two given		<u>-</u> _	
quantities	Х		
2.5.2 find the fourth term of a proportion	<u>^-</u>		
when three terms are given	_ x		
2.6 The student will be able to evaluate formulas	<u>- ^                                   </u>	<del></del>	
2.6.1 evaluate a formula, given the values	<u>'</u>		
TOR the variables	,		
2.7 The student will be able to perform basic	X	X!	
operations on integers.		1	
2.7.1 add	<u> </u>		
2.7.2 subtract	<u> </u>	<u> </u>	
2.7.3 multiply	Xl	<u> </u>	
2.7.4 divide	<u> </u>	χ ι	<u> </u>
2.7.5 find averages	<u> </u>	X ,	
2 12 The student will be at the	1	!	1 1
2.12 The student will be able to perform basic	i	<u>i</u>	1
operations on variables and algebraic	[	1	1 1
expressions.	χİ	γi	İ
2.12.1 have an awareness of variables	χı	у.	<del></del>
2.12.2 Write and explain algebraic			
expressions using variables	ļ	y	1 [
2.12.3 simplify by combining similar terms	V 1	<del>-                                    </del>	
2.13 The Student Will be able to write	^i		<del></del>
mathematical equations.		i	
2.13.1 change a mathematical equation in word		<del></del>	
IUTM LO ONE USING SYMBOLS			
2.15 The student will be able to perform basic	<del></del> ;	<del></del>	<del>-;</del>
operations using exponents.	į		1 1
2.15.1 read, write and explain exponents 1	<del></del>	<del></del>	
2.15.6 read, write and explain numbers	_X	<u> </u>	
using scientific notation	x	v I	
2.16 The student will be able to factor.	<u>_^_                                   </u>	_ X	!
2.16.1 numbers		<u>-</u>	
2.16.2 find the greatest common factor of			
numbers or numerical expressions	1	1	1 1
2.16.3 find the lowest common multiple of	<u>'</u>		
numbers on numerical and tiple of	į	1	
numbers or numerical expressions	i		1 1
2.18 The student will be able to use the basic	i	1	
properties of arithmetic.	_	!	
2.18.1 order of operations	χı	i	<del>-</del>
2.18.2 commutative	χi	<del></del> i	-
2.18.3 associative	X	<del></del> -	
2.18.4, distributive	X	<del></del> -	<del>-:</del>



	onics I	onics II	
COURSE GOALS	Electronics	Electronics	
3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING SKILLS.			
3.1 The student will know and use units of time.			
2 1 1 identify with Chi		Xı	
3.1.2 tell time	!		<u> </u>
2 1 2 1		<u> </u>	
2 1 2 6	<u> </u>		
2 1 4 make a management the state of the	<u> </u>	X	
3.2 The student will know and use units of length.		_ ^	
3.2.1 non-standard units of length			
3.2.2 metric system	X		
3.2.3 English system	X		
3.2.4 read a ruler	X i		
3.3 The student will know and use units of mass		<u>-</u>	
and weight.		i i	ļ
3.3.2 metric system	<u>-</u>		
3.3.3 English system	<u>_</u>	<u> </u>	
3.3.4 weigh an object			
3.4 The student will know and use units of volume.		<del></del>	
3.4.2 metric system		<del></del>	<del></del> i
3.4.3 English system	i	<del>-                                    </del>	
3.4.4 determine the volume of an object	i	1	<del></del> -i
3.5 The student will know and use temperature	i	1 1	<del></del> i
scales.	1		
3.5.1 Celsius	i	X ! I	
3.5.2 Fahrenheit	<u>_</u>	X I i	
3.6 The student will know and use units of angle			
measurement.	!		1
3.6.1 different angle measures	χi		
3.6.1.1 degrees	Xi		
3.6.2 measure an angle	<u> X I</u>		
3.6.2.1 protractor  4. THE STUDENT WILL KNOW GEOMETRIC CONCEPTS	X _ I	!]	
		11	
i			
illustrate and use spatial concepts and relationships.		1 1	Ì
		!	
4.1.1 identify, copy, illustrate and	ĺ		
construct open and closed one, two,			ļ
and three-dimensional figures 4.1.2 recognize and use symmetry			
4.3 The student will be able to recognize and	<del></del>	<u>·</u>	
apply relationships and properties of angles.		1	1
apply to the constitutes and proper cies of angles.	XL	<u> </u>	



	<del></del>	<del></del>	
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	Electronics	Electronics	İ
	ő	6	ł
	ţ	t	l
COURSE GOALS	6	G	
4.3.1 identify and name an angle	<del>  X</del>	!	<del></del>
4.7 The student will be able to determine the bour	dary		<del></del> -
or geometric figures.	1		
4.7.1 given figure		<del></del>	<del></del>
4.7.2 perimeter of a polygon		ı i	
4.7.3 circumference of a circle  4.8 The student will be able to determine the	iχ	ı i	
The second with the dute to determine the second			1
of geometric figures.			1
4.8.1 given figure	Х		<del>- i</del> -
4.8.2 polygon		I	
4.8.2.1 square		1	
4.8.2.2 rectangle  5. THE STUDENT WILL BE ARLE TO USE CALCULATORS		1	
		- 1	1
to enter information on a calculator.  5.2 The student will be able to identify	χ '	χ Ι	i
5.2 The student will be able to identify appropriate uses of calculators.			1
6. THE STUDENT WILL BE ABLE TO USE PROBLEM-SOLVING	Х :	<u> </u>	!
SKILLS AND STRATEGIES.	ĺ	İ	
6.1 The student will be able to analyze and			
define the problem.		1	i
6.2 The student will be able to guess, check	<u> X  </u>	X I	!
and refine.			
6.3 The student will be able to look for a	<u> </u>		
pattern.	ļ		
6.4 The student will be able to make a	<del></del>	<u> </u>	!
Systematic list.			ļ ļ
6.5 The student will be able to make and use a	<u> </u>	<u> </u>	
drawing, diagram, model, table, or graph	v	,	!
0.0 The Student Will be able to eliminate	<u> </u>	<u> </u>	
possibilities.	x	.	
6.7 The student will be able to devise a	<del>-^-</del> :	X	
Simpler problem.		ļ	
6.8 The student will be able to work backward.	<u> </u>		<del>;</del> -
ordered will be able to evaluate the	<u>-^÷</u>	<del></del> -	
SOLUTION.	v	v I	
6.10 The student will be able to communicate		<del>-^</del> -	<del></del>
Strategres used when solving problems	į	v !	
0.11 The Student Will be able to know that	<u>·</u>	_^	<del></del> -
problems may have multiple solutions or no	j	ŀ	
solutions.	y I	y :	
<u></u>	<u>^</u>		



17

COURSE GOALS	Electronics I	Electronics II		
7. THE STUDENT WILL BE ABLE TO USE ESTIMATION AND		<u>I                                    </u>		
OF RESULTS.				
The statement of april 11 lice himner	i	<del>i i</del>	<del></del> -	
7.2 The student will be able to estimate				
measurements.		i	ī	
7.3 The student will be able to estimate	<u> </u>		ļ	
computations.	l		i	
7.4 The student will be able to recognize	<del>!</del>	<u> </u>	i	
reasonableness of results			1	í
8. THE STUDENT WILL BE ARLE TO USE NUMERICAL	Ιχ	X		!
INFORMATION DISPLAYED IN A VARIETY OF COMPUTE			!	- 1
FUKI!:3.			i	!
8.1 The student will be able to read tables,	·		<del></del> -	
charts, and granns	y	v i	i	į
8.2 The student will be able to construct tables,			<u>-</u>	!
charts, and granns.		Y !		- !
The stadent will be able to laterbret tables				
CHOICS, AND GRAPHS	Ιχί	χι	:	
MAKE PREDICTIONS.				
9.1 The student will be able to make	i		<del></del>	
predictions based upon collected data.	x	v	- 1	- 1
10. THE STUDENT WILL BE ABLE TO APPLY MATH TO			<del></del>	
EVERYDAY SITUATIONS.			- 1	
10.1 The student will be able to select		<del></del>	<del></del>	
appropriate numbers and number operations			-	
to solve real world problems.  10.2 The student will be able to solve problems	х		1	
involving money				<del></del> i
involving money.  10.3 The student will be able to solve problems involving measurement.			- 1	
		1	Ī	
10.4 The student will be able to solve problems	XI			
INVUIVINU OPOMPTRIC COncents	i			i
10.5 Ine Student will be able to solve problem	X			
involving numerical information in a varioty 1	- 1		-	- 1
	,,	İ		į
10.6 The student will be able to recognize ways	<u> </u>			!
onde mach concepts and skills are neaful +-	-		1	
themselves and others.	x	j		
	^			



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COURSE GOALS  1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE	Auto I	Auto II	Advanced Auto III	Advanced Auto IV
KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.	1			
meaning of numbers.  1.1.1 whole numbers	X	X	     X	l X
1.1.2 fractions	. X	X	İΧ	X
1.1.3 decimals	ıχ	Χ	İΧ	ΪX
1.1.4 percents 1.1.5 integers	<u> </u>	Χ	X	ΙX
1.1.6 ratio and proportion	I X I	Χ	X	X
1.2 The student will be able to count numbers.	! X I	Χ	X	X
1.3 The student will be able to order and compare	<u> </u>			
numbers.  1.3.1 whole numbers				
1.3.2 fractions	<u>                                     </u>			
1.3.3 decimals	! X !	<u>X</u>	Χ	Х
1.3.4 percents	X	X	X	Χ
1.3.5 integers	<u> </u>			
1.4 The student will be able to read and write numbers.				
1.4.1 whole numbers	- !	<del></del> ¦		
1.4.2 fractions				
1.4.3 decimals	X	$\frac{1}{x}$		
1.4.4 integers			_X_	X
1.5 The student will be able to demonstrate	<del></del>			
knowledge of place value.	I		ļ	1
1.5.1 whole numbers	<del></del>			
1.5.2 decimals	Х	Х	Х	<del></del>
1.5.3 integers	$\frac{x}{x}$	X	$\frac{x}{x}$	$\frac{\lambda}{\lambda}$
1.6 The student will be able to round numbers	i	<del></del>		<del>-^-</del>
1.6.1 whole numbers	X	Χİ	_ X	X
1.6.2 fractions 1.6.3 decimals				<del>-^-</del>
1.6.4 integers	X	Χİ	Х	Х
1.7 The student will be able to recognize				
equivalent forms of fractions.	1	i		
1.8 The student will be able to identify and know	X	χ	_ X	х
The Value of United States currency	ĺ			
2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SKILLS				
2.1 The student will be able to perform basic	5.			
operations on whole numbers.	- 1		i	
2.1.1 add				
2.1.2 subtract	Xi	X	X	Χ
	X I	X	X	Χ



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COURSE GOALS	Auto	Auto	ğ	ည်
CODKSE GOAES	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Au	Advanced	Advanced
2.1.3 multiply	<del> </del>			
2.1.4 divide	I X	X	<u>  X</u>	X
2.1.5 find averages	l X	!_X   X	Ιχ Ιχ	X
2.2 The student will be able to perform basic	<del>} - ^ -</del>	<u></u> -	<u>  X                                   </u>	<u>  X</u>
operations on fractions.				· .
2.2.1 find equivalent forms	İΧ	<u></u>	<del>                                     </del>	<u></u>
2.2.1.1 reduce fractions 2.2.1.2 change mixed numbers to	. X	X	Ιχ	X
		<u> </u>	i	
improper fractions 2.2.2 add	<u> </u>	Χ		χ
2.2.3 subtract	<u> </u>	<u> </u>	Χ	Χ
2.2.4 multiply	Х	<u>_X</u>	Χ	Χ
2.2.5 divide	<u> </u>	! 		
2.2.6 find averages	χ	Y		
2.2.8 change a fraction to an equivalent		X		_ X
uecima i	χ	v	v	v
2.2.9 change a fraction to an equivalent				
2.3 The student will be able to porform backs	χ		χ	y
2.3 The student will be able to perform basic operations on decimals.				
2.3.1 change a decimal to an equivalent				
fraction				ĺ
2.3.2 change a decimal to an equivalent			<u>ļ</u>	
percent	x		.	
2.3.3 add	X	X	_X   X	_ <u>X</u>
2.3.4 subtract	<del>- x i</del>	Ŷ	-X	_X
2.3.5 multiply	^_ i		<u>-^-</u> ¦	
2.3.6 divide 2.3.7 find averages				
2.4 The student will be able to solve problems				
involving percents.				
2.4.1 change a percent to an equivalent				
fraction			- 1	
2.4.2 change a percent to an equivalent			!	
decima!	,	1		
2.4.3 find a percent of a number	$\frac{X}{X}$	X	$\frac{X}{X}$	-X
2.4.4 find what percent one number is of	<del>-^-</del>	$\stackrel{\wedge}{-}$	_^_+	
another	-	[	}	l
2.4.5 find a number when the percent of it				
is given  2.5 The student will be able to solve matic and	Χ	χ	x	х
2.5 The student will be able to solve ratio and proportion problems.				
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COURSE GOALS	Auto	Auto	ا ۾ ا	Ĕ
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2.5.1 determine the ratio between two given			2	_ <u>&amp;</u>
quantities quantities				
2.5.2 find the fourth term of a proportion	X			
when three terms are given			J	
2.6 The student will be able to evaluate formulas.	!			
2.6.1 evaluate a formula, given the values	!			
for the variables			j	
2.7 The student will be able to perform basic	<u> </u>			
operations on integers.			Ī	
2.7.1 add		!		
2.7.2 subtract	Xi	X 1	XI	Χ
2.7.3 multiply	!	1	!	
2.7.4 divide			1	
2.7.5 find averages	!	i		
2.12 The student will be able to perform basic	!			
Operations on variables and alasts	İ	į	1	
operations on variables and algebraic expressions.	1	ł	1	
		;		!
2.12.1 have an awareness of variables	<u> X 1</u>	ı		
2.12.2 write and explain algebraic	İ	i		
expressions using variables				
2.12.3 simplify by combining similar terms   2.13 The student will be able to write	I			
mathematical equations.	1		Ī	
2.13.1 change a mathematical equation in word				
Je " " " Cultar Editar III When	j	ı		
2.15 The student will be able to perform basic				ĺ
operations using exponents.	1	1		
2.15.1 read, write and explain exponents		1		- 1
2.15.6 read, write and explain numbers		1		
using scientific notation	1	1		
2.16 The student will be able to factor.			!	
2.16.1 numbers	!	1		
2.16.2 find the greatest common factor of	!	1	I	
numbers or numerical average	I			
numbers or numerical expressions  2.16.3 find the lowest common multiple of			ļ	- [
numbers or numerical average of	ļ		T	
numbers or numerical expressions  2.18 The student will be able to use the basic	i	1		ŀ
properties of arithmetic.		Ī		
2.18.1 order of operations				1
2.18.2 commutative		T	ī	
2.18.3 associative		Ī	ı	
2.18.4 distributive		1	1	
2.10.4 distributive	1	<del></del> i	1	



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				Auto	Advanced Auto
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CUII	RSE GOALS	Auto	Auto	ınc	DU.
COO	RSE GUALS	A	Aı	Advanced	dv8
3.	THE STUDENT WILL BE ABLE TO USE BASIC MEASURING SKILLS.	<u></u>		<u> </u>	_ <del>K</del>
	3.1 The student wil know and use units of time.				
	3.1.1 identify units of time	· ·			
	3.1.2 tell time	X		<u> X</u>	Χ
	3.1.2.1 use concepts of time	X	!i	X	X
	3.1.3 figure elapsed time	<u> </u>			^_
	3.1.4 make conversions with units of time	X		X	χ
	3.2 The student will know and use units of length		<u> </u>		
	3.2.1 non-standard units of length	Х	χ	χ	Х
	3.2.2 metric system	X	X		
	3.2.3 English system	X	ΧÌ	X	X
	3.2.4 read a ruler	Х	Χ	<u> </u>	
	3.3 The student will know and use units of mass		i	<u>:`</u>	
	and weight.		i		
	3.3.2 metric system				
	3.3.3 English system		. !	,	
	3.3.4 weigh an object  3.4 The student will know and use units of volume.		1	1	
	VI VOI UNE A		i	1	
	3.4.2 metric system	XI	Χı	*	X
	3.4.3 English system	<u>X</u>	X:		X!
	3.4.4 determine the volume of an object 3.5 The student will know and use temperature		!		
•	3.5 The student will know and use temperature scales.	-	I	1	
	3.5.1 Celsius				
	3.5.2 Fahrenheit				
	3.6 The student will know and use urits of angle	X!	_ X!	<u> X i</u>	_ X
`	measurement.			Į	
	3.6.1 different angle measures		!		
	3.6.1.1 degrees	<u>_</u>			
	3.6.2 measure an angle	X!	<u> </u>		XJ
	3.6.2.1 protractor	X <u> </u>	<u> </u>	!	X!
4.	THE STUDENT WILL KNOW GEOMETRIC CONCEPTS.		!		
	1.1 The student will be able to identify,	1			!
	illustrate and use spatial concepts and		-		1
	relationships.		1	· ·	
	4.1.1 identify, copy, illustrate and	!	<del>- i</del>	1	
	construct open and closed one, two.			-	
	and_three-dimensional figures	l	ļ		-
	4.1.2 recognize and use symmetry	<del></del>		<del></del> '	
4	.3 The student will be able to recognize and	<del></del>		<u>:</u>	
	apply relationships and properties of angles.	i	ļ	-	ļ
				<u>'</u>	



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		=	\ <u>\</u>	1
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COURSE GOALS	Auto	Auto	l Ĕ	l E
	Æ	Æ	Advanced	Advanced
4.3.1 identify and name an angle	<del> </del>	<u> </u>	<u> </u>	<u>  ĕ</u>
4.7 The Student Will be able to determine the bour	dany			
or geometric riqures.	luary	}		Į.
4.7.1 given figure	<del> </del>	<u>!</u>		<del>!</del>
4.7.2 perimeter of a polygon		<u> </u>		<del> </del>
4./.3 Clrcumference of a circle				<del>!</del>
The second will be able to delement the second				<del> </del>
or geometric flaures.				ļ
4.8.1 given figure 4.8.2 polygon				<u> </u>
				i I
4.8.2.1 square 4.8.2.2 rectangle				
5. THE STUDENT WILL BE ABLE TO USE CALCULATORS.				
5.1 The student will be able to follow the steps	i			!
_ to enter intermation on a calculation		1		
3.6 THE Studell Will be able to identify	Хі	χ Ι	X	X
QUUTUUTATE HISES OF CATOUILA + ONC	x I	,	.,	!
O. THE STUDENT WILL BE ABLE TO HEE PERBLEM SOLVING		<u> </u>	Х	Х
SVILLS AND STRATEGIES.	ļ	1		İ
6.1 The student will be able to analyze and		<del></del>		
	χ	x	χ	, l
6.2 The student will be able to guess, check	<del>- ^                                   </del>	<del>/  </del>	<u>-^-</u> ;	<u> </u>
and reime.	χΙ	Х	х	х
6.3 The student will be able to look for a pattern.	1			_^_
6.4 The student will be able to make a	X	χ	_x	_x
systematic list.				
6.5 The student will be able to make and use a	<u> </u>	Χ	_x	_ x
drawing, diagram, model, table, or graph.		1	Ī	
6.6 The student will be able to eliminate	XI	X	_X	X
possibilities.			- 1	
6.7 The student will be able to devise a	X!	X	<u> </u>	X
Simpler problem.	İ	- 1	1	
6.8 The student will be able to work backward.		<del></del>	!	
0.9 The Student Will be able to evaluate the		<del>!</del> -	-+	—— <u>i</u>
SOLUTION.	$_{X}$	,	,	.,
6.10 The student will be able to communicate	<u></u>	<u> </u>	<u> </u>	_X
Strategies used when solving problems	x	$_{\rm X}$	x	
6.11 The student will be able to know that	<del>-^-</del>	<del>^                                    </del>	<del>^-</del> +	_X
problems may have multiple solutions or no solutions.			1	
SUTUTIONS.		ļ		]



- 16<sup>2</sup>3

7. THE	GOALS STUDENT WILL BE ABLE TO USE ESTIMATION AND	Auto I	Auto II	Advanced Auto III	Advanced Auto IV
OF	ROXIMATION SKILLS AND RECOGNIZE REASONABLENESS RESULTS. The student will be able to use number				
7.2	Concepts to estimate quantity.  The student will be able to estimate	<sub>X</sub>	χ	Х	X
7.3	measurements.	<sub>X</sub>	_х	<u>,  </u>	x!
7.4 8. THE	The student will be able to recognize reasonableness of results.  STUDENT WILL BE ABLE TO USE NUMERICAL	X	! _x!	! 	l
INF FOR 8.1	ORMATION DISPLAYED IN A VARIETY OF GRAPHIC MS.				
8.2	The student will be able to construct tables, charts, and graphs.	<sub>x  </sub>	_x!	_ x _! 	
8.3 9. THE	The student will be able to interpret tables, charts, and graphs.  STUDENT WILL KNOW HOW MATHEMATICS IS USED TO	x	x	X	
MAN	The student will be able to make				
10. THE	predictions based upon collected data. STUDENT WILL BE ABLE TO APPLY MATH TO RYDAY SITUATIONS.	<u> </u>	<u>x  </u>	_x	_x
	The student will be able to select appropriate numbers and number operations to solve real world problems.				
	The student will be able to solve problems involving money.  The student will be able to solve problems	х		х	X
	The student will be able to solve problems	x	X	x	
10.5	The student will be able to solve problems involving numerical information in a variety of forms.	_ <u>x                                   </u>	x		_x
10.6	The student will be able to recognize ways that math concepts and skills are useful to themselves and others.	X	x	X	



- 17 - 24

COURSE GOALS  1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE	Foods I	Foods II	Food Service	
KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.				
1.1 The student will be able to understand the meaning of numbers.  1.1.1 whole numbers				
1.1.2 fractions	<u> </u>	X	X	
1.1.3 decimals	X	i X I	χİ	
1.1.4 percents	, X ;	X	χΙ	
1.1.5 integers			χi	
1.1.6 ratio and proportion				
1.2 The student will be able to count numbers.			X !	
1.3 The student will be able to order and compare				
numbers.			1	
1.3.1 whole numbers			!	
1.3.2 fractions			ļ	
1.3.3 decimals	<u> </u>	<u> </u>	X !	
1.3.4 percents	<u> </u>	<u> X i</u>		
1.3.5 integers		!	<u> </u>	
1.4 The student will be able to read and write	<u>!</u>	!	!	!
numbers.	ĺ		l	
1.4.1 whole numbers		<u> </u>		
1.4.2 fractions	<u> </u>	XI	<u> </u>	!
1.4.3 decimals	X 1	XI	X	
1.4.4 integers	<u> </u>	_^-	X	
1.5 The student will be able to demonstrate knowledge of place value.				
1.5.1 whole numbers				
1.5.2 decimals	!			
1.5.3 integers	<u> </u>	X [	X	
1.6 The student will be able to round numbers		<del>!</del>		
1.6.1 whole numbers	<del>:-</del> -¦-			
1.6.2 fractions	X_ļ	χİ	X	
1.6.3 decimals	<del>!</del>	<del></del>	<del></del> -	
1.6.4 integers	X <u> </u>	χļ	X	
1.7 The student will be able to recognize	<del></del>	<del></del> -		
equivalent forms of fractions.	x	x	x	[
1.8 The student will be able to identify and know	Ī	<del></del>	<del></del>	$\overline{}$
the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SKILLS	x	χ	<u> </u>	
2.1 The student will be able to perform basic	· [	[		
operations on whole numbers.		T	I	
2.1.1 add		l		
2.1.2 subtract	χΙ	Χİ	X	
	_X_I_	<u> </u>	X	



- 12 25

		<del>,</del> .	T	
		11	Service	
COURSE GOALS	Foods	Foods 1	Food Se	
2.1.3 multiply	<u>X</u>	<del>                                     </del>		<u></u>
2.1.4 divide	ÎX	X	X	
2.1.5 find averages	<u> </u>			
2.2 The student will be able to perform basic	ì ———	<u></u>	<u> </u>	
operations on fractions.	1			
2.2.1 find equivalent forms	X	X	χ	
2.2.1.1 reduce fractions	. — —	X	X	
2.2.1.2 change mixed numbers to	<del>i                                    </del>	<u> </u>		
improper fractions	Ιχ	χ	X	
2.2.2 add	l X	X	X	
2.2.3 subtract	LX	X	X	
2.2.4 multiply 2.2.5 divide	L X		X	
2.2.6 find averages	l X		X I	-
2.2.0 Tillu averages	<u> </u>			
2.2.8 change a fraction to an equivalent decimal				
2.2.9 change a fraction to an equivalent				
percent		-	1	
2.3 The student will be able to perform basic		!	!	
operations on decimals.		i		
2.3.1 change a decimal to an equivalent	<u> </u>	!	!	
Traction			ı	
2.3.2 change a decimal to an equivalent				
percent				
2.3.3 add	V	<del>-  </del>	-:	
2.3.4 subtract	$\frac{\lambda}{\lambda}$	<del>-X-</del> 1	<u> </u>	
2.3.5 multiply	<u> </u>	_ X _	<del>_X</del> -	
2.3.6 divide	<del></del>		<del>_X</del> _¦	
2.3.7 find averages	$\frac{1}{x}$	_X	<del>-}-</del>	
2.4 The student will be able to solve problems		<del>-^-</del>		
involving percents.	1	- 1		İ
2.4.1 change a percent to an equivalent		<del></del>		<del></del>
fraction	ĺ		j	l
2.4.2 change a percent to an equivalent	1	<del>- i</del>	<del>- i</del>	
decimal			_x	- 1
2.4.3 find a percent of a number			X	i
2.4.4 find what percent one number is of another	1			
2 4 5 find a number when the			1	
2.4.5 find a number when the percent of it is given	1	1		
2.5 The student will be able to solve ratio and				
proportion problems.	i	1		
proportion problems.				



- 13 -26

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			Food Service	
			٧i	
	<b>—</b>	II	er	
	S	S	S	
	Foods	Foods	b	
COURSE GOALS	F0	윤	6	
SOCIOL GONES				
2.5.1 determine the ratio between two given		!	_	
quantities	Х	х	Х	
2.5.2 find the fourth term of a proportion	^		-^- :	
when three terms are given			х	
2.6 The student will be able to evaluate formulas.		<u> </u>	<del>-^-</del> ¦	
2.6.1 evaluate a formula, given the values				
for the variables	χ	X	х	l
2.7 The student will be able to perform basic	^_			
operations on integers.				1
2.7.1 add				إ
2.7.2 subtract				
2.7.3 multiply		!	<u>-</u>	!
2.7.4 divide			<u>_</u>	<del></del>
2.7.5 find averages				
2.12 The student will be able to perform basic		1		
operations on variables and algebraic	i		l	
expressions.		į		
2.12.1 have an awareness of variables	— <del></del> ;	Х.	<u> </u>	
2.12.2 write and explain algebraic	<del>- ^ '</del>	<del>-^-</del> .	<del>-^ ¦</del>	<del></del> ¦
expressions using variables	ļ	i	ļ	
2.12.3 simplify by combining similar terms		I		
2.13 The student will be able to write				
mathematical equations.		:	- 1	i
2.13.1 change a mathematical equation in word	<u>'</u>	<del></del> ;	<del></del> !	
form to one using symbols	ł		j	
2.15 The student will be able to perform basic	<u>'</u>	<del></del> ¦		
operations using exponents.		İ	1	j
2.15.1 read, write and explain exponents	<u>;</u>			
2.15.6 read, write and explain numbers	<u></u>	<del></del>	<del> </del>	
using scientific notation	İ	l		
2.16 The student will be able to factor.	<del></del>	<del></del>	— <u> </u>	
2.16.1 numbers	<u>_</u>	<del>- i</del>	<del>-                                    </del>	
2.16.2 find the greatest common factor of	<del></del>	<del></del> i		
numbers or numerical expressions	- 1	ł	1	
2.16.3 find the lowest common multiple of	—— <u>i</u>	<del></del> i	- 1	
numbers or numerical expressions	ļ	l	1	j
2.18 The student will be able to use the basic	i	<u>:</u>	- :	
properties of arithmetic.		1	j	ļ
2.18.1 order of operations	<u>'</u>		- !	
2.18.2 commutative		- <u>!</u>		
2.18.3 associative	<del></del> ¦	<u> </u>	<u> </u>	
2.18.4 distributive			<u>!</u>	
	<u> </u>			



COURSE GOALS  3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING	Foods I	Foods II	Food Service	
SKILLS.	1		i	
3.1 The student will know and use units of time.	<del></del>	<del> </del>	<u> </u>	
J.I.I IDENTITY UNITS OF TIME	<u> </u>	   v	1 1/	
3.1.2 tell time	- X X	X	X	
3.1.2.1 use concepts of time	· ^	<del>! ^</del>	<u> </u>	
3.1.3 Tigure elapsed time	i X	ΙX		
3.1.4 make conversions with units of time		: ^   X	X	
5.2 The student will know and use units of longth	. <u>.                                    </u>	1 ^		
3.2.1 hon-standard units of length	7	i i		
3.2.2 metric system	i -			
3.2.3 English system	; X	' X	χi	
3.2.4 read a ruler  3.3 The student will know and use units of mose	i .	<del>,                                    </del>		
The state of the s	i			
and weight.	}			
3.3.2 metric system	1	;	<del></del> i	<del></del> i
3.3.3 English system	!	Х:	X	
3.3.4 weigh an object		Х.	χī	<del></del> i
3.4 The student will know and use units of volume.		:	<del></del>	i
3.4.2 metric system	i j			<del></del> -
3.4.3 English system	l X i	χ ;	ΧI	
3.4.4 determine the volume of an object  3.5 The student will know and use to		ļ	<u></u> -	
3.5 The student will know and use temperature scales.			<del></del>	
3.5.1 Celsius		1	1	
3.5.2 Fahrenheit		i		
3.6 The student will know and use units	${X}$	X	ΧI	
3.6 The student will know and use units of angle measurement.				
3.6.1 different angle measures		<u> </u>		1
3.6.1.1 degrees	11			
3.6.2 measure an angle	1			
3.6.2.1 protractor	1		T	
4. THE STUDENT WILL KNOW GEOMETRIC CONCEPTS.	1	1		
4.1 The student will be able to identify,	1			
illustrate and use spatial concepts and		- 1		
relationships.		- 1	1	1
4.1.1 identify, copy, illustrate and				
construct open and closed one two	i			
and three-dimensional figures	- 1	- 1	- 1	1
4.1.2 recognize and use symmetry	!			
4.3 The student will be able to recognize			i	
apply relationships and properties of angles.	ļ	- 1	1	
Figer ores of angles.				



COURSE GOALS	Foods I	Foods II	Food Service	
4.3.1 identify and name an angle				
4.7 The student will be able to determine the boun of geometric figures. 4.7.1 given figure 4.7.2 perimeter of a polygon	dary			
4.7.3 circumference of a circle	<u></u> _		!	
4.8 The student will be able to determine the area of geometric figures.  4.8.1 given figure				
4.8.2 polygon	!	<del>!</del>		
4.8.2.1 square			!	
4.8.2.2 rectangle			<del>!</del>	
5. THE STUDENT WILL BE ABLE TO USE CALCULATORS.	<del></del>	!		
5.1 The student will be able to follow the steps	<u>-</u> <u>!</u>			
to enter information on a calculator.		. 1		1
5.2 The student will be able to identify	X <del>`</del>	χ	Х	
appropriate uses of calculators.			- 1	í
6. THE STUDENT WILL BE ABLE TO USE PROBLEM-SOLVING	X	_X!	<u> X                                   </u>	i
SKILLS AND STRATEGIES.	j	ĺ	İ	i
6.1 The student will be able to analyze and	1		!	!
define the problem.			1	
6.2 The student will be able to guess, check	X!	_X[	_χ !	
and refine.		İ	Ì	I
6.3 The student will be able to look for a pattern.	X  	<u> </u>	<u> </u>	
6.4 The student will be able to make a	<u> </u>			_
systematic list.	1	1		
6.5 The student will be able to make and use a		l		_
drawing, diagram, model, table, or graph.	1	1		
6.6 The student will be able to eliminate				
possibilities.				
6.7 The student will be able to devise a			ŀ	_
simpler problem.	1	-		
6.8 The student will be able to work backward.				_ [
6.9 The student will be able to evaluate the		1		
solution.				
6.10 The student will be able to communicate	<del></del>	<del></del>		
strategies used when solving problems	- 1			i
6.11 The student will be able to know that			<del>!</del>	
problems may have multiple solutions or no				1
solutions.		-		1



29

			<del></del>
COURSE GOALS  7. THE STUDENT WILL BE ABLE TO USE SCHWATZON AND	Foods I	Foods 11	Food Service
APPROXIMATION SKILLS AND RECOGNIZE REASONARIEMESS	1		
01 RESULTS.			
7.1 The student will be able to use number	<del></del>	!	! !
Concepts to estimate quantity	ΙX	χ	<sub>X</sub>
7.2 The student will be able to estimate measurements.	1		
7.3 The student will be able to estimate	<u>Ι χ</u>	Х	X
computations.			
7.4 The student will be able to recognize	<del>!</del> !		
reasonableness of results	x	χ	x
	<del>i                                    </del>		_ ^ '
INFORMATION DISPLAYED IN A VARIETY OF GRAPHIC FORMS.			
8.1 The student will be able to read tables,	<u> </u>		
charts, and granns	l i		i
8.2 The student will be able to construct tables	! x !	<u>_X_'</u>	_ X :
Charts, and granne	i I	x I	χİ
8.3 The student will be able to interpret tables,	1 1	<del>-^ ;</del>	
charcs, and arabits	i x l	χ	x l
9. THE STUDENT WILL KNOW HOW MATHEMATICS IS USED TO MAKE PREDICTIONS.			
9.1 The student will be able to make			
predictions based upon collected data			
10. THE STUDENT WILL BE ABLE (1) Apply MATH TO	X	<u> </u>	_ X
EVERYDAY SITUATIONS.		1	
10.1 The student will be able to select			
annronriate numbers andt			
to solve real worl' problems.  10.2 The student will be able to solve problems	X	х	x
involving money			
involving money.  10.3 The student will be able to solve problems	X	_X	<u> </u>
	.,		
10.4 The student will be able to solve problems	<u> </u>	<u> </u>	_X
IIIVUIVIIIU UPDIIIPTTIC COnconto			
10.5 The student will be able to solve much	<del></del>		
involving numerical information in a variety of forms.		- 1	
10.6 The student will be able to recognize ways		-	
that math concepts and skills are useful to	ĺ		
themselves and others.			
	χ Ι	<u> </u>	_X



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	1:	<u> </u>	l	Ē
COURSE GOALS	) <del> </del>	1 = =	<u> </u>	<u> </u>
755.15E 46/1E5	Clothing	Clothing	Clothing	Clothing
1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE				0
KNOW EDGE OF BASIC MUNEDATION CONSERVE THE	i		1	i
KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILL	S.	_	l	
1.1 The student will be able to understand the meaning of numbers.	i —			i
1 1 1 whole numbers.			1	
1.1.1 whole numbers 1.1.2 fractions	i X	ΙX	У,	X
1.1.2 iractions	! X	l X	X	X
1.1.3 decimals	, X	l X	X	Y
1.1.4 percents	; X	i x	X	· ·
1.1.5 integers	1	1		
1.1.6 ratio and proportion	X	l x	Y	Y
1.2 The student will be able to count numbers.		<del>; ^</del>		A.
1.3 The Student Will be able to order and company	re i	<del></del>		
nulibers.				
1.3.1 whole numbers	<u> </u>	<del>                                     </del>	-,,-	
1.3.2 fractions	<del></del>	<del>;                                    </del>	_X_	X
1.3.3 decimals	<del>-                                    </del>			
1.3.4 percents	_ <del> </del> X	<u>  x  </u>	X!	X
1.3.5 integers	<del></del>	! !	<del></del> ¦	
1.4 The student will be able to read and write	<del></del>	!!		
numbers.	- }		İ	
1.4.1 whole numbers		! !	!	
1.4.2 fractions	_ <del>  _ X</del>	<u>  X  </u>	_X_!	X
1.4.3 decimals		<del>                                     </del>		
1.4.4 integers		<del>                                     </del>		
1.5 The student will be able to demonstrate		<del>!!</del>		
knowledge of place value.	- 1	1	1	
1.5.1 whole numbers		<u> </u>		
1.5.2 decimals				
1.5.3 integers				
1.6 The student will be able to round numbers				
1.6.1 whole numbers		$\bot$		
1.6.2 fractions			1	
1.6.3 decimals				
1.6.4 integers	X	X	X	X
1.7 The student will be able to recognize			ī	
THE STREET OF STOLE OF LECTION 1/P			Ī	
equivalent forms of fractions.  1.8 The student will be able to identify and become	_L			1
	W	i	1	
the value of United States currency.  THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SET	_ _ x	x l	x	x
2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SKI	LLS.		<del>-^-</del>	
2.1 The Student Will be able to perform basic				
operations on whole numbers.				1
2.1.1 add	χ	X	$\overline{}$	
2.1.2 subtract	<del>-   •  </del>	· ·	<del>X</del>	
				<u> </u>

COURSE GOALS  2.1.3 multiply	Clothing I	Clothing II	Clothing III	Clothing IV
2.1.4 divide	l X	Х	X	X
2 1 5 find average	l X	χ	X	<u>^</u> _
2.1.5 find averages  2.2 The student will be able to perform be in			<del>^-i</del>	
The state of the fill libration backs			<del></del>	
operations on tractions			- 1	
2.2.1 find equivalent forms	<u> </u>	<del></del> i		<del></del>
2.2.1.1 reduce fractions	1	<del></del>		
2.2.1.2 change mixed numbers to	<u> </u>	<del></del> ;	<del></del>	
IMDroner fractions	1 1	l	1	
2.2.2 add	ivi	<del>-,  </del>	<del>-  </del>	
2.2.3 subtract	<u>  X !</u>	X!	<u> </u>	X
2.2.4 multiply	1 1	<del>!</del>		
2.2.5 divide	<del>                                     </del>	<u> </u>	<u> </u>	X
2.2.6 find averages	<del>;</del>	<del></del> !		
2.2.8 change a fraction to an equivalent	<del>  </del>	<del></del>	!	
uec illa i	1	ļ	- 1	
2.2.9 change a fraction to an equivalent	!!	!		
		- 1	- 1	ĺ
2.3 The student will be able to perform basic	<u> </u>			
operations on decimals.		ĺ	- 1	
2.3.1 change a decimal to an equivalent	<u> </u>	!	[	- 1
fraction		i		
2 3 2 Change a docimal to	<u> </u>	- 1	- 1	Ì
2.3.2 change a decimal to an equivalent percent				
2.3.3 add	X	x	Х	χ
2 3 4 cubtures	IXI	XI	Χİ	$\frac{x}{x}$
2.3.4 subtract	! X	X	XI	$\frac{x}{X}$
2.3.5 multiply	i X i	X	Χİ	$\frac{x}{x}$
2.3.6 divide	I X	X	X	$\frac{x}{x}$
2.3.7 find averages  2.4 The student will be able to solve much)		<del>-^-</del> -	<del>^</del>	
The state of the solve bruniams			<del> </del> -	
involving percents.			[	- 1
2.4.1 change a percent to an equivalent		<del></del>		
Traction		1		1
2.4.2 change a percent to an equivalent			<del>!</del> -	
uecilla i	х	х	, l	, [
2.4.3 find a percent of a number	X	X	X L	<u>X</u> .
2.4.4 Tind what percent one number is of	^_	<u> </u>	X	X
another	-	1	ļ	- 1
2.4.5 find a number when the percent of it		Ļ		
IS GIVEN 1				1
2.5 The student will be able to solve ratio and				
proportion problems.		İ	1	



32

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COURSE GOALS	Clothing I	Clothing II	Clothing III	Clothing IV
2.5.1 determine the ratio between two given	1			
guantities	X	χ	Х	Χ
2.5.2 find the fourth term of a proportion	<u> </u>			
when three terms are given				
2.6.1 evaluate a formula, given the values				
for the variables  2.7 The student will be able to payform basis	χ	<u> </u>	χ	X
2.7 The student will be able to perform basic operations on integers.			Ī	
2.7.1 add				
2.7.2 subtract		-		
2.7.3 multiply	!			
2.7.4 divide	<u> </u>	!	!	
2.7.5 find averages		<del></del>		
2.12 The student will be able to perform basic	i	<u>;</u>		
operations on variables and algebraic	1	1	- 1	
expressions.	i	į	- 1	
2.12.1 have an awareness of variables	<u>'</u>		<del>-                                    </del>	
2.12.2 write and explain algebraic	X	_X	<u> </u>	_X!
expressions using variables	!			
2.12.3 Simplify by combining similar towns			<del></del> -	
2.13 the Student Will be able to Write	<u>'</u>			
mathematical equations.		- 1	1	
2.13.1 change a mathematical equation in word	<del></del> -	<u>·</u>	<del></del> -	
TOTAL TO ONE USING SYMBOLS		l	Ì	}
2.15 The student will be able to perform basic	<u>_</u>	<del></del>	+	
operations using exponents.	- 1	- 1	Ì	
2.15.1 read, write and explain exponents	1	<del></del> i	<del>-</del> -	
2.15.6 read, write and explain numbers		ī	<del></del>	
USING SCIENTIFIC notation	1		- 1	
2.16 The student will be able to factor.	İ	i	i	
2.16.1 numbers		1	T i	
2.16.2 find the greatest common factor of				
numbers or numerical expressions	1		1	}
2.16.3 find the lowest common multiple of	i	Ī	1	
numbers or numerical expressions  2.18 The student will be able to use the basic	!	1		_
properties of arithmetic.	i	- 1		
2.18.1 order of operations		!	1	i
2.18.2 commutative	!		1	
2.18.3 associative			1	
2.18.4 distributive	i		1	
3,100, 100, 100, 176		i		]



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	1		! _	
	<b>—</b>	H	II	ΙΛ
		ĺ		
	Clothing	Clothing	Clothing	Clothing
	l Ä	hi	hi	hi
COURCE COST &	ot	ot	ot	) t
COURSE GOALS	[]	5	5	$\tilde{\Xi}$
	_			0
3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING				
SKILLS.			- [	
3.1 The student will know and use units of time.				
3.1.1 Identity units of time				
3.1.2 tell time		<del>!</del>		
3.1.2.1 use concepts of time	!			
3.1.3 figure elapsed time	<u>X</u> 1	X	<u> X                                   </u>	Χ
3.1.4 make conversions with units of time	X	Χ	Х	χ
3.2 The student will know and use units of length i	!	1	!	
	1	- 1		
3.2.1 non-standard units of length		1	- [	
3.2.2 metric system	Xi	Хт	ΧI	Χ
3.2.3 English system	Х	X i	X	X
3.2.4 read a ruler	X	X	Χİ	$\frac{\lambda}{X}$
3.3 The student will know and use units of mass				<del>-^-</del>
and weight.	ĺ	- 1		
3.3.2 metric system	<del></del>	<del></del> i	<del> ;</del>	<u></u>
3.3.3 English system	<del></del>			
3.3.4 weigh an object	<del></del> :	<del></del>	!	
3.4 The student will know and use units of volume i	<del></del>	i	<u>_</u> _	<del></del> ¦
3.4.2 metric system		<u>_</u>	1	
3.4.3 English system	!			
3.4.4 determine the volume of an object				
3.5 The student will know and use temperature				
scales.	1	- 1	1	
3.5.1 Celsius			_	İ
3.5.2 Fahrenheit	!			
3.6 The student will know and use units of angle				
and age dilles by another	j			——
measurement.	į	]	- 1	
3.6.1 different angle measures		1	<del></del>	
3.6.1.1 degrees	Ī		<del></del>	<del> </del>
3.6.2 measure an angle		<del></del>	<del></del>	<del>- X</del> -
3.6.2.1 protractor		<del></del>	<del></del>	
4. THE STUDENT WILL KNOW GEOMETRIC CONCEPTS.	<del></del>	<del></del> ;		_X!
4.1 The student will be able to identify.	<del></del> -			
illustrate and use spatial concepts and	l	ĺ	- 1	1
relationships.			- 1	1
4.1.1 identify, copy, illustrate and	<del>!</del>			
construct open and closed one, two,	1		1	1
and three-dimensional figures	[			}
4.1.2 recognize and use symmetry				_ }
4.3 The student will be able to recognize and			T	
	1	$\neg \neg$	Ī	
apply relationships and properties of angles.	j	1	1	i
			<u> </u>	



COURSE GOALS	Clothing I	Clothing II	Clothing III	Clothing IV
4.3.1 identify and name an angle	<b></b>	<del></del>	<del>i</del>	
4./ Ine Student Will be able to determine the boun	darv	<del></del>		
or geometric figures.		- 1	- 1	
4.7.1 given figure			<del>!</del>	
4.7.2 perimeter of a polygon		<u>-</u>	<del></del>	
4./.3 circumference of a circle		<del></del> ;		
4.8 The student will be able to determine the area		<del></del> ¦		
or geometric figures.				
4.8.1 given figure	<u> </u>	<del></del>	<del></del>	
4.8.2 polygon		<del></del>	<del></del>	
4.8.2.1 square		<del></del>	<del></del>	
4.8.2.2 rectangle		<del></del>	<del></del>	
5. THE STUDENT WILL BE ABLE TO USE CALCULATORS		<del></del> ;	<del></del>	——
3.1 The Student Will be able to follow the stens		<del></del>	<del></del>	
to enter information on a calculator	χl	χl	_ x	х
5.2 The student will be able to identify		<del>-^-</del>	<del>-^</del> ;	
appropriate uses of calculators	χİ	χİ	χ	χ
o. THE STUDENT WILL BE ABLE TO HISE PROBLEM-SOLVING	^	<del>-^                                    </del>	- <del>^-</del>	
SKILLS AND STRATEGIES.			l	
6.1 The student will be able to analyze and	<del></del>	<del></del>	<del></del> ;	<del></del> -
define the problem.	χĮ	x	χl	v
6.2 The student will be able to guess, check	^_i	<del>-^                                    </del>	<del>-^ ;</del>	<del></del> ;
and retine.	x	x	x	,
6.3 The student will be able to look for a	<del></del> ^ }	<del>-^+</del>		
pattern.	1	1		j
6.4 The student will be able to make a	<u>_</u>	<del></del>	<del>- +</del>	
systematic list.		Ì		ļ
6.5 The student will be able to make and use a	<del></del>	<del></del>	<del></del>	
grawing, diagram, model, table, or graph	x l	v	$\mathbf{x}$	v
0.0 The Student Will be able to eliminate	<u> </u>	<del>-^+</del>	<del>-^                                    </del>	-^¦
possibilities.		-	1	1
6.7 The student will be able to devise a	i	<del></del>	<del></del> -	
simpler problem.			-	
6.8 The student will be able to work backward.	<u>-</u>	<del></del>	<del></del> -	
0.9 The Student Will be able to evaluate the	<u></u>	<del>- '</del>	<del></del>	
solution.				- 1
6.10 The student will be able to communicate	<del></del>	- 1	<del></del> -	
Strategles used when solving problems	ļ			
0.11 The student will be able to know that	<u>;</u>	<del></del>	<del></del> -	
problems may have multiple solutions or no	]		ł	}
solutions.		ļ		1



35 - 16 -

		<del></del>	,	
COURSE GOALS  7. THE STUDENT WILL BE ARLE TO USE ESTIMATION AND	Clothing I	Clothing II	Clothing III	Clothing IV
APPROXIMATION SKILLS AND RECOGNIZE REASONABLENESS OF RESULTS.				
7.1 The student will be able to use number concepts to estimate quantity.	X	\   <sub>X</sub>	X	Х
7.2 The student will be able to estimate measurements.			<u> </u>	
7.3 The student will be able to estimate	<u> </u>	Χ	<u> </u>	Х
combutations.	χ	Х	Х	х
reasonableness of results		χ	Х	х
8. THE STUDENT WILL BE ABLE TO USE NUMERICAL INFORMATION DISPLAYED IN A VARIETY OF GRAPHIC	<u> </u>		^_	
rukms.				
8.1 The student will be able to read tables, charts, and graphs.  8.2 The student will be able to construct the student will be able to construct the student will be able to construct the student will be able to construct the student will be able to construct the student will be able to construct the student will be able to read tables,	X	χ	χ	Х
charts, and graphs	X	Х		i
8.3 The student will be able to interpret tables, charts, and graphs.	!	1	_ <u>X</u> :	X
9. THE STUDENT WILL KNOW HOW MATHEMATICS IS USED TO	<u> </u>	<u> </u>	<u> </u>	X
MAKE PREDICTIONS.  9.1 The student will be able to make		_	ŀ	
predictions based upon collected data	x	Х	Ţ	
10. THE STUDENT WILL BE ABLE TO APPLY MATH TO EVERYDAY SITUATIONS.	^		<u> </u>	X
10.1 The student will be able to select				
appropriate numbers and number operations			ļ	
to solve real world problems.  10.2 The student will be able to solve problems	X	<u> </u>	X	Χ
involving money.  10.3 The student will be able to solve problems	x	x	x	x
INVUIVING MEASUREMENT				
10.4 The student will be able to solve problems	<u> </u>	<u> </u>	<u> </u>	X
involving geometric concepts.  10.5 The student will be able to solve problems				χ
involving numerical information in a variety [		į		
or torms.				{
10.6 The student will be able to recognize ways that math concepts and skills are useful to	<u>_</u>	<del>- i</del>	Ť	
themselves and others.	x	x	χ	x
	<u>-:</u> -	<u>~                                    </u>		:



- 1736

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		Meta]	1	
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	cation	至	Í	- 1
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	ပိ	ဗ		- 1
COURSE GOALS	al	an	ĺ	
COOKSE GOMES	Metal Fabri	Advanced		ļ
1 THE CYLLEGIS OF THE CASE	Σď	_ ¥		İ
1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE	i		1	$\neg$
KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.				1
1.1 The student will be able to understand the			<del>- i-</del>	$\dashv$
meaning of numbers.			l	- 1
1.1.1 whole numbers	!	- V		ب_
1.1.2 fractions	1 <u>X </u>	<u> </u>	!	
1.1.3 decimals	<u> </u>	χ Ι		
	1 X 1	<u> </u>		
1.1.4 percents		1	!	1
1.1.5 integers	!			
1.1.6 ratio and proportion		1		$\neg$ i
1.2 The student will be able to count numbers.		i	i	
1.3 The student will be able to order and compare				
numbers.			İ	
1.3.1 whole numbers		<del>- ,                                   </del>		
1.3.2 fractions	<u> </u>	<u> </u>		!
1.3.3 decimals	X	<u> </u>	!	
1.3.4 percents	<u> </u>	_X_:		
1.3.4 percents	<u>i</u>	1		
1.3.5 integers	i :	!		
1.4 The student will be able to read and write	i	i		$\neg$
numbers.		ł	ŀ	
1.4.1 whole numbers	ΧI	X	<del>i-</del>	—i
1.4.2 fractions	X	_ X	<del></del>	~ [
1.4.3 decimals	$\frac{\lambda}{\chi}$	$\frac{\hat{x}}{x}$		
1.4.4 integers		<del>-^-</del> }		
1.5 The student will be able to demonstrate				
knowledge of place value.	ı		1	
1.5.1 whole numbers	1		!	
1.5.2 decimals	<u> </u>	_XI		
	ΧI	<u> </u>		
1.5.3 integers	!	1		$\Box$
1.6 The student will be able to round numbers				$\neg$
1.6.1 whole numbers		i		_
1.6.2 fractions				
1.6.3 decimals	Χİ	X	<del></del>	
1.6.4 integers	<del>-^-  </del>	<del>-^-</del>	<del></del>	
1.7 The student will be able to recognize	<del></del>	<del></del>	<del></del>	
equivalent forms of fractions.  1.8 The student will be able to identify and know	,			
1.8 The student will be able to identify and know!	<u> </u>	<u> </u>		
the value of United States currency and Know		j		
the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SKILL	!			
2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL SKILL	<u>S. i</u>	i		
2.1 The student will be able to perform basic	1		1	
operations on whole numbers.	Ì			- 1
2.1.1 add	X	X	<del>-  -  </del>	
2.1.2 subtract	X 1	X	<del></del>	
	<u>^-</u>			



37

	uo	fetals I	
COURSE GOALS	Metal Fabrication	Advanced Metals	
0.1.0	let ab	è	- 1
2.1.3 multiply	i X		
2.1.4 divide	I X	X	<del> </del> -
2.1.5 find averages	<del></del>	X	
2.2 The student will be able to perform basic		<del>}}-</del>	
operacions on tractions	1		
2.2.1 find equivalent forms		<u> </u>	
2.2.1.1 reduce fractions	X   X	<del>                                     </del>	
2.2.1.2 change mixed numbers to	<del></del>	<u>  x                                   </u>	
	l x	l v l	
2.2.2 d00	i X	X     X	<del></del> -
2.2.3 subtract		<del>                                     </del>	<del>!</del>
2.2.4 multiply	1 X	X	
2.2.5 divide	1 X	$\frac{\lambda}{X}$ 1	
2.2.6 find averages	<del></del> -^	^!	- <del></del>
2.2.8 change a fraction to an equivalent decimal	<u>-</u>	<del></del>	
2.2.9 change a fraction to an equivalent percent	<u> </u>	X _!	<del>-  </del>
2.3 The student will be able to perform basic		1	
operations on decimals.	i		
2.3.1 change a decimal.	<u> </u>		ł
2.3.1 change a decimal to an equivalent fraction	x	х	i
2.3.2 change a decimal to an equivalent			
2.3.3 add		_	1
2.3.4 subtract	1 X I	ΧI	
2.3.5 multiply	1 X	X	
2.3.6 divide	I X	Xi	<del></del>
2.3.7 find averages	_ I X i	X	<del> </del>
2.4 The student will be able to column	_	<u> </u>	
2.4 The student will be able to solve problems involving percents.		<del></del>	
THIT OF THE DESCRIPTION	1 1	İ	
2.4.1 change a percent to an equivalent fraction			<del></del>
2.4.2 change a percent to an equivalent decimal	<del> </del>	<del></del> -	<del>-                                    </del>
2.4.3 find a percent of a number	<u>!</u>		
2.4.4 find what percent one number is of	<u> </u>	!	
another	]	1	1
2.4.5 find a number when the percent of it	1 1		-
2.5 The student will be able to solve ratio and	<u> </u>	1	1



INDED:12-87a v - 13 38

		<del>, , , , , , , , , , , , , , , , , , , </del>	
	ion	Metals I	
COURSE GOALS	Metal Fabrication	Advanced	
2.5.1 determine the ratio between two given quantities		<u> </u>	
2.5.2 find the fourth term of a proportion	<u> </u>		
WHEN LIFEE Terms are given			1
2.0 The student will be able to evaluate formulae		<u> </u>	
2.0.1 evaluate a formula, given the values	<u>:</u>	· -	<del></del>
IUT the variables	<sub>X</sub>	x	
operations on integers. 2.7.1 add			
2.7.2 subtract		1	
2.7.3 multiply		1_	
2.7.4 divide		<del>!</del> -	<del></del>
2.7.5 find averages		<del></del>	<del></del>
2.12 The student will be able to perform basis		!	
operations on variables and algebraic			
expressions.	i		
2.12.1 have an awareness of variables	X 1	<u> </u>	- 1
2.12.2 Write and explain algebraic			<del>-                                    </del>
expressions using variables	- 1		
2.12.3 simplify by combining similar terms   2.13 The student will be able to write	i		<del></del>
mathematical equations.		i	
2.13.1 change a mathematical aquation in word			
2.13.1 change a mathematical equation in word form to one using symbols	]		
2.15 The student will be able to perform basic			
Operations using exponents.			
2.15.1 read, write and explain exponents	<del></del>		
2.13.0 read, write and explain numbers	<del></del>		
using scientific notation	1		
2.16 The student will be able to factor.	<u>;</u>	<del></del>	
2.16.1 numbers	<del></del>	<del></del> ;	<del></del>
2.16.2 find the greatest common factor of	<del></del>	<del></del> -	
numbers or numerical expressions	ļ	1	
2.16.3 find the lowest common multiple of	1	<del></del>	<del></del>
numbers or numerical expressions  2.18 The student will be able to use the basic	i		
properties of arithmetic.	i		
2.18.1 order of operations	i_		
2.18.2 commutative	. !		
2.18.3 associative			
2.18.4 distributive			
		<u> </u>	



INDED:12-87a v

- 1439

	<del></del>		
	ł	15	
	=	Metal	
	1 :5	윤	
	Meta? Fabrication	اچ	ĺ
	F	ဦ	
COURSE GOALS	S ide	g	1
2 715 0715	200	Advanced	ł
3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING	İ		<del></del> -
SKILLS.	ļ	]	
3.1 The student will know and use units of time.	i	Ť	<del>i</del>
3.1.1 Identity units of time		χI	<del>-  </del>
3.1.2 tell time		j	i
3.1.2.1 use concepts of time 3.1.3 figure elapsed time	<u> </u>	χí	i i
3.1.4 make conversions with units of time	<u> </u>	x !	
3.2 The student will know and use units of length.	<u> </u>	χ 1	
3.2.1 non-standard units of length	Ì		
3.2.2 metric system			
3.2.3 English system	<u> </u>	<u> </u>	
3.2.4 read a ruler	x I	X	
3.3 The student will know and use units of mass	<u> </u>	<u> </u>	_
and weight.		į	
3.3.2 metric system		÷	
3.3.3 English system	X	X	
3.3.4 Weigh an object		<del>^                                    </del>	
3.4 The student will know and use units of volume.			<u> </u>
3.4.2 metric system		<del></del>	
3.4.3 English system	X	χi	
3.4.4 determine the volume of an object  3.5 The student will know and use temperature			·
3.5 The student will know and use temperature scales.			<del></del>
3.5.1 Celsius		}	
3.5.2 Fahrenheit			
3.6 The student will know and use units of angle	_X	Χ	
measurement.	İ	1	1
3.6.1 different angle measures	<u>-</u>		
3.6.1.1 degrees			
3.6.2 measure an ingle	<del></del>	<u>-X-</u> _	
3.6.2.1 protractor		<del>-X- -</del>	!!
4. THE STUDENT WILL KNOW GEOMETRIC CONCEPTS		X!	
4.1 The student will be able to identify	<del>!</del>	<del></del>	
litustrate and use spatial concepts and		ĺ	
relationships.			1 1
4.1.1 identify, copy, illustrate and	<u>-</u>	<del></del>	
construct open and closed one two		İ	
and three-dimensional figures	1	l	
4.1.2 recognize and use symmetry  4.3 The student will be able to recognize and	<del></del>	<u></u>	
	1		
apply relationships and properties of angles.		χ	



INDED:12-87a v

COURSE GOALS		Metal Fabrication	Advanced Metals I	
4.7 The student w	v and name an angle		ΧI	<del></del>
of geometric	rill be able to determine the bou	ındary		
4.7.1 given f	igures.			
4.7.2 perimet	er of a polygon		ı	!
4.7.3 circumf	crence of a circle		X	1
4.8 The student w	ill be able to determine the are	<u> </u>	X	
	Tiqures.	ea l		
4.8.1 aiven f	igure			
4.8.2 polygon		<u> </u>	X!_	!
4.8.2.1	square			
4.8.2.2	rectangle	<u>X                                   </u>	X !	!!
5. THE STUDENT WILL B	E ABLE TO USE CALCULATORS	<del>  X :</del>	_X	
2.1 THE STUGENT M	Ill be able to follow the stops	<del> </del> :	<del></del>	<del>!</del> !
to enter into	rmation on a calculator	x	, !	
2.5 The Student M	III De able to identify	<del>                                     </del>	_X	<del></del> -!
appropriate u	SPS of calculators	X	χ	
O. THE STONENT MILE RI	ABLE TO HISE PROBLEM SOLVENO	<del></del>	<u> </u>	<del></del>
- SVILLS AND STRATEG	IFS.	1 !	Ì	
6.1 The student w	ill be able to analyze and	<del> </del>	<del></del>	<del></del>
uei ine the bri	ODIEM.	x	$_{X}$	
0.2 The Student W	ill be able to guess, check		<del>^</del>	<del></del>
and rerine.	-	x	χΙ	
pattern.	ill be able to look for a	li	<del>-^-</del>	<del></del>
6.4 The student w	ll be able to make a	<u> </u>	1	1 1
systematic lis	to make a	1	1	<del>-i</del>
6.5 The student wi	ll be able to make and use a	<u> </u>	χΙ	
drawing diagr	am, model, table, or graph.			
6.6 The student wi	ll be able to eliminate	! X		
possibilities.	se uble to eliminate	i	1	
6.7 The student wi	ll be able to devise a	Ιχi	X	
simpler proble	m.	1 :		
6.8 The student wi	ll be able to work backward	<u>'</u>		
o.s the student Wi	ll be able to evaluate the	1 X	_X ,	
solution.	· ·	, !	,	1 7
6.10 The student wi	ll be able to communicate	! X ;	_X_:	
Strategies use	d When solving problems		I	
orri ine student Mi	Il be able to know that	<del> </del>	<del>:</del>	!
problems may n	ave multiple solutions or no	i	- 1	-   -
solutions.			ź	
		<u>'</u>		



- 16 41

7. THE STUDENT WILL BE ABLE TO USE ESTIMATION AND	Metal Fabrication	Advanced Metals I	
AFFROATMATION SKILLS AND RECOGNIZE DEASONADIENESS			
OF RESULIS.			]
7.1 The student will be able to use number	<u> </u>	<del></del>	1
7.2 The student will be able to set indicate.			
7.2 The student will be able to estimate measurements.		1	
7.3 The student will be able to estimate			
COMDUTATIONS.		j	
7.4 The student will be able to recognize	<del>'</del>		<u></u>
redsonableness of results	x	x !	
8. THE STUDENT WILL BE ABLE TO USE NUMERICAL INFORMATION DISPLAYED IN A VARIETY OF GRAPHIC			
FORMS.			İ
8.1 The student will be able to read tables,	<u>                                     </u>	<u> </u>	
charts, and graphs	X	x ! !	i
8.2 The student will be able to construct tables,	<del></del>		<del></del> :
Clidius, and draphe		!	i
8.3 The student will be able to interpret tables, charts, and graphs.	!	! 1	
9. THE STUDENT WILL KNOW HOW MATHEMATICS IS USED TO	I X I	<u> </u>	
MAKE PREDICTIONS.		İ	
9.1 The student will be able to make	·	<del></del>	!
predictions based upon collected data	x	x	İ
10. THE STUDENT WILL BE ABLE TO APPLY MATH TO EVERYDAY SITUATIONS.	<u> </u>		
10.1 The student will be able to select			1
annronriate numbers and number			
to solve real world problems.			
to solve real world problems.  10.2 The student will be able to solve problems	Х	X	
involving money.  10.3 The student will be able to solve problems	_ x	X	
involving measurement.		<del>^                                    </del>	
10.4 The student will be able to solve problems	χ	X	_
10V0IV100 Geometric concents	i		
10.5 The student will be able to solve problems		X	
involving numerical information in a varioty [			1
or rorms.	x	x	!
10.6 The student will be able to recognize ways	<del>-^</del>		
that math concepts and skills are useful to themselves and others.		] ]	1
	X	<u> </u>	



- 17 42

## ALTERNATIVE MATH CREDIT: ELECTRONICS

The following are proposed sequences of electronics that satisfy the district's guidelines for alternative credit.

- 1. Electronics I Electronics II
- 2. Intro to Electronics Electronics I and a minimum of one semester from an approved vocational cluster

We recommend the above sequences be accepted as an alternative to one semester of math credit.

Dave Hudson Bob Hill Joanne Alford

			•	
COURSE GOALS  1. THE STUDENT WILL BE ARLE TO DEMONSTRATE THE	Intro to Electronics	Electronics I	Electronics II	
1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.				!
1.1 The student will be able to understand the meaning of numbers.  1.1.1 whole numbers				
1.1.2 fractions	1 !			
1.1.3 decimals	! X !	χ	Х	
1.1.4 percents	1 X !	Х	X	
1.1.5 integers	<u> </u>	χΙ	χİ	
1.1.6 ratio and proportion		!		
1.2 The student will be able to count numbers			Х	
1.2 The student will be able to count numbers.  1.3 The student will be able to order and compare		1		
numr -15.				
1.3.1 whole numbers	i X I	y i	$\frac{1}{x}$	
1.3.2 fractions	! i	<u> </u>	<del>-}  </del>	
1.3.3 decimals	X !	χ ;	<del>v</del> i	
1.3.4 percents			$\frac{\lambda}{y}$	
1.3.5 integers  1.4 The student will be able to week		χı	Ŷ	
1.4 The student will be able to read and write numbers.	ĺ	^i	<del>-^-</del>	
		i	]	
1.4.1 whole numbers 1.4.2 fractions		T	i	
1.4.2 Tractions 1.4.3 decimals	İ		<del></del>	
1.4.4 integers			<u> </u>	<u>_</u>
1.5 The student will be able to demonstrate				
knowledge of place value.				
1.5.1 Whole numbers		<del>- ,  </del>		
1.5.2 decimals	<u> </u>	<del>- X  </del>	<u> </u>	إ
1.5.3 integers	<del>^-</del> -¦-	_X   _X		
1.6 The student will be able to round numbers		- <del>X +</del>	<u> </u>	إ
1.0.1 whole numbers	<del></del> -	<del></del>	+	
1.6.2 fractions	<del></del>		<del></del> -	
1.6.3 decimals	<del></del>	$\frac{1}{x}$	<del>-  </del>	
1.6.4 integers	<del></del>	<del>-^                                    </del>	X	
1.7 The student will be able to recognize equivalent forms of fractions.	<u>_</u>			
1.8 The student will be able to identify and the				
LUP VALUE OF UNITED STATES SUMMED		1		
4. THE STUDENT WILL BE ABLE TO HISE COMPUTATIONAL CULTURE		!_		
2.1 The student will be able to perform basis T	·			
operations on whole numbers.				1
2.1.1 add				
2.1.2 subtract	<u> </u>	X !	X	i
	_X	<u> </u>	<u> </u>	



COURSE GOALS  2.1.3 multiply 2.1.4 divide 2.1.5 find averages 2.1 The student will be able to perform basic operations on fractions. 2.2.1 find equivalent forms 2.2.1.1 reduce fractions 2.2.1.2 change mixed numbers to improper fractions 2.2.1.3 subtract 2.2.5 divide 2.2.6 find averages 2.2.8 change a fraction to an equivalent decimal decimal substantial fraction and equivalent form the fraction substantial fraction substantia				. —		
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		proportion problems.		1		
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	Intro to Electronic	Electronics	Electronics	
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COURSE GOALS	ΗŒ	EJ	EJe	
2.5.1 determine the ratio between two given quantities				
2.5.2 find the fourth term of a proportion				
When three terms are given			х	
2.0 The student will be able to evaluate formulae	<u></u>	<del></del>	<del>^-</del> ¦	
2.0.1 evaluate a formula, given the values		<u>`</u>		
IOP the variables	ļ	х	χİ	
2.7 The student will be able to perform basic				
operations on integers. 2.7.1 add		!	- 1	
2.7.1 add 2.7.2 subtract		Х	Χİ	
2.7.3 multiply		Χi		
2.7.4 divide	1	χ :		
2.7.5 find averages		χ:	X 1	
2.12 The student will be able to perform basic		<u>       X                             </u>		
operations on variables and algebraic	ĺ	į		
expressions.	1	i	İ	
2.12.1 have an awareness of variables		- '		
2.12.2 write and explain algebraic	<u>X</u> ,	<u> </u>	<u> </u>	!
expressions using variables	_ x i	v	I I	į
2.12.3 simplify by combining similar terms 1  2.13 The student will be able to write	<del>-^-</del> ;	X	X 1	
2.13 The student will be able to write	<del></del>	_^ <del>;</del>	<del>- ^ +</del>	
indificial eduations		l		
2.13.1 change a mathematical equation in word		<del> i</del>	<del></del>	
		y I	x l	]
2.15 The student will be able to perform basic		${1}$	<del>-                                    </del>	
operations using exponents.			j	
2.15.1 read, write and explain exponents	i	χΙ	Χİ	
2.15.6 read, write and explain numbers using scientific notation	1			
2.16 The student will be able to factor.	_ X	χ !	<u> </u>	
2.16.1 numbers		1_		
2.16.2 find the greatest common factor of		!	- 1	
NUMBERS OF numerical expressions				
2.16.3 find the lowest common multiple of				
numbers or numerical expressions		- 1		1
2.10 The student Will be able to use the basic to	<del></del>	<del></del>	<del></del> !-	
<u>properties of arithmetic.</u>	i	i	1	
2.18.1 order of operations		<del></del> ¦-	<del></del>	
2.18.2 commutative	<del></del>		-	
2.18.3 associative	<del></del>	<u>-</u>	— <u> </u>	
2.18.4 distributive	<del></del> ;			



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COURSE GOALS	tr ec	ec	ည	
	Intro to Electronic	Е		
3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING	!			
SKILLS.	ŀ			
3.1 The student will know and use units of time.				
3.1.1 identity units of time				
3.1.2 tell time		_X_!	<u> </u>	
3.1.2.1 use concepts of time			<del></del>	
3.1.3 Tiqure elapsed time	<del></del>	<u>X                                    </u>	<del>- X  </del>	
3.1.4 make conversions with units of time	<del>- i</del>	<del>-} </del> ;	<u> </u>	
J.Z The Student Will know and use units of longth.	<del></del>	<u></u> ^_ i	<del>^ }</del>	
	ļ	1	ĺ	-
3.2.2 metric system	X I	χİ	<u> </u>	
3.2.3 English system	1	χİ		
3.2.4 read a ruler  3.3 The student will know and use units of				
3.3 The student will know and use units of mass and weight.		1	$\overline{}$	
3.3.2 metric system		1		
3.3.3 English system	i	•		
3.3.4 weigh an object				
3.4 The student will know and use units of volume.	<u> </u>		1	
3.4.2 metric system	<u> </u>	<u>:</u>	1	
3.4.3 English system	<del></del> !-			
3.4.4 determine the volume of an object		!		
3.5 The student will know and use temperature		<u>:</u>		
scares.		ĺ	- 1	1
3.5.1 Celsius		<del></del>		
3.5.2 Fahrenheit		<del></del> ¦-		
3.6 The student will know and use units of angle	<del></del>	<del></del> +	<u>-</u> -	
illedsurelijent.		1		1
3.6.1 different angle measures	<u>-</u>	┷	<del></del>	
3.5.1.1 degrees	——— <del>;</del>	Χİ	x i	
3.6.2 measure an angle		${1}$	<del>-^  -</del>	
3.6.2.1 protractor  4. THE STUDENT WILL KNOW GEOMETRIC CONCERTS		<del>- i</del>	<del>i-</del>	—
	1	<u>_</u>	<del></del>	
	!	i	i	
illustrate and use spatial concepts and relationships.				1
4.1.1 identify, copy, illustrate and				-
Construct open and alored and	!	1	1	
construct open and closed one, two, and three-dimensional figures		J	1	
4.1.2 recognize and use symmetry		L		
4.3 The student will be able to recognize and	- ·	X !	χ.	
apply relationships and properties of angles.	_			
, and proper cres of angles.				!



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- 15 - 47

	<del></del>			
COURSE GOALS	Intro to Electronics	Electronics I	Electronics II	
4.3.1 identify and name an angle				_
4.7 The student will be able to determine the boun				
of geometric figures.	dary			
4.7.1 given figure				
4.7.2 perimeter of a polygon	!		i	
4.7.3 circumference of a circle	!		<u> </u>	
4.8 The student will be able to determine the area	!			
of geometric figures.	ĺ		1	- 1
4.8.1 given figure		!		'
4.8.2 polygon				
4.8.2.1 square			!	!
4.8.2.2 rectangle		!	<del>!</del> _	'
5. THE STUDENT WILL BE ABLE TO USE CALCULATORS		<del>!</del>	!	¦
3.1 The Student Will be able to follow the stone I	<u>_</u>	<del>:</del>	<u> </u>	!
to enter information on a calculator	1			- [
5.2 The student will be able to identify		_X :	X <u>'</u>	
appropriate uses of calculators				i
o. The STUDENT WILL BE ABLE TO HEE PROBLEM SOLVING	<del></del>	- <u>X</u>	_X <u>'</u>	
SNILLS AND STRAIFGIFS.		İ	İ	ĺ
6.1 The student will be able to analyze and			<u> </u>	_:
uerine the hrobiem			1	
6.2 The student will be able to guess check	<u> </u>	<u> </u>	<u> </u>	_¦
allu rettile.	., ]			ļ
6.3 The student will be able to look for a	<u> </u>	<u>_x                                    </u>	x <u> </u>	_!
pattern.	x I			
6.4 The student will be able to make a	<del></del>	À¦	X !	_
Systematic list		1		
6.5 The student will be able to make and use a	<del></del>	<u> </u>	_X	
uranting, uradifally libdely table, or arab	x	y		- 1
0.0 The Student Will be able to eliminate	<del>-^-</del> ;	<del>-                                    </del>	X	⊣
possibilities.	x	_ x	x	
6.7 The student will be able to devise a		<del>-^                                    </del>		
Simpler problem.	χ	x	x	- 1
6.8 The student will be able to work backward.	Λ .	$\frac{\hat{x}}{\hat{x}}$	XI	_;
0.9 The Student Will be able to evaluate the		<del>-^</del> -	<del>-^                                    </del>	{
SOLUTION.	χİ	y	x !	
6.10 The student will be able to communicate	i	_^	- <del>^ ;</del>	{
Strategies used when solving problems	χİ	yΙ	x	ļ
0.11 The Student Will be able to know that			_ <del>-</del>	-¦
problems may have multiple solutions or no	1	1		
solutions.	y I	у ;	v	
<u></u>		_^_		لــــ



- 16 -48

7. THE STUDENT WILL BE ABLE TO USE ESTIMATION AND	Intro to Electronics	Electronics I	Electronics II	
APPROXIMATION SKILLS AND RECOGNIZE REASONABLENESS OF RESULTS.  7.1 The student will be able to use number				
concepts to estimate quantity.  7.2 The student will be able to estimate				
7.3 The student will be able to estimate		х	х	
7.4 The student will be able to recognize	<sub>x</sub>	x	х	
reasonableness of results.  8. THE STUDENT WILL BE ABLE TO USE NUMERICAL	X	х	x	
FORMS.				
8.1 The student will be able to read tables, charts, and graphs.  8.2 The student will be able to construct tables,	χ !	X	x i	
charts, and graphs.  8.3 The student will be able to interpret tables, charts, and graphs.	(	χļ	$_{X}$ 1	
charts, and graphs.  THE STUDENT WILL KNOW HOW MATHEMATICS IS USED TO	χ	χ ;	x I	
MAKE PREDICTIONS.  9.1 The student will be able to make	·			
predictions based upon collected data.  10. THE STUDENT WILL BE ABLE TO APPLY MATH TO	X	_ x	x	
EVERYDAY SITUATIONS.  10.1 The student will be able to select				
to solve real world problems	x	х	x	
involving money	X			
10.3 The student will be able to solve problems involving measurement.			<u>X  </u>	
involving geometric concerts	<u>X</u>		<u> </u>	
involving numerical information in a variable	<u>!</u>	<u> </u>	X	
10.6 The student will be able to magazin	<u> </u>	x !	x	
that math concepts and skills are useful to themselves and others.	χ			
			ŢΙ	1



49

## Voc/Tech Math Topic List

- Simple Interest
- Compound Interest
- 3) Payroll
- Mark up mark down
- 5) 6) Budgeting
- Banking
- 7) Taxes
- 8) Depreciation
- 9) Measurement
- 10) Making Change
- 11) Loans
- 12) Consumer buying
- 13) Insurance
- Meters & gauges Road maps 14)
- 15)
- Tables & charts & graphs 16)
- 17) Math conversions
- Metric numbers 18)
- 19) Scientific notation
- 20) Basic Algebra skills



#### Recommended Alternative Math Credits

This committee recommends the following sequences of business classes be accepted as an alternative to one semester Math credit:

1) Accounting I - Accounting II

2) Accounting I - Businesses Machines & Business Management

Enclosed is a checklist of math goals and topics that are taught in the business classes. This list verifies that these business classes meet the requirements as established by the district guidelines.

We also recommend that the Marketing classes and Office Procedures class be considered in sequence with other classes for alternative credits.

Bob Hill Pat Gump Sue Jensen Joanne Alford



COURSE GOALS  1. THE STUDENT WILL BE ABLE TO DEMONSTRATE THE KNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.  1.1 The student will be able to understand the meaning of numbers.  1.1.1 whole numbers  1.1.2 fractions  1.1.3 decimals  1.1.4 percents  1.1.5 integers  1.1.5 integers  1.3.1 whole numbers  1.3.1 whole numbers  1.3.3 decimals  1.3.4 percents  1.3.3 decimals  1.3.4 percents  1.3.5 integers  1.4.1 whole numbers  1.5.1 integers  1.5.1 integers  1.6.2 fractions  1.7.4 percents  1.8.5 integers  1.9.5 integers  1.9.6 rations  1.9.7 rations  1.9.8 recents  1.9.9 recents  1.9.9 recents  1.9.1 whole numbers  1.9.1 whole numbers  1.9.2 fractions  1.9.3 fractions  1.9.4 fractions  1.9.5 integers  1.9.6 recents  1.9.7 recents  1.9.8 recents  1.9.9 recents  1.9.9 recents  1.9.9 recents  1.9.1 whole numbers  1.9.1 whole numbers  1.9.2 fractions  1.9.3 fractions  1.9.3 fractions  1.9.4 percents  1.9.5 integers  1.9.6 recents  1.9.7 recents  1.9.8 recents  1.9.9 recents  1.9.9 recents  1.9.9 recents  1.9.9 recents  1.9.1 whole numbers  1.9.1 whole numbers  1.9.2 fractions  1.9.3 recents  1.9.3 recents  1.9.4 recents  1.9.5 recents  1.9.5 recents  1.9.6 recents  1.9.7 recents  1.9.8 recents  1.9.9 recents  1.9.9 recents  1.9.9 recents  1.9.9 recents  1.9.9 recents  1.9.1 recents  1.9.1 recents  1.9.1 recents  1.9.2 recents  1.9.3 recents  1.9.3 recents  1.9.3 recents  1.9.4 recents  1.9.4 recents  1.9.4 recents  1.9.5 recents  1.9.7 recents  1.9.7 recents  1.9.8 recents  1.9.8 recents  1.9.8 recents  1.9.8 recents  1.9.8 recents  1.9.8 recents  1.9.8 recents  1.9 recent				·	
RNOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.	COURSE GOALS	counting I	- 1	siness chines	siness nagement
NOWLEDGE OF BASIC NUMERATION CONCEPTS AND SKILLS.   1.1 The student will be able to understand the meaning of numbers   1.1.1 whole numbers   1.1.2 fractions   1.1.3 decimals   1.1.4 percents   1.1.5 integers   1.1.5 integers   1.1.6 ratio and proportion   1.2 The student will be able to count numbers   1.3 the student will be able to order and compare numbers.   1.3.1 whole numbers   1.3.2 fractions   1.3.3 decimals   1.3.4 percents   1.3.5 integers   1.3.5 integers   1.3.4 percents   1.3.4 percents   1.3.5 integers   1.3.4 percents   1.3.5 integers   1.3.6 percents   1.3.7 percents   1.3.8 percents   1.3.9 percents   1.3.9 percents   1.3.1 percents   1.3.1 percents   1.3.1 percents   1.3.2 fractions   1.3.4 percents   1.3.5 integers   1.4.1 percents   1.4.1 percents   1.4.2 percents   1.4.3 percents   1.4.3 percents   1.4.4 percents   1.4.4 percents   1.4.5	1. THE STUDENT WILL BE ADDED TO SELECT	A	A	Bu	B E
meaning of numbers.  1.1.1 whole numbers  1.1.2 fractions  1.1.3 decimals  1.1.4 percents  1.1.5 integers  1.1.6 ratio and proportion  1.2 The student will be able to count numbers.  1.3 The student will be able to order and compare numbers.  1.3.1 whole numbers  1.3.2 fractions  1.3.3 decimals  1.3.4 percents  1.3.5 integers  1.4 The student will be able to read and write numbers.  1.5 integers  1.4 The student will be able to read and write numbers.  1.5 The student will be able to demonstrate knowledge of place value.  1.5.1 whole numbers  1.5.2 decimals  1.5.3 integers  1.6 The student will be able to round numbers  1.6.1 whole numbers  1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.6.4 integers  1.6.5 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDERTY WILL BE ABLE TO LICE COMPUTATIONS AND A STUDERTY WILL BE ABLE TO LICE COMP	KNOWLEDGE OF BASIL NUMERATION CONCEPTS AND SYTTEE				
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1.1.2 fractions	meaning of numbers.	1		1 1	
1.1.3 decimals	1.1.1 whole numbers	<del></del>	<del></del>	<del></del>	
1.1.4 percents	1.1.2 fractions	! X	i Y	┼─┤	
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1.5.1 whole numbers  1.5.2 decimals  1.5.3 integers  1.6 The student will be able to round numbers  1.6.1 whole numbers  1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL and the value of United States currency.	1.4.4 integers	X	<u> </u>	<u>-x-</u> †	!
1.5.1 whole numbers  1.5.2 decimals  1.5.3 integers  1.6 The student will be able to round numbers  1.6.1 whole numbers  1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL and the value of United States currency.	1.5 The student will be able to demonstrate		<u>i                                     </u>		إ
1.5.2 decimals  1.5.3 integers  1.6 The student will be able to round numbers  1.6.1 whole numbers  1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AND A MILE ABLE TO US	Knowledge of place value.		1 1	1	ļ
1.5.3 integers  1.6 The student will be able to round numbers  1.6.1 whole numbers  1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL WAY A X X X X X X X X X X X X X X X X X X	1.5.1 whole numbers		<del>                                     </del>	<del>+</del>	
1.6 The student will be able to round numbers  1.6.1 whole numbers  1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL WAY A X X X X X X X X X X X X X X X X X X	1.5.2 decimals				
1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AND A X X X X X X X X X X X X X X X X X X	1.5.3 integers			<del>-</del> ~-+	<del>-X</del> -!
1.6.2 fractions  1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AND A X X X X X X X X X X X X X X X X X X	1.0 The Student Will be able to round numbers		<del></del>	╌┼	
1.6.3 decimals  1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AND X X X X X X X X X X X X X X X X X X X	1.0.1 whole numbers				
1.6.4 integers  1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AND X X X X X X X X X X X X X X X X X X X					
1.7 The student will be able to recognize equivalent forms of fractions.  1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AND X X X X X X X X X X X X X X X X X X X		X	χİ	<u>v i</u>	$\overline{\mathbf{v}}$
1.8 The student will be able to identify and know the value of United States currency.  2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL AXX X X X X	1.7 The student will be able to		-0-1	<del>-^-</del>	
the value of United States currency.  THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL X X X X X X X X X X X X X X X X X X X	equivalent forms of fraction			<del></del>	
2. THE STUDENT WILL BE ABLE TO USE COMPUTATIONAL X X X X	1.8 The student will be able to it.	X	_ X _	x	y I
- INC STUDENT WILL BE ABLE IN TISE COMPUTATIONAL OFFICE A LATE A LATE A LATE A LATE A LATE A LATE A LATE A LA LATE A LATE A LA LATE A LA LATE A LATE A LA LATE A LATE	the value of United States assured and know !	1		1	
2.1 The student will be able to perform best	2. THE STUDENT WILL BE ARIE TO USE COMPUTATIONS	X	<u> </u>	_x	x /
	2.1 The student will be able to perform INAL SKILLS	<u>.                                      </u>			
operations on whole numbers.	operations on whole numbers	Ī		i	
2.1.1 add	2.1.1 add			1	_
2.1.2 subtract					



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	Accounting I	Accounting II	Business Machines	Business Management
COURSE GOALS	000	O ၁၁	isi ach	ısi ına
2.1.3 multiply	A	Ā	ωž	<u> </u>
2.1.4 divide	<u> </u>			
2.1.5 find averages	<u> </u>		<u> </u>	
2.2 The student will be able to perform basic	<u> </u>	Χ	<u> </u>	Х
Operations on tractions				
2.2,1 find equivalent forms	<u></u>			
2.2.1.1 reduce fractions	χ	X	X	
2.2.1.2 change mixed numbers to				
improper fractions 2.2.2 add				
2.2.3 subtract	1			i
2.2.4 multiply			1	
2.2.5 divide	i		1	ļ
2.2.6 find averages	!	!	!	
2.2.8 change a fraction to an equivalent		!	!	i
uecima i	_ x	, l		
2.2.9 change a fraction to an equivalent	<del>-^-</del> ;	<u> </u>	<u> </u>	X
Dercent 1	X	x l	x I	x
2.3 The student will be able to perform basic		_^-	<del>^</del>	
Operations on decimals				ł
2.3.1 change a decimal to an equivalent fraction				
2.3.2 change a decimal to an equivalent		[		
percent				1
2.3.3 add	X	<u> </u>	<u> </u>	<u> X</u>
2.3.4 subtract	XI	XI		
2.3.5 multiply	X	X	<del></del> +	
2.3.6 divide	<del>-                                    </del>	X		
2.3./ find averages	<del>-^-</del>	╌┸╌┼	<del></del> +	<del></del>
2.4 The student will be able to solve problems	<del></del>	<del>-                                    </del>	<del></del>	_X_
involving percents.	ļ			
2.4.1 change a percent to an equivalent fraction		<u> </u>		
2.4.2 change a percent to an equivalent			1	
decimal decimal	Ī			
2.4.3 find a percent of a number	_X	X	X	X
2.4.4 find What percent one number is of	X I	X	X	X
diluter				-
2.4.5 find a number when the percent of it	_ X	<u>-X</u> +	<u> </u>	_X_
12 (1145)	1			
2.5 The student will be able to solve ratio and	<del></del>	÷		
proportion problems.	İ	İ	1	



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	ű	ng	1	nt
	<u>;</u>	Ţ	es	ss
COURCE COST -	ğ	'n	n i	ne ge
COURSE GOALS	Accounting	Accounting	Business Machines	is i
26144	¥	¥	图號	Business Hanagement
2.5.1 determine the ratio between two given			<del>i i</del>	
quantities	X :	χ	1 [	
2.5.2 find the fourth term of a proportion			<u> </u>	
when three terms are given  2.6 The student will be able to avaluate formula				
	i		: 1	
2.6.1 evaluate a formula, given the values for the variables			1	
2.7 The student will be able to perform basic	X'	Χ	X	4
operations on integers.	1			
2.7.1 add	<u>_</u> <u>_</u>		<u> </u>	
2.7.2 subtract				
2.7.3 multiply	<del></del>	1		
2.7.4 divide				
2.7.5 find averages			<del>'</del>	
2.12 The student will be able to perform basic			!	
operations on variables and algebraic	1	• 1		j
expressions.	į	;		,
2.12.1 have an awareness of variables	<del></del> -	$-\frac{1}{x}$	<u> </u>	<del></del> ;
2.12.2 Write and explain algebraic		<del>_,</del>	X 1	<u> </u>
expressions using variables	x :	χ .	1	į
6.16.3 Simplify by combining cimilar		<del>-^:</del>	<del></del>	
2.10 the student will be able to write			<del></del>	
mathematical equations.		i		
2.13.1 change a mathematical equation in word		<u></u>	<del></del> +	<del></del>
form to one using symbols  2.15 The student will be able to perform basic	χĺ	χİ	y l	х
2.15 The student will be able to perform basic	_ <u></u>		$ \stackrel{\wedge}{1}$	
operations using exponents.	- 1			
2.15.1 read, write and explain exponents	1	1	<del></del>	<del>i</del>
2.15.6 read, write and explain numbers	1		<del></del>	<del></del> i
using scientific notation  2.16 The student will be able to factor.		\	ļ	i
2.16.1 numbers	!	;	!	
2.16.2 find the greatest common factor of	1	1	ı	
numbers or numerical expressions	i	Ĭ		
2.16.3 find the lowest common multiple of		<u> </u>	i	į
HUMBERS OF DUMORS COL COMPAGE CO.	!	Ī		$\overline{}$
2.18 The student will be able to use the basic	<u> </u>	!	1	[
properties of arithmetic.	1	i		
2.18.1 order of operations		:		;
2.18.2 commutative			1	
2.18.3 associative		<u>:</u>	ı	
		i		
2.18.4 distributive	<del></del>		· ,	



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- 14 - 54

	<del></del>			
COURSE GOALS	Accounting I	Accounting II	Business Machines	Business Management
3. THE STUDENT WILL BE ABLE TO USE BASIC MEASURING			[ B Z	ωΣ
SKILLS.				
3.1 The student will know and use units of time	<u> </u>	<u> </u>	<u>!                                    </u>	
3.1.1 identify units of time	-	<u></u> -	! !	
3.1.2 tell time	<del>.</del>	!	<u> </u>	
3.1.2.1 use concepts of time	<u> </u>	ī	<del> </del>	
3.1.3 figure elapsed time	ΙX	1 Х	: X	
3.1.4 make conversions with units of time	1 X		' X	
3.2 The student will know and use units of length 3.2.1 non-standard units of length	1			
3.2.2 metric system		<u> </u>	!!	
3.2.3 English system	!		<u> </u>	
3.2.4 read a ruler	]		: :	
3.3 The student will know and use units of mass	<u>:                                      </u>		<u>' '</u>	
and weight.				
3.3.2 metric system	1		<del></del>	
3.3.3 English system			*	
3.3.4 weigh an object  3.4 The student will know and use units of welver	1			
3.4 The student will know and use units of volume. 3.4.2 metric system	<u> </u>		<u> </u>	
3.4.3 English system	<u> </u>		<u>i</u>	
3.4.4 determine the volume of an object				
3.5 The student will know and use temperature				!
Scales.				
3.5.1 Celsius	<u> </u>		<del>!</del>	
3.5.2 Fahrenheit			<del></del> ‡	
3.6 The student will know and use units of angle				
illed Surement.				ł
3.6.1 different angle measures 3.6.1.1 degrees	i			
3.6.2 measure an angle	1			
3.6.2.1 protractor	!			
4. THE STUDENT WILL KNOW GEOMETRIC CONCEPTS.	<u>i</u>	<del> </del>	!_	
4.1 THE Student Will be able to identify		<del></del>		
Illustrate and use spatial concents and			1	İ
relationships.			!	Ì
4.1.1 identify, copy, illustrate and	i	— <u> </u>	<del></del>	$\neg$ —
construct open and closed one, two.	1	!		-
and three-dimensional figures	!			ļ
4.1.2 recognize and use symmetry  4.3 The student will be able to recognize and	!			
4.3 The student will be able to recognize and apply relationships and properties of angles.			i	
The secondary's and properties or angles.				i



55 - 15 -

COURSE GOALS  4.3.1 identify and name an angle	Accounting 1	Accounting II	Dusiness Machines	Business Management
4.7 The student will be able to determine the			i	
4.7 The student will be able to determine the bound of geometric figures.	idary j			
4.7.1 gives Gi		· !	!	İ
4.7.1 given figure				<del></del> i
4.7.2 perimeter of a polygon			1	<del></del> -
4.7.3 circumference of a circle	<del>                                     </del>	<del></del> :		<del></del>
4.8 The student will be able to determine the area	<u>'                                      </u>	<del></del> :		'
of geometric figures.	1 1	j		I
4.8.1 given figure	1 .		!	
4.8.2 polygon	<u>!                                    </u>			i
4.8.2.1 square	<u>                                     </u>		1	i
	ii	1	:	,
4.8.2.2 rectangle  5. THE STUDENT WILL BE ABLE TO USE CALCULATORS				
	i		•	
The state of the s		1	1	<del></del>
to enter information on a calculator	χi	χί	χ!	χÍ
5./ The Student will be able to identify	<u> </u>	_^		
appropriate uses of calculators	l , i	1/	.,	:
b. THE STUDENT WILL BE ABLE TO USE PROBLEM-SOLVENCE	Χ :	_X	_X	_X
SKILLS AND STRATEGIES.	i	i		1
6.1 The student will be able to analyze and	·——·		<u> </u>	
define the problem.		- 1	•	7
6.2 The student will be able to guess about	χ	_X_ I	Х ,	χİ
The page of the different beautiful to differ the different but th				
and refine.  6.3 The student will be able to look for a	χ	χį	į	y I
The state of the to the to the to	i		•	<u> </u>
pattern.	Y	v I	į	,
6.4 The student will be able to make a		<u> </u>	<u>-</u> -	-4
systematic list.	v · l	,	.	
6.5 The student will be able to make and use a		<del>^                                    </del>	-X	<u> </u>
drawing, diagram, model, table, or graph			- 1	i
6.6 The student will be able to eliminate	<u> </u>	<u> </u>	<u> </u>	Χ
possibilities.	i	l	İ	j
6.7 The student will be able to devise a	X!	<u> </u>		_x !
simpler problem.	i	i		
6.8 The student will be able to work backward	<u> </u>	_X'	•	x I
	Х	Х	Y	X
o.5 The student Will be able to evaluate the	i	;	· <del>'</del>	
solution.	Х ;	Υ '	v '	X
6.10 The student will be able to communicate		^ <u>_</u>	- <del>^-</del>	<del>^</del>
Strategies used when solving problems	χį		, !	.
0.11 The Student Will be able to know that	<del></del>	<u> </u>	.X	X
problems may have multiple solutions or no		Ĭ	Ĭ	}
solutions.	1		ļ	ļ
			L	



			<b>—</b> —	
COURSE GOALS  7. THE STUDENT WILL BE ARLE TO USE ESTIMATION AND	Accounting I	Accounting II	Business Machines	Business Management
7. THE STUDENT WILL BE ABLE TO USE ESTIMATION AND APPROXICATION SKILLS AND RECOGNIZE REASONABLENESS	<u> </u>			
01 RESULTS.			1 1	
7.1 The student will be able to use number	<u> </u>	<del>!</del>	<u>;                                    </u>	
Concepts to estimate quantity				
7.2 The student will be able to estimate	i		<del></del>	
measurements.  7.3 The student will be able to estimate	ĺ			
7.3 The student will be able to estimate computations.			! !	i
7.4 The student will be able to recognize		<u> </u>	<u>                                     </u>	
reasonableness of results.		1	1	
8. THE STUDENT WILL BE ABLE TO USE NUMERICAL	X	<u> </u>	<u> </u>	Χ
INFORMATION DISPLAYED IN A VARIETY OF GRAPHIC			ĺ	1
FURMS.				
8.1 The student will be able to read tables,			<del></del>	
Charts, and graphs	χ	χ	. X	У
8.2 The student will be able to construct tables, charts, and graphs.			<del></del>	<del>-^-</del> i
8.3 The student will be able to interpret tables,	X'	Χ	Χ,	_ X
charts, and graphs.	į		·	
9. THE STUDENT WILL KNOW HOW MATHEMATICS IS USED TO	X	_X	<u> X ,</u>	X!
MAKE PREDICTIONS.				1
9.1 The student will be able to make	<u>'</u>			
predictions based upon c lected data	x	Y		
10. THE STUDENT WILL BE ABLE TO APPLY MATH TO		<u>-^-</u>	<u>_</u>	X
EVERYDAY SITUATIONS.	i			
10.1 The student will be able to select			ī	
appropriate numbers and number operations to solve real world problems.		{		
TO ACTURE STUDENT WATER BOOK AS AS AS ASSET	_X_!	<u> </u>	X	_ X
involving money.  10.3 The student will be able to solve problems involving measurement	.,			
10.3 The student will be able to solve problems	_ X _	<u>X  </u>	X	_X_!
			j	- 1
10.4 The student will be able to solve problems	<del></del>	<u>'</u>		
INVUIVING GEOMETRIC COncents		İ		-
10.5 The student will be able to solve problems involving numerical information	į		<del></del>	<del></del>
involving numerical information in a variety of forms.	- 1	- 1	İ	[
10.6 The student will be able to massaring	X!	χ_!	χΙ	_x_ i
ong mach concepts and ckills and reath if the	ļ	Ī	1	
themselves and others.	j			
	X	<u>X !</u>	<u> </u>	X!



57