



Statway

# Statway Course Solutions Catalog

2020-2021



CARNEGIE MATH  
**PATHWAYS**

WestEd



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# Overview of Statway



Statway provides students with statistical reasoning skills needed for the 21st century. Going beyond a textbook, Statway course solutions are taught using contextualized, relevant curricula, and a unique pedagogy that combines collaborative learning and social-emotional supports.

Statway course solutions are designed to meet a range of high school and college-level math learning goals in person, online, and in a hybrid context.

Statway Course Solutions at a Glance	
Solution	Description & Implementation
Statway College	<p>One-term, college-level course solution that develops deep statistical reasoning skills and meets transfer-level math requirements.</p> <p><i>Sample Implementation: Replaces the typical Introduction to Statistics course; delivered in a single term with 3 or 4 credit hours.</i></p>
Statway College with Corequisite	<p>A corequisite option for students who require developmental math, which includes targeted, scaffolded supports to help students gain the necessary skills and confidence to succeed in Statway College in one term.</p> <p><i>Sample Implementation: Replaces the typical Introduction to Statistics course; delivered in a single term with 3 or 4 credit hours. Students who require developmental math also complete a corequisite portion, with 1-3 contact hours.</i></p>
Statway Pathway	<p>This two-term course solution engages students in college-level statistics on day 1 with integrated developmental math supports. Designed to help students fulfill their developmental math requirements and succeed in college-level statistics in a single year.</p> <p><i>Sample Implementation: Replaces the traditional sequence of developmental math followed by an Introduction to Statistics course. It is delivered in two terms, each with 3 or 4 credit hours.</i></p>

# Overview of Statway, Continued



Carnegie Math Pathways offers two sets of supplemental resources that prepare students for success in and beyond Statway. These include Fundamentals lessons, which are focused on arithmetic, beginning algebra, and basic numeracy skills designed to bolster students' proficiency in the

prerequisite mathematical skills and understanding needed for success in Statway. Additionally, Carnegie Math Pathways Bridge Materials are supplemental lessons that develop the skills and knowledge to successfully bridge students' path from Statway to pre-calculus.

Supplemental Materials at a Glance	
Resource	Implementation
Fundamentals	Fundamentals is a series of lessons that can be used as a 1-term prerequisite or corequisite to Statway, or as specific lessons printed on-demand, as needed, to support Statway students.
Bridge Materials	Typically implemented as a 1-credit hour ad- on to a college-level course, or as lessons printed on-demand during the college-level course as needed.



# Statway Course Solutions

## Statway College

### Goal

College-Level Credit

The goal of the Statway College (stand-alone) offering is to provide a one-term, college-level, introduction to statistics course.

### Learning Outcomes

Statway College is a one-term, college-level statistics course that addresses all the college-level learning outcomes in a typical introduction to statistics course. It also incorporates Productive Persistence strategies.

Statway College covers all major topics typically contained in a college-level statistics course. It consists of seven modules:

1. Statistical analysis process, data visualization, measures of center, shape, and spread
2. Probability, probability distribution, and normal distribution
3. Sampling distribution, confidence intervals, and hypothesis testing for sample proportions
4. Sampling distribution, confidence intervals, and hypothesis testing for sample means
5. Two-sample tests, ANOVA, and choosing an appropriate test
6. Correlation and regression
7. Chi-square

### Implementation

This offering is designed as a 3-credit course but can be taught as a 4-credit course.



# Statway Course Solutions, Continued



## Statway College with Corequisite

### Goal

College-Level Credit

The goal of the Statway College with Corequisite solution is to provide a one-term, college-level statistics course for all students, with targeted supports built using the Carnegie Math Pathways design principles to provide effective scaffolding for students who need additional support. This solution consists of a one-term, college-level statistics course and a corresponding corequisite component. The corequisite component develops students' statistical and algebraic reasoning skills in support of the learning outcomes of the college-level statistics course.

### Learning Outcomes

The course covers all major topics typically contained in a college-level statistics course. It consists of 7 modules:

1. Statistical analysis process, data visualization, measures of center, shape, and spread
2. Probability, probability distribution, and normal distribution
3. Sampling distribution, confidence intervals, and hypothesis testing for sample proportions
4. Sampling distribution, confidence intervals, and hypothesis testing for sample means
5. Two-sample tests, ANOVA, and choosing an appropriate test
6. Correlation and regression
7. Chi-square

The corequisite materials address learning outcomes and skills typically seen in a developmental math sequence, such as algebraic reasoning and thinking.

### Implementation

The college-level component is designed as a 3 or 4 transfer-level credit course. The corequisite materials are designed to support a 1, 2, or 3 contact hour corequisite course depending on what is appropriate for student and program needs.

# Statway Course Solutions, Continued

## Statway Pathway

### Goal

College-Level Credit

Statway Pathway is designed for students placed in developmental math to complete their developmental math requirements and a college-level statistics course in only two terms.\*

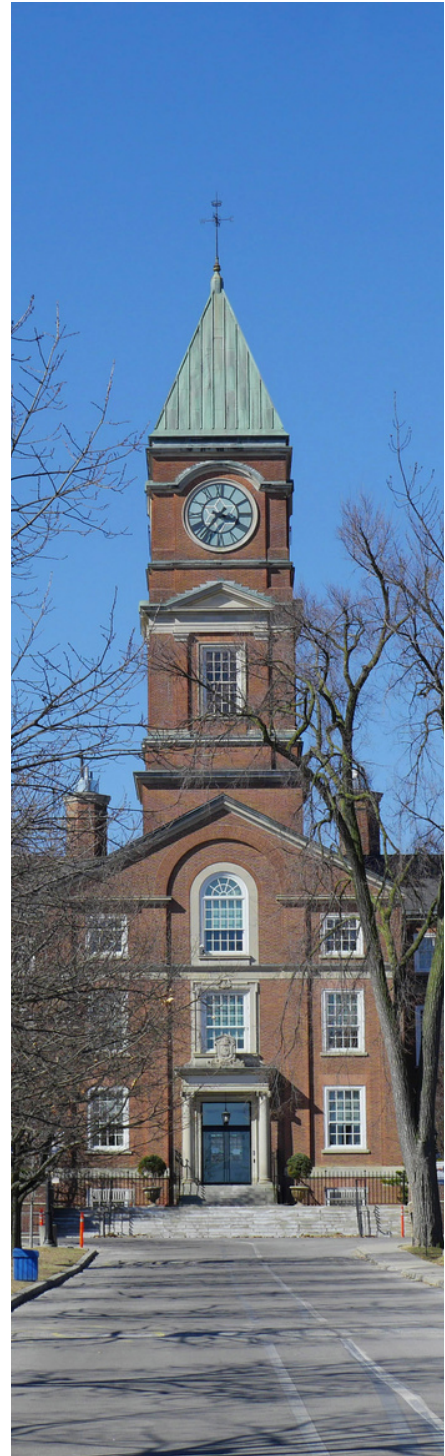
### Learning Outcomes

The learning outcomes of Statway are grounded in statistical and mathematical reasoning. The reasoning occurs around major statistical topics reflected in 11 modules:

1. Statistical analysis process and methodology.
2. Distributions, including center and variability, and data visualization.
3. Scatterplots, correlation, and regression.
4. Patterns in data and exponential models.
5. Two-way tables and conditional probability.
6. Probability, probability distributions, binomial distributions, Z-scores, and normal distributions.
7. Sampling distributions, confidence intervals, and hypothesis tests for a population proportion.
8. Sampling distributions of differences in two proportions, confidence intervals, and hypothesis tests for the difference in two population proportions.
9. Sampling distributions of sample means, T-distributions and statistics, confidence intervals, hypothesis tests for population means, paired samples, and independent samples, and one-way ANOVA.
10. Chi-square statistics and analyses.
11. Modeling, proportions, and inequalities.

### Implementation

This solution is typically implemented with 7 contact hours total (4 contact hours in the first term and 3 contact hours in the second) and provides 3 transfer-level credits upon completion.





# Supplemental Materials



## Fundamentals

### Goal

Preparation for Statway

The goal of Fundamentals is to bolster students' proficiency with the prerequisite mathematical skills and understanding, such as basic arithmetic, needed for success in Statway.

### Learning Outcomes

The learning outcomes cover fundamental mathematics and pre-algebra and statistics, which students need to succeed in the Pathways, and include major topics from arithmetic, algebra, and numeracy.

### Implementation

This offering is designed to be flexible. For example, it could be administered as:

- a stand-alone, prerequisite course to Statway, with 1-3 contact hours, or
- a corequisite taught in conjunction with the first term of Statway, with 1-3 contact hours.

## Bridge Materials

### Goal

Transition to College Algebra

The Bridge Materials are a set of lessons that colleges can use to provide Statway students a transition to college algebra, business math, or pre-calculus courses. These materials have been collaboratively designed by network faculty using the instructional design principles of the Pathways curricula.

### Learning Outcomes

We have created 8 lessons around the following topics:

- Linear equations and inequalities, including systems
- Functions
- Exponent rules
- Polynomials expressions, including quadratic equations and factoring
- Rational expressions

### Implementation

These lessons are designed to be implemented in any way that they are needed to support Statway students. For example, they can be administered at the end of a Statway term or integrated within Statway.





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[www.carnegiemathpathways.org](http://www.carnegiemathpathways.org)