Glendale College

Course Outline of Record Report

Course ID 010480

Archived - September 2025

STV250 : Practical Mathematics for Trades

General Information

Author:	• Kimberli Perner
Course Code (CB01) :	STV250
Course Title (CB02) :	Practical Mathematics for Trades
Department:	STV
Proposal Start:	Fall 2022 (Fall 2026)
TOP Code (CB03) :	(1701.00) Mathematics, General
CIP Code:	(27.0101) Mathematics, General.
SAM Code (CB09) :	E - Non-Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000610040
Curriculum Committee Approval Date:	09/24/2025
Board of Trustees Approval Date:	Pending
Last Cyclical Review Date:	03/01/2019
Course Description and Course Note:	STV 250 provides the practical math skills needed in a wide variety of trade, technical, and other occupational areas. Topics include numeracy, fractions, decimals, unit conversions, ratios, proportions, algebra, measurement, and statistics. Hands on activities in a variety of technical areas such as surveying, manufacturing, electronics, construction, and engineering technology including the appropriate application of technology are emphasized. Lecture 64 hours.
Justification:	New Course This course was archived in Fall 2026. I could not change the proposal start.
Academic Career:	• Noncredit
Mode of Delivery:	No value
Author:	No value
Course Family:	No value

Academic Senate Discipline

Primary Discipline:	• Mathematics-Basic Skills: Non-Credit
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Pass / No-Pass Only

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Not transferable

Transferability Status

Not transferable

Units and Hours

Summary

Minimum Credit Units (CB07)	0
Maximum Credit Units (CB06)	0
Total Course In-Class (Contact) Hours	64
Total Course Out-of-Class Hours	0
Total Student Learning Hours	64

Credit / Non-Credit Options

Course Type (CB04)

Non-Credit

Noncredit Course Category (CB22)

Elementary and Secondary Basic Skills.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Non-Enhanced Funding.

☐ Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	64	0
Laboratory Hours	0	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	64

Laboratory	0
Studio	0
Total	64

Course Out-of-Class Hours

Lecture	0
Laboratory	0
Studio	0
Total	0

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Prerequisites, Corequisites, Recommended Corequisites, and Recommended Preparation

Advisory

ESL30 - ENGLISH AS A SECOND LANGUAGE LEVEL 3

Objectives

- Write paragraphs at the low-intermediate level with sufficient unity;
- converse at a functional level adequate for everyday use on the campus and in the community;
- decode 2,500-word reading passages, respond to inference and recall questions, and utilize a monolingual English dictionary to advantage.

Entry Standards

Entry Standards	Description
Perform basic arithmetic operations: addition, subtraction, multiplication, division;	No Value

Course Limitations

Cross Listed or Equivalent Course	Description
No value	No value

Specifications

Methods of Instruction

Methods of Instruction	Multimedia
Methods of Instruction	Collaborative Learning
Methods of Instruction	Demonstrations

Out of Class Assignments

individual project (e.g. calculate the density of various objects)
calculation performance task (e.g. measure a room at home and calculate the floor plan area)

Methods of Evaluation	Description of Activity/Interaction
Exam/Quiz/Test	quizzes
Activity (answering journal prompt, group activity)	problem-solving calculations
Project/Portfolio	projects
Exam/Quiz/Test	exams

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Robert A. Carmen	Mathematics for the Trades: A Guided Approach	Pearson, NJ	2018	ISBN-13: 978-0-13-476578-5

Other Instructional Materials (i.e. OER, handouts)

No Value

Learning Outcomes

Course Objectives

Calculate areas and volume of various shapes;

use measurement tools such as rulers, calipers, and multimeters;

graph data from measurement experiments;

apply signed numbers, exponents and square roots in appropriate contexts;

solve industry problems utilizing formulas and simple, practical trigonometry;

prepare, read and analyze statistical graphs.

SLOs

Demonstrate the use of measurement tools to collect data used in technical calculations. Expected Outcome Performance: 70.0

STV Drafting and Basic Design Certificate	Apply industry standards to calculation problems and choose appropriate solutions.
STV Drafting and Basic Design Certificate of Completion	Apply industry standards to calculation problems and choose appropriate solutions.
	Demonstrate knowledge of basic drafting and dimensioning through a series of drawing assignments.
ILOs Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
STV Drafting and Basic Interior Design Certificate	Prepare to enter the workforce as an entry level architectural and/or interior designer technician.

Apply industry standards to calculation problems and choose appropriate solutions. Expected Outcome Performance: 70.0

ILOs Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
STV Drafting and Basic Design Certificate of Completion	Apply basic knowledge of industrial drafting practices.
	Apply industry standards to calculation problems and choose appropriate solutions.

STV Drafting and Basic Design Certificate	Apply basic knowledge of industrial drafting practices.
	Demonstrate knowledge of basic drafting and dimensioning through a series of drawing assignments.
STV Drafting and Basic Interior Design Certificate	Prepare to enter the workforce as an entry level architectural and/or interior designer technician.

Characterize and compare systems of units and how they are used in various industries. Expected Outcome Performance: 70.0

STV Drafting and Basic Design Certificate of Completion	Apply industry standards to calculation problems and choose appropriate solutions.
STV Drafting and Basic Design Certificate	Apply industry standards to calculation problems and choose appropriate solutions.
ILOs Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
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Course Content

Lecture Content

Review Arithmetic of Whole Numbers (3 hours)

- Reading, writing and rounding of whole numbers
- Review of basic operations (adding, subtracting, multiplying and dividing)
- Order of operations
- Contextualized industry problems utilizing basic operations

Fractions (6 hours)

- Working with fractions
- Addition and subtraction of fractions
- Multiplication of fractions
- Division of fractions
- Contextualized industry problems utilizing fractions

Decimal numbers (5 hours)

- Addition and subtraction of decimal numbers
- Multiplication and division of decimal numbers
- Decimal fractions
- Contextualized industry problems utilizing decimals and decimal fractions

Ratio, Proportion and Percent (6 hours)

- Ration and proportion

- Special application of ratio and proportion
- Percent problems
- Special applications of percent calculations
- Contextualized industry problems utilizing ratio, proportion and percent

Measurement (6 hours)

- Working with measurement numbers
- U.S. customary units and unit conversion
- Metric units
- Metric-U.S. customary conversions
- Direct measurements
- Contextualized industry problems utilizing U.S. customary and metric measurements

Pre-Algebra (4 hours)

- Addition and subtraction of signed numbers
- Multiplication and division of signed numbers
- Exponents and square roots
- Contextualized industry problems utilizing signed numbers, exponents and square roots

Basic Algebra (6 hours)

- Algebraic language and formulas
- Adding and subtracting algebraic expressions
- Solving simple equations
- Solving two operation equations
- Solving formulas and word problems
- Multiplying and dividing algebraic expressions
- Scientific notation
- Contextualized industry problems utilizing algebraic formulas

Practical plane geometry (6 hours)

- Angle measurement
- Perimeter of polygons and area of quadrilaterals
- Triangles, regular hexagons and irregular polygons
- Circles
- Contextualized industry problems utilizing practical plane geometry

Solid figures (6 hours)

- PrismsPyramids and frustums of pyramids
- Cylinders and spheres
- Cones and frustums of cones
- Contextualized industry problems utilizing measures of various solid figures

Triangle trigonometry (6 hours)

- Angles and right angles
- Trigonometric ratios
- Solving right angles
- Oblique angles
- Contextualized industry problems utilizing trigonometric measures of angles

Intermediate Algebra (5 hours)

- Systems of equations
- Quadratic equations
- Contextualized industry problems utilizing systems of equations and quadratic equations

Statistics (5 hours)

- Reading and constructing graphs
- Measures of central tendency
- Measures of dispersion
- Contextualized industry problems utilizing statistical information for calculation and analysis

Total hours 64

Laboratory/Studio Content

No value