Activity Log

Hecker, Frank   Student ID: **12224**   Start Date: **5/20/2025**   End Date: **9/2/2025**

Tue, Sep 2nd, 2025 (102 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Defining Double Integrals Using Lower and Upper Riemann Sums	**9**/9 XP
Mathematics for Machine Learning	Review	Determining Characteristics of Moving Objects Using Differentiation	**6**/4 XP
Mathematics for Machine Learning	Review	The Law of Sines	**6**/4 XP
Mathematics for Machine Learning	Review	Finding Surface Areas Using Nets	**6**/4 XP
Mathematics for Machine Learning	Lesson	Calculating Double Summations Over Partitions	**9**/7 XP
Mathematics for Machine Learning	Review	Sums of Infinite Geometric Series Given in Sigma Notation	**6**/4 XP
Mathematics for Machine Learning	Review	Recognizing Standard Maclaurin Series	**6**/4 XP
Mathematics for Machine Learning	Review	The Arc Length of a Planar Curve	**6**/6 XP
Mathematics for Machine Learning	Lesson	Upper Riemann Sums Over General Rectangular Partitions	**9**/7 XP
Mathematics for Machine Learning	Review	Confidence Intervals for Two Means: Known and Unequal Population Variances	**4**/4 XP
Mathematics for Machine Learning	Review	Visualizing Cartesian Products	**0**/4 XP
Mathematics for Machine Learning	Review	Solving Inequalities Involving Logarithmic Functions	**5**/5 XP
Mathematics for Machine Learning	Lesson	Maximum Likelihood Estimation	**9**/7 XP
Mathematics for Machine Learning	Review	The Change-of-Variables Method for Continuous Random Variables	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 34	**15**/15 XP

Mon, Sep 1st, 2025 (65 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Bivariate Normal Distribution	**21**/17 XP
Mathematics for Machine Learning	Lesson	Lower Riemann Sums Over General Rectangular Partitions	**9**/7 XP
Mathematics for Machine Learning	Lesson	Log-Likelihood Functions for Continuous Probability Distributions	**16**/13 XP
Mathematics for Machine Learning	Lesson	The Connection Between PCA and SVD	**9**/7 XP
Mathematics for Machine Learning	Lesson	Confidence Intervals for Linear Regression Intercept Parameters	**10**/8 XP

Sun, Aug 31st, 2025 (50 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Variance of Sums of Random Variables	**16**/13 XP
Mathematics for Machine Learning	Lesson	Conditional Variance for Continuous Random Variables	**21**/17 XP
Mathematics for Machine Learning	Lesson	Approximating Volumes Using Upper Riemann Sums	**13**/10 XP

Sat, Aug 30th, 2025 (62 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Quiz	Quiz 33	17/14 XP
Mathematics for Machine Learning	Review	The Jacobian of a Three-Dimensional Transformation	7/5 XP
Mathematics for Machine Learning	Review	The Distribution Function Method With Many-to-One Transformations	11/9 XP
Mathematics for Machine Learning	Review	Confidence Intervals for One Variance	6/4 XP
Mathematics for Machine Learning	Quiz	Quiz 33	2/15 XP
Mathematics for Machine Learning	Review	Modeling With Continuous Uniform Distributions	6/4 XP
Mathematics for Machine Learning	Review	Solving Polynomial Inequalities Using a Graphical Method	4/4 XP
Mathematics for Machine Learning	Lesson	Computing Principal Components	9/7 XP

Fri, Aug 29th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Covariance Matrix	19/15 XP
Mathematics for Machine Learning	Lesson	Conditional Variance for Discrete Random Variables	15/12 XP
Mathematics for Machine Learning	Lesson	Simulating Random Observations	10/8 XP

Thu, Aug 28th, 2025 (49 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Approximating Volumes Using Lower Riemann Sums	11/11 XP
Mathematics for Machine Learning	Review	The Multivariable Chain Rule in Vector Form	8/6 XP
Mathematics for Machine Learning	Quiz	Quiz 32	14/14 XP
Mathematics for Machine Learning	Review	Constrained Optimization of Quadratic Forms: Determining Where Extrema are Attained	7/5 XP
Mathematics for Machine Learning	Review	The Least-Squares Solution of a Linear System (With Collinearity)	9/7 XP

Wed, Aug 27th, 2025 (30 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Multivariable Chain Rule in Vector Form	8/6 XP
Mathematics for Machine Learning	Quiz	Quiz 32	-1/14 XP
Mathematics for Machine Learning	Lesson	The Distribution Function Method With Many-to-One Transformations	23/18 XP

Tue, Aug 26th, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Properties of the Joint CDF of Two Continuous Random Variables	15/12 XP
Mathematics for Machine Learning	Lesson	The Rank-Nullity Theorem	9/7 XP
Mathematics for Machine Learning	Lesson	Partitions of Intervals	9/7 XP
Mathematics for Machine Learning	Lesson	Confidence Intervals for Linear Regression Slope Parameters	9/7 XP

Mon, Aug 25th, 2025 (40 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Singular Value Decomposition and the Pseudoinverse Matrix	**19**/15 XP
Mathematics for Machine Learning	Lesson	Conditional Expectation for Continuous Random Variables	**21**/17 XP

Sun, Aug 24th, 2025 (43 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Conditional Distributions for Continuous Random Variables	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 31	**13**/13 XP
Mathematics for Machine Learning	Review	Second-Degree Taylor Polynomials of Multivariable Functions	**7**/7 XP
Mathematics for Machine Learning	Review	Logarithmic Differentiation	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 31	**9**/15 XP

Sat, Aug 23rd, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Singular Value Decomposition of Larger Matrices	**28**/22 XP
Mathematics for Machine Learning	Lesson	Confidence Intervals for One Variance	**14**/11 XP

Fri, Aug 22nd, 2025 (60 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Joint CDF of Two Continuous Random Variables	**21**/17 XP
Mathematics for Machine Learning	Lesson	Extending Bayes' Theorem	**24**/19 XP
Mathematics for Machine Learning	Lesson	The Change-of-Variables Method for Continuous Random Variables	**15**/12 XP

Thu, Aug 21st, 2025 (54 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Singular Value Decomposition of 2x2 Matrices With Zero or Repeated Eigenvalues	**26**/21 XP
Mathematics for Machine Learning	Review	Confidence Intervals for One Mean: Unknown Population Variance	**6**/4 XP
Mathematics for Machine Learning	Review	Logarithmic Differentiation	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 30	**15**/15 XP

Wed, Aug 20th, 2025 (55 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Bayes' Theorem	**25**/20 XP
Mathematics for Machine Learning	Review	Positive-Definite and Negative-Definite Quadratic Forms	**6**/4 XP
Mathematics for Machine Learning	Review	Type I and Type II Errors	**6**/4 XP
Mathematics for Machine Learning	Lesson	The Distribution Function Method	**18**/14 XP

Tue, Aug 19th, 2025 (43 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Correlation Coefficient for Two Random Variables	14/14 XP
Mathematics for Machine Learning	Lesson	Conditional Distributions for Continuous Random Variables	20/16 XP
Mathematics for Machine Learning	Lesson	Multiple Linear Regression With Matrices	9/7 XP

Mon, Aug 18th, 2025 (53 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Singular Value Decomposition of 2x2 Matrices	25/20 XP
Mathematics for Machine Learning	Review	Finding a Basis of the Column Space of a Matrix	4/4 XP
Mathematics for Machine Learning	Quiz	Quiz 29	15/15 XP
Mathematics for Machine Learning	Lesson	Polynomial Regression With Matrices	9/7 XP

Sun, Aug 17th, 2025 (19 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Hypothesis Tests for One Mean: Unknown Population Variance	19/15 XP

Sat, Aug 16th, 2025 (52 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Joint CDF of Two Discrete Random Variables	15/15 XP
Mathematics for Machine Learning	Lesson	Directional Derivatives	23/18 XP
Mathematics for Machine Learning	Lesson	Computing the Singular Values of a Matrix	14/11 XP

Fri, Aug 15th, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Average Value of a Function	6/4 XP
Mathematics for Machine Learning	Lesson	Hypothesis Tests for Two Means: Known Population Variances	20/16 XP
Mathematics for Machine Learning	Review	The Least-Squares Solution of a Linear System (With Collinearity)	9/7 XP
Mathematics for Machine Learning	Review	Constrained Optimization of Quadratic Forms: Determining Where Extrema are Attained	7/5 XP

Thu, Aug 14th, 2025 (70 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Quiz	Quiz 28	15/15 XP
Mathematics for Machine Learning	Lesson	The Multivariable Chain Rule in Vector Form	22/22 XP
Mathematics for Machine Learning	Review	Determining Characteristics of Moving Objects Using Integration	8/6 XP
Mathematics for Machine Learning	Review	Orthogonal Sets in Euclidean Spaces	7/5 XP
Mathematics for Machine Learning	Review	Projecting Vectors Onto Subspaces in Euclidean Spaces (Arbitrary Bases): Applications	9/7 XP

Mathematics for Machine Learning	Lesson	Finding the Inverse of a 3x3 Matrix Using Row Operations	**9**/7 XP

Wed, Aug 13th, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Hypothesis Tests for One Mean: Known Population Variance	**15**/15 XP
Mathematics for Machine Learning	Lesson	Second-Degree Taylor Polynomials of Multivariable Functions	**26**/21 XP

Tue, Aug 12th, 2025 (29 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Binomial Distribution	**6**/4 XP
Mathematics for Machine Learning	Lesson	The Singular Values of a Matrix	**7**/7 XP
Mathematics for Machine Learning	Review	The Area Between Curves Expressed as Functions of X	**7**/5 XP
Mathematics for Machine Learning	Lesson	Type I and Type II Errors	**9**/7 XP

Mon, Aug 11th, 2025 (24 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Confidence Intervals for One Proportion	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 27	**18**/15 XP

Sat, Aug 9th, 2025 (26 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Solving Inequalities Involving Geometric Sequences	**8**/6 XP
Mathematics for Machine Learning	Lesson	Extending the Law of Total Probability	**18**/14 XP

Fri, Aug 8th, 2025 (60 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Logarithmic Differentiation	**19**/15 XP
Mathematics for Machine Learning	Review	Constructing Functions Using Transformations	**2**/4 XP
Mathematics for Machine Learning	Review	Confidence Intervals for Two Means: Known and Unequal Population Variances	**6**/4 XP
Mathematics for Machine Learning	Lesson	Constrained Optimization of Quadratic Forms: Determining Where Extrema are Attained	**19**/15 XP
Mathematics for Machine Learning	Review	The Fundamental Theorem of Algebra with Quartic Equations	**7**/5 XP
Mathematics for Machine Learning	Review	The Multivariable Chain Rule	**7**/5 XP

Thu, Aug 7th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Calculating Slopes of Circles, Ellipses, and Parabolas	**6**/4 XP
Mathematics for Machine Learning	Lesson	Two-Tailed Hypothesis Tests	**10**/8 XP

Mathematics for Machine Learning	Review	Geometric Interpretations of Partial Derivatives	**7**/5 XP
Mathematics for Machine Learning	Review	Diagonalization of 3x3 Symmetric Matrices	**7**/5 XP
Mathematics for Machine Learning	Review	Limits and Continuity of Multivariable Functions	**6**/4 XP
Mathematics for Machine Learning	Lesson	Confidence Intervals for One Mean: Unknown Population Variance	**9**/7 XP

Wed, Aug 6th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Second Derivative of a Multivariable Function	**14**/11 XP
Mathematics for Machine Learning	Review	The Jacobian of a Three-Dimensional Transformation	**5**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 26	**15**/15 XP
Mathematics for Machine Learning	Review	Point Estimates of Population Proportions	**6**/4 XP
Mathematics for Machine Learning	Review	Confidence Intervals for Two Means: Known and Unequal Population Variances	**4**/4 XP

Tue, Aug 5th, 2025 (55 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Critical Regions for Right-Tailed Hypothesis Tests	**13**/10 XP
Mathematics for Machine Learning	Lesson	The Derivative of a Multivariable Function	**18**/14 XP
Mathematics for Machine Learning	Lesson	Introduction to Principal Component Analysis	**9**/7 XP
Mathematics for Machine Learning	Review	Critical Regions for Left-Tailed Hypothesis Tests	**6**/4 XP
Mathematics for Machine Learning	Lesson	Confidence Intervals for One Proportion	**9**/7 XP

Mon, Aug 4th, 2025 (59 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Diagonalization of 3x3 Symmetric Matrices	**20**/16 XP
Mathematics for Machine Learning	Quiz	Quiz 25	**17**/14 XP
Mathematics for Machine Learning	Review	The Covariance of Two Random Variables	**5**/5 XP
Mathematics for Machine Learning	Review	Level Curves	**6**/4 XP
Mathematics for Machine Learning	Review	The Inverse of an Affine Transformation	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 25	**4**/15 XP

Sun, Aug 3rd, 2025 (55 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Confidence Intervals for Two Means: Known and Unequal Population Variances	**15**/12 XP
Mathematics for Machine Learning	Lesson	Point Estimates of Population Proportions	**16**/13 XP
Mathematics for Machine Learning	Review	The Sum of the First N Terms of a Geometric Series	**6**/4 XP
Mathematics for Machine Learning	Lesson	Diagonalization of 2x2 Symmetric Matrices	**9**/11 XP
Mathematics for Machine Learning	Lesson	The Student's T-Distribution	**9**/7 XP

Sat, Aug 2nd, 2025 (60 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Central Limit Theorem	8/6 XP
Mathematics for Machine Learning	Lesson	The Jacobian of a Three-Dimensional Transformation	19/15 XP
Mathematics for Machine Learning	Review	Integrating Rational Functions with Repeated Factors	8/6 XP
Mathematics for Machine Learning	Review	The Inverse Function Theorem	6/4 XP
Mathematics for Machine Learning	Review	Selecting a Regression Model	6/4 XP
Mathematics for Machine Learning	Lesson	Confidence Intervals for One Mean: Known Population Variance	13/10 XP

Fri, Aug 1st, 2025 (47 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Linear Correlation Coefficient	6/4 XP
Mathematics for Machine Learning	Quiz	Quiz 24	15/15 XP
Mathematics for Machine Learning	Lesson	Orthogonal Linear Transformations	9/7 XP
Mathematics for Machine Learning	Review	Finding Areas Using the Cross Product	7/5 XP
Mathematics for Machine Learning	Review	Modeling With the Poisson Distribution	4/4 XP
Mathematics for Machine Learning	Review	Hypothesis Tests for the Rate of a Poisson Distribution	6/4 XP

Thu, Jul 31st, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Critical Regions for Left-Tailed Hypothesis Tests	9/7 XP
Mathematics for Machine Learning	Review	Solving Systems of Equations Using Inverse Matrices	5/5 XP
Mathematics for Machine Learning	Review	The Least-Squares Solution of a Linear System (With Collinearity)	9/7 XP
Mathematics for Machine Learning	Review	Combining Linear Transformations Using 2x2 Matrices	8/6 XP
Mathematics for Machine Learning	Lesson	The Inverse Function Theorem	10/13 XP

Wed, Jul 30th, 2025 (63 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Central Limit Theorem	23/18 XP
Mathematics for Machine Learning	Quiz	Quiz 23	17/14 XP
Mathematics for Machine Learning	Review	Likelihood Functions for Continuous Probability Distributions	6/4 XP
Mathematics for Machine Learning	Review	I.I.D Normal Random Variables	7/5 XP
Mathematics for Machine Learning	Review	Paraboloids	6/4 XP
Mathematics for Machine Learning	Quiz	Quiz 23	4/15 XP

Tue, Jul 29th, 2025 (50 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Log-Likelihood Functions for Discrete Probability Distributions	15/12 XP
Mathematics for Machine Learning	Review	Orthogonal Sets in Euclidean Spaces	7/5 XP

Mathematics for Machine Learning	Review	Using the First Derivative Test to Classify Local Extrema	7/5 XP
Mathematics for Machine Learning	Review	The Parametric Equations of a Plane	6/4 XP
Mathematics for Machine Learning	Lesson	Sample Means From Normal Populations	9/9 XP
Mathematics for Machine Learning	Review	The Jacobian	6/4 XP

Mon, Jul 28th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Taylor Series	10/8 XP
Mathematics for Machine Learning	Review	Visualizing Cartesian Products	4/4 XP
Mathematics for Machine Learning	Lesson	The Covariance of Two Random Variables	25/20 XP
Mathematics for Machine Learning	Review	Linear Regression With Matrices	6/4 XP

Sun, Jul 27th, 2025 (78 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Quiz	Quiz 22	17/14 XP
Mathematics for Machine Learning	Review	Diagonalizing a 3x3 Matrix in the General Case	8/6 XP
Mathematics for Machine Learning	Review	Calculating Related Rates With Circles and Spheres	5/5 XP
Mathematics for Machine Learning	Quiz	Quiz 22	7/15 XP
Mathematics for Machine Learning	Lesson	Hypothesis Tests for the Rate of a Poisson Distribution	11/9 XP
Mathematics for Machine Learning	Review	Improper Integrals Over the Real Line	7/5 XP
Mathematics for Machine Learning	Review	The Least-Squares Solution of a Linear System (With Collinearity)	9/7 XP
Mathematics for Machine Learning	Review	The Rational Roots Theorem	0/4 XP
Mathematics for Machine Learning	Lesson	Likelihood Functions for Continuous Probability Distributions	14/11 XP

Sat, Jul 26th, 2025 (66 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Projecting Vectors Onto Subspaces in Euclidean Spaces (Arbitrary Bases): Applications	9/7 XP
Mathematics for Machine Learning	Review	Solving Initial Value Problems Using Separation of Variables	4/7 XP
Mathematics for Machine Learning	Review	The Least-Squares Solution of a Linear System (With Collinearity)	7/7 XP
Mathematics for Machine Learning	Lesson	I.I.D Normal Random Variables	14/11 XP
Mathematics for Machine Learning	Lesson	Computing Expected Values From Joint Distributions	13/10 XP
Mathematics for Machine Learning	Review	Orthogonal Sets in Euclidean Spaces	7/5 XP
Mathematics for Machine Learning	Quiz	Quiz 21	12/12 XP

Fri, Jul 25th, 2025 (57 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Sample Covariance Matrix	6/4 XP
Mathematics for Machine Learning	Review	Orthogonal Sets in Euclidean Spaces	7/5 XP

Mathematics for Machine Learning	Review	Diagonalizing a 3x3 Matrix With Distinct Eigenvalues	7/5 XP
Mathematics for Machine Learning	Quiz	Quiz 21	2/15 XP
Mathematics for Machine Learning	Review	The Inverse of an Affine Transformation	7/5 XP
Mathematics for Machine Learning	Review	Subspaces of N-Dimensional Space: Geometric Interpretation	6/4 XP
Mathematics for Machine Learning	Review	Euler's Method: Calculating Multiple Steps	2/4 XP
Mathematics for Machine Learning	Review	Mean and Variance of the Discrete Uniform Distribution	4/4 XP
Mathematics for Machine Learning	Lesson	Linear Regression With Matrices	10/8 XP
Mathematics for Machine Learning	Review	Positive-Definite and Negative-Definite Quadratic Forms	6/4 XP

Thu, Jul 24th, 2025 (40 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Least-Squares Solution of a Linear System (Without Collinearity)	9/7 XP
Mathematics for Machine Learning	Review	Diagonalizing a 3x3 Matrix in the General Case	6/6 XP
Mathematics for Machine Learning	Lesson	The Least-Squares Solution of a Linear System (With Collinearity)	25/20 XP

Wed, Jul 23rd, 2025 (33 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Characteristic Equation of a Matrix	8/6 XP
Mathematics for Machine Learning	Review	Finding a Basis of the Null Space of a Matrix	6/4 XP
Mathematics for Machine Learning	Review	Projecting Vectors Onto Subspaces in Euclidean Spaces (Arbitrary Bases): Applications	9/7 XP
Mathematics for Machine Learning	Quiz	Quiz 20	10/10 XP

Tue, Jul 22nd, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Positive-Definite and Negative-Definite Quadratic Forms	15/12 XP
Mathematics for Machine Learning	Review	Positive-Definite and Negative-Definite Quadratic Forms	0/4 XP
Mathematics for Machine Learning	Review	The Chi-Square Distribution	6/4 XP
Mathematics for Machine Learning	Review	Equality of Mixed Partial Derivatives	7/5 XP
Mathematics for Machine Learning	Quiz	Quiz 20	2/14 XP
Mathematics for Machine Learning	Lesson	Constrained Optimization of Quadratic Forms	11/9 XP

Mon, Jul 21st, 2025 (49 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Further Integration of Algebraic Functions Using Substitution	9/7 XP
Mathematics for Machine Learning	Review	Normal Approximations of Binomial Distributions	8/6 XP
Mathematics for Machine Learning	Review	Integrating Logarithmic Functions Using Substitution	7/5 XP
Mathematics for Machine Learning	Lesson	The Least-Squares Solution of a Linear System (Without Collinearity)	25/20 XP

Sun, Jul 20th, 2025 (40 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Diagonalizing a 3x3 Matrix in the General Case	**16**/16 XP
Mathematics for Machine Learning	Quiz	Quiz 19	**16**/13 XP
Mathematics for Machine Learning	Review	The Gram-Schmidt Process for Two Vectors	**8**/6 XP

Sat, Jul 19th, 2025 (52 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Properties of Double Integrals	**6**/4 XP
Mathematics for Machine Learning	Review	Row and Column Operations on Determinants	**6**/4 XP
Mathematics for Machine Learning	Review	The Arc Length of a Polar Curve	**6**/6 XP
Mathematics for Machine Learning	Review	The Dimension of the Null Space of a Matrix	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 19	**0**/15 XP
Mathematics for Machine Learning	Review	Determining Polynomial Coefficients Using the Factor Theorem	**7**/5 XP
Mathematics for Machine Learning	Lesson	Projecting Vectors Onto Subspaces in Euclidean Spaces (Arbitrary Bases): Applications	**21**/21 XP

Fri, Jul 18th, 2025 (62 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Variance of Sample Means	**8**/6 XP
Mathematics for Machine Learning	Review	Introduction to Hypothesis Testing	**4**/4 XP
Mathematics for Machine Learning	Lesson	Diagonalizing a 3x3 Matrix With Distinct Eigenvalues	**25**/20 XP
Mathematics for Machine Learning	Lesson	Calculating the Eigenvectors of a 3x3 Matrix in the General Case	**25**/20 XP

Thu, Jul 17th, 2025 (40 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Quiz	Quiz 18	**18**/15 XP
Mathematics for Machine Learning	Review	Likelihood Functions for Discrete Probability Distributions	**6**/4 XP
Mathematics for Machine Learning	Review	The Multivariable Chain Rule	**5**/5 XP
Mathematics for Machine Learning	Review	The Rule of the Lazy Statistician for Two Random Variables	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 18	**4**/15 XP

Wed, Jul 16th, 2025 (54 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Candidates Test	**9**/7 XP
Mathematics for Machine Learning	Lesson	The Sample Covariance Matrix	**11**/9 XP
Mathematics for Machine Learning	Review	Finding a Basis of the Column Space of a Matrix	**6**/4 XP
Mathematics for Machine Learning	Review	Representing Functions as Power Series	**5**/5 XP
Mathematics for Machine Learning	Review	The Gram-Schmidt Process for Two Vectors	**8**/6 XP

Mathematics for Machine Learning	Lesson	Positive-Definite and Negative-Definite Quadratic Forms	15/12 XP

Tue, Jul 15th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Orthogonal Matrices	18/14 XP
Mathematics for Machine Learning	Lesson	Calculating the Eigenvectors of a 3x3 Matrix With Distinct Eigenvalues	21/17 XP
Mathematics for Machine Learning	Review	Solving Rational Inequalities	6/4 XP

Mon, Jul 14th, 2025 (62 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Quiz	Quiz 17	15/15 XP
Mathematics for Machine Learning	Review	Projecting Vectors Onto Subspaces in Euclidean Spaces (Arbitrary Bases)	11/9 XP
Mathematics for Machine Learning	Review	The Jacobian	4/4 XP
Mathematics for Machine Learning	Review	Geometric Interpretations of Partial Derivatives	5/5 XP
Mathematics for Machine Learning	Quiz	Quiz 17	6/15 XP
Mathematics for Machine Learning	Lesson	Diagonalizing a 2x2 Matrix	21/17 XP

Sun, Jul 13th, 2025 (25 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Characteristic Equation of a Matrix	23/18 XP
Mathematics for Machine Learning	Supplemental		2/ XP

Sat, Jul 12th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Calculating the Eigenvectors of a 2x2 Matrix	15/12 XP
Mathematics for Machine Learning	Lesson	The Sample Variance	10/8 XP
Mathematics for Machine Learning	Review	The Extreme Value Theorem	6/4 XP
Mathematics for Machine Learning	Lesson	Likelihood Functions for Discrete Probability Distributions	14/11 XP

Fri, Jul 11th, 2025 (47 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Multivariable Chain Rule	26/21 XP
Mathematics for Machine Learning	Lesson	Projecting Vectors Onto Subspaces in Euclidean Spaces (Arbitrary Bases)	21/17 XP

Thu, Jul 10th, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Domain and Range of Transformed Functions	6/4 XP

Mathematics for Machine Learning	Lesson	Calculating the Eigenvalues of a 2x2 Matrix	**14**/11 XP
Mathematics for Machine Learning	Review	Finding a Basis of the Null Space of a Matrix	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 16	**15**/15 XP

Wed, Jul 9th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Sampling Proportions From Finite Populations	**15**/12 XP
Mathematics for Machine Learning	Lesson	Projecting Vectors Onto Subspaces in Euclidean Spaces (Orthogonal Bases)	**29**/23 XP

Tue, Jul 8th, 2025 (52 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Invertible Matrix Theorem in Terms of Dimension, Rank and Nullity	**9**/7 XP
Mathematics for Machine Learning	Lesson	Change of Variables in Quadratic Forms	**23**/18 XP
Mathematics for Machine Learning	Lesson	The Rule of the Lazy Statistician for Two Random Variables	**20**/16 XP

Mon, Jul 7th, 2025 (53 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Properties of Roots of Unity	**4**/4 XP
Mathematics for Machine Learning	Lesson	Variance of Continuous Random Variables	**14**/14 XP
Mathematics for Machine Learning	Lesson	The Components of a Vector with Respect to an Orthogonal or Orthonormal Basis	**9**/7 XP
Mathematics for Machine Learning	Lesson	The Gram-Schmidt Process for Two Vectors	**17**/17 XP
Mathematics for Machine Learning	Lesson	The Dimension of the Null Space of a Matrix	**9**/7 XP

Sun, Jul 6th, 2025 (66 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Quiz	Quiz 15	**18**/15 XP
Mathematics for Machine Learning	Lesson	Variance of Sample Means	**20**/16 XP
Mathematics for Machine Learning	Lesson	Moments of Continuous Random Variables	**9**/9 XP
Mathematics for Machine Learning	Lesson	Projecting Vectors Onto One-Dimensional Subspaces	**19**/15 XP

Sat, Jul 5th, 2025 (61 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Differentiating an Inverse Function at a Point	**7**/5 XP
Mathematics for Machine Learning	Review	Geometric Interpretations of Partial Derivatives	**7**/5 XP
Mathematics for Machine Learning	Lesson	The Rank of a Matrix	**9**/7 XP
Mathematics for Machine Learning	Review	The Second Derivative Test	**7**/5 XP
Mathematics for Machine Learning	Review	The Domain of a Vector-Valued Function	**4**/4 XP

| Mathematics for Machine Learning | Review | Solving Inequalities Involving Exponential Functions and Polynomials | **6**/4 XP |
| Mathematics for Machine Learning | Lesson | Changing a Basis Using the Change-of-Coordinates Matrix | **21**/17 XP |

Fri, Jul 4th, 2025 (63 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Intersection of Two Planes	**7**/5 XP
Mathematics for Machine Learning	Review	Equality of Mixed Partial Derivatives	**7**/5 XP
Mathematics for Machine Learning	Review	Geometric Interpretations of Partial Derivatives	**5**/5 XP
Mathematics for Machine Learning	Lesson	Finding a Basis of the Column Space of a Matrix	**16**/13 XP
Mathematics for Machine Learning	Review	Tangent Vectors and Tangent Lines to Curves	**7**/5 XP
Mathematics for Machine Learning	Review	The Inverse of an Affine Transformation	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 14	**14**/14 XP

Thu, Jul 3rd, 2025 (67 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Linearization of Multivariable Functions	**7**/5 XP
Mathematics for Machine Learning	Lesson	Orthogonal Sets in Euclidean Spaces	**23**/18 XP
Mathematics for Machine Learning	Review	Solving Quadratic Equations With Leading Coefficients by Completing the Square	**8**/6 XP
Mathematics for Machine Learning	Lesson	Orthogonal Complements	**23**/18 XP
Mathematics for Machine Learning	Review	Combining Multiple Normally Distributed Random Variables	**6**/4 XP

Wed, Jul 2nd, 2025 (7 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Finding the Area of a Polar Region	**7**/5 XP

Tue, Jul 1st, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Joint Distributions for Continuous Random Variables	**8**/6 XP
Mathematics for Machine Learning	Lesson	The Jacobian	**15**/15 XP
Mathematics for Machine Learning	Review	The Arc Length of a Planar Curve	**8**/6 XP
Mathematics for Machine Learning	Review	Combining Two Normally Distributed Random Variables	**6**/4 XP
Mathematics for Machine Learning	Review	The Arc Length of a Parametric Curve	**7**/5 XP

Mon, Jun 30th, 2025 (52 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Linearization of Multivariable Functions	**16**/16 XP
Mathematics for Machine Learning	Lesson	The Change-of-Coordinates Matrix	**15**/12 XP
Mathematics for Machine Learning	Review	The Exponential Distribution	**6**/4 XP

Mathematics for Machine Learning	Quiz	Quiz 13	15/15 XP

Sun, Jun 29th, 2025 (49 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Writing Vectors in Different Bases	16/13 XP
Mathematics for Machine Learning	Lesson	Combining Multiple Normally Distributed Random Variables	16/16 XP
Mathematics for Machine Learning	Lesson	Equality of Mixed Partial Derivatives	17/17 XP

Sat, Jun 28th, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Arc Length of a Polar Curve	4/6 XP
Mathematics for Machine Learning	Review	Combining Two Normally Distributed Random Variables	4/4 XP
Mathematics for Machine Learning	Review	Writing Sums of Trigonometric Functions in Amplitude-Phase Form	6/4 XP
Mathematics for Machine Learning	Lesson	The Gradient Vector	19/19 XP
Mathematics for Machine Learning	Lesson	The Dimension of a Span	9/7 XP

Fri, Jun 27th, 2025 (56 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Expressing the Coordinates of a Vector in a Given Basis	18/14 XP
Mathematics for Machine Learning	Lesson	Finding a Basis of the Null Space of a Matrix	14/14 XP
Mathematics for Machine Learning	Review	Subspaces of N-Dimensional Space: Geometric Interpretation	6/4 XP
Mathematics for Machine Learning	Review	Hyperboloids	6/4 XP
Mathematics for Machine Learning	Quiz	Quiz 12	12/15 XP

Thu, Jun 26th, 2025 (58 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Tangent Planes to Surfaces	25/20 XP
Mathematics for Machine Learning	Lesson	Geometric Interpretations of Partial Derivatives	15/15 XP
Mathematics for Machine Learning	Lesson	Higher-Order Partial Derivatives	16/16 XP
Mathematics for Machine Learning	Review	Graphs of the Hyperbolic Functions	2/4 XP

Wed, Jun 25th, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Finding a Basis of a Span	13/10 XP
Mathematics for Machine Learning	Review	Sums of Infinite Geometric Series Given in Sigma Notation	4/4 XP
Mathematics for Machine Learning	Review	Introduction to Hypothesis Testing	4/4 XP
Mathematics for Machine Learning	Review	Calculating Related Rates With Circles and Spheres	7/5 XP

Mathematics for Machine Learning	Lesson	Partial Differentiability of Multivariable Functions	**14**/11 XP

Tue, Jun 24th, 2025 (48 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Null Space of a Matrix	**10**/8 XP
Mathematics for Machine Learning	Lesson	The Column Space of a Matrix	**20**/16 XP
Mathematics for Machine Learning	Quiz	Quiz 11	**18**/15 XP

Mon, Jun 23rd, 2025 (47 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Marginal Distributions for Continuous Random Variables	**6**/4 XP
Mathematics for Machine Learning	Review	Modeling With the Poisson Distribution	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 11	**7**/15 XP
Mathematics for Machine Learning	Lesson	The Rule of the Lazy Statistician	**15**/12 XP
Mathematics for Machine Learning	Lesson	Introduction to Hypothesis Testing	**13**/13 XP

Sun, Jun 22nd, 2025 (46 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Subspaces of N-Dimensional Space: Geometric Interpretation	**7**/7 XP
Mathematics for Machine Learning	Lesson	Combining Two Normally Distributed Random Variables	**16**/16 XP
Mathematics for Machine Learning	Review	The Sum of the First N Terms of a Geometric Series	**4**/4 XP
Mathematics for Machine Learning	Lesson	Computing Partial Derivatives Using the Rules of Differentiation	**19**/15 XP

Sat, Jun 21st, 2025 (50 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Expected Values of Continuous Random Variables	**15**/12 XP
Mathematics for Machine Learning	Lesson	Sampling Distributions	**9**/7 XP
Mathematics for Machine Learning	Lesson	Independence of Continuous Random Variables	**15**/12 XP
Mathematics for Machine Learning	Lesson	Quadratic Forms	**11**/9 XP

Fri, Jun 20th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Calculating the Number of Terms in an Arithmetic Series	**7**/5 XP
Mathematics for Machine Learning	Lesson	The Bernoulli Distribution	**9**/7 XP
Mathematics for Machine Learning	Lesson	Inner Product Spaces	**10**/11 XP
Mathematics for Machine Learning	Quiz	Quiz 10	**18**/15 XP

Thu, Jun 19th, 2025 (48 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Taylor Series	9/7 XP
Mathematics for Machine Learning	Lesson	Defining Abstract Vector Spaces	10/8 XP
Mathematics for Machine Learning	Lesson	The Inverse of an Affine Transformation	18/18 XP
Mathematics for Machine Learning	Lesson	Bilinear Forms	11/9 XP

Wed, Jun 18th, 2025 (63 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Cauchy-Schwarz Inequality and the Angle Between Two Vectors	6/4 XP
Mathematics for Machine Learning	Review	Solving Inequalities Involving Logarithmic Functions	7/5 XP
Mathematics for Machine Learning	Review	Variance of Sums of Independent Random Variables	6/4 XP
Mathematics for Machine Learning	Lesson	The Sample Mean	9/7 XP
Mathematics for Machine Learning	Review	Identifying the Pivot Columns of a Matrix	6/4 XP
Mathematics for Machine Learning	Review	The Parametric Equations of a Plane	4/4 XP
Mathematics for Machine Learning	Review	Volumes of Parallelepipeds	7/5 XP
Mathematics for Machine Learning	Lesson	The Chi-Square Distribution	9/9 XP
Mathematics for Machine Learning	Lesson	Introduction to Abstract Vector Spaces	9/10 XP

Tue, Jun 17th, 2025 (69 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Properties of Transformed Secant and Cosecant Functions	6/4 XP
Mathematics for Machine Learning	Quiz	Quiz 9	12/12 XP
Mathematics for Machine Learning	Lesson	Variance of Sums of Independent Random Variables	10/8 XP
Mathematics for Machine Learning	Review	Variance of Sums of Independent Random Variables	0/4 XP
Mathematics for Machine Learning	Review	The Norm of a Vector in N-Dimensional Euclidean Space	6/4 XP
Mathematics for Machine Learning	Review	Linear Span of Vectors in N-Dimensional Euclidean Space	8/6 XP
Mathematics for Machine Learning	Quiz	Quiz 9	10/15 XP
Mathematics for Machine Learning	Lesson	Marginal Distributions for Continuous Random Variables	17/17 XP

Mon, Jun 16th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Sets and Functions	9/7 XP
Mathematics for Machine Learning	Lesson	Expected Values of Sums and Products of Random Variables	10/8 XP
Mathematics for Machine Learning	Lesson	The Cauchy-Schwarz Inequality and the Angle Between Two Vectors	16/13 XP
Mathematics for Machine Learning	Lesson	The Gamma Function	9/7 XP

Sun, Jun 15th, 2025 (48 XP)

COURSE	TASK	DESCRIPTION	XP EARNED

Mathematics for Machine Learning	Lesson	Linear Dependence and Independence	**14**/11 XP
Mathematics for Machine Learning	Review	Finding Areas Using the Cross Product	**7**/5 XP
Mathematics for Machine Learning	Lesson	The CDF of the Poisson Distribution	**11**/9 XP
Mathematics for Machine Learning	Lesson	Orthogonal Vectors in Euclidean Spaces	**16**/13 XP

Sat, Jun 14th, 2025 (43 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Norm of a Vector in N-Dimensional Euclidean Space	**10**/8 XP
Mathematics for Machine Learning	Lesson	Linear Span of Vectors in N-Dimensional Euclidean Space	**15**/17 XP
Mathematics for Machine Learning	Quiz	Quiz 8	**18**/15 XP

Fri, Jun 13th, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Joint Distributions for Continuous Random Variables	**21**/17 XP
Mathematics for Machine Learning	Lesson	Modeling With the Poisson Distribution	**11**/12 XP
Mathematics for Machine Learning	Lesson	The Dot Product in N-Dimensional Euclidean Space	**9**/10 XP

Thu, Jun 12th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Representing Functions as Power Series	**7**/5 XP
Mathematics for Machine Learning	Lesson	Subspaces of N-Dimensional Space	**13**/10 XP
Mathematics for Machine Learning	Lesson	Gaussian Elimination For NxM Systems of Equations	**16**/13 XP
Mathematics for Machine Learning	Lesson	Finding the Inverse of a 2x2 Matrix Using Row Operations	**9**/7 XP

Wed, Jun 11th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Identifying Quadric Surfaces	**4**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 7	**14**/14 XP
Mathematics for Machine Learning	Review	The Image of an Affine Transformation	**6**/4 XP
Mathematics for Machine Learning	Review	Mean and Variance of the Discrete Uniform Distribution	**6**/4 XP
Mathematics for Machine Learning	Review	Normal Approximations of Binomial Distributions	**6**/6 XP
Mathematics for Machine Learning	Quiz	Quiz 7	**9**/15 XP

Tue, Jun 10th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Linear Combinations of Vectors in N-Dimensional Euclidean Space	**20**/16 XP
Mathematics for Machine Learning	Lesson	Reduced Row Echelon Form	**24**/19 XP

Mon, Jun 9th, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	The Poisson Distribution	**16**/13 XP
Mathematics for Machine Learning	Review	Improper Integrals Over the Real Line	**7**/5 XP
Mathematics for Machine Learning	Lesson	The CDF of the Binomial Distribution	**8**/9 XP
Mathematics for Machine Learning	Lesson	Conditional Expectation for Discrete Random Variables	**10**/8 XP

Sun, Jun 8th, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Double Integrals Over Type II Regions	**21**/17 XP
Mathematics for Machine Learning	Review	Improper Integrals of the Second Kind	**6**/4 XP
Mathematics for Machine Learning	Lesson	Solving 3x3 Singular Systems of Equations Using Gaussian Elimination	**18**/14 XP

Sat, Jun 7th, 2025 (56 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Solving 2x2 Singular Systems of Equations Using Gaussian Elimination	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 6	**15**/15 XP
Mathematics for Machine Learning	Lesson	Product Notation	**11**/9 XP
Mathematics for Machine Learning	Lesson	Variance of Sums of Independent Random Variables	**10**/8 XP
Mathematics for Machine Learning	Lesson	Conditional Distributions for Discrete Random Variables	**14**/11 XP

Fri, Jun 6th, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Further Differentiation of Curves Given in Polar Form	**6**/6 XP
Mathematics for Machine Learning	Review	Limits and Continuity of Multivariable Functions	**6**/4 XP
Mathematics for Machine Learning	Review	The Arc Length of a Polar Curve	**6**/6 XP
Mathematics for Machine Learning	Lesson	Double Integrals Over Type I Regions	**23**/18 XP

Thu, Jun 5th, 2025 (101 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Identifying the Pivot Columns of a Matrix	**7**/7 XP
Mathematics for Machine Learning	Lesson	Further Properties of Determinants	**13**/10 XP
Mathematics for Machine Learning	Review	Visualizing Cartesian Products	**6**/4 XP
Mathematics for Machine Learning	Review	Integrating Rational Functions with Irreducible Quadratic Factors	**9**/7 XP
Mathematics for Machine Learning	Quiz	Quiz 5	**8**/14 XP
Mathematics for Machine Learning	Review	Tangent Vectors and Tangent Lines to Curves	**7**/5 XP
Mathematics for Machine Learning	Review	Integrating Rational Functions with Irreducible Quadratic Factors	**9**/7 XP
Mathematics for Machine Learning	Quiz	Quiz 5	**9**/15 XP

Mathematics for Machine Learning	Review	Normal Approximations of Binomial Distributions	**6**/6 XP
Mathematics for Machine Learning	Lesson	Conditions When a Determinant Equals Zero	**9**/7 XP
Mathematics for Machine Learning	Lesson	The Exponential Distribution	**18**/14 XP

Wed, Jun 4th, 2025 (9 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Solving 2x2 Singular Systems of Equations Using Gaussian Elimination	**9**/7 XP

Tue, Jun 3rd, 2025 (18 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Image of an Affine Transformation	**4**/4 XP
Mathematics for Machine Learning	Lesson	Solving 3x3 Systems of Equations Using Gaussian Elimination	**14**/11 XP

Mon, Jun 2nd, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Independence of Discrete Random Variables	**13**/10 XP
Mathematics for Machine Learning	Lesson	Properties of Double Integrals	**20**/16 XP
Mathematics for Machine Learning	Lesson	Row and Column Operations on Determinants	**9**/7 XP

Sun, Jun 1st, 2025 (46 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Normal Approximations of Binomial Distributions	**24**/19 XP
Mathematics for Machine Learning	Review	Estimating Means and Variances For Grouped Data	**8**/6 XP
Mathematics for Machine Learning	Lesson	Solving 2x2 Systems of Equations Using Gaussian Elimination	**14**/11 XP

Sat, May 31st, 2025 (45 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Finding Displacement Vectors in Two Dimensions Using Integration	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 4	**15**/15 XP
Mathematics for Machine Learning	Review	Solving Inequalities Involving Positive and Negative Factors	**6**/4 XP
Mathematics for Machine Learning	Lesson	Creating Rows or Columns Containing Zeros Using Gaussian Elimination	**11**/9 XP
Mathematics for Machine Learning	Review	Mean and Variance of the Binomial Distribution	**6**/4 XP

Fri, May 30th, 2025 (44 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	The Linear Correlation Coefficient	**6**/4 XP
Mathematics for Machine Learning	Lesson	Properties of Variance for Discrete Random Variables	**9**/7 XP

Mathematics for Machine Learning	Review	Solving Inequalities Involving Geometric Sequences	**7**/5 XP
Mathematics for Machine Learning	Lesson	Approximating Discrete Random Variables as Continuous	**9**/7 XP
Mathematics for Machine Learning	Lesson	Double Integrals Over Non-Rectangular Domains	**13**/10 XP

Thu, May 29th, 2025 (42 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Taylor Series	**8**/6 XP
Mathematics for Machine Learning	Lesson	Cumulative Distribution Functions for Continuous Random Variables	**25**/20 XP
Mathematics for Machine Learning	Lesson	Mean and Variance of the Binomial Distribution	**9**/7 XP

Wed, May 28th, 2025 (49 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Identifying Quadric Surfaces	**11**/11 XP
Mathematics for Machine Learning	Quiz	Quiz 3	**18**/15 XP
Mathematics for Machine Learning	Lesson	Double Integrals Over Rectangular Domains	**20**/16 XP

Tue, May 27th, 2025 (47 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Introduction to Partial Derivatives	**10**/8 XP
Mathematics for Machine Learning	Review	Visualizing Cartesian Products	**6**/4 XP
Mathematics for Machine Learning	Lesson	Cylinders	**9**/7 XP
Mathematics for Machine Learning	Review	Optimizing Distances to Curves	**7**/5 XP
Mathematics for Machine Learning	Review	The Cartesian Equation of a Line	**6**/4 XP
Mathematics for Machine Learning	Lesson	Elliptic Cones	**9**/7 XP

Mon, May 26th, 2025 (46 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Paraboloids	**11**/11 XP
Mathematics for Machine Learning	Review	Visualizing Cartesian Products	**0**/4 XP
Mathematics for Machine Learning	Lesson	Hyperboloids	**11**/11 XP
Mathematics for Machine Learning	Review	The Domain of a Multivariable Function	**6**/4 XP
Mathematics for Machine Learning	Review	Parametric Equations of Horizontal Hyperbolas	**6**/4 XP
Mathematics for Machine Learning	Lesson	Basic Properties of Determinants	**12**/12 XP

Sun, May 25th, 2025 (59 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Tangent Vectors and Tangent Lines to Curves	**7**/5 XP
Mathematics for Machine Learning	Quiz	Quiz 2	**15**/15 XP

Mathematics for Machine Learning	Lesson	Double Summations	**15**/12 XP
Mathematics for Machine Learning	Lesson	Type I and II Regions in Two-Dimensional Space	**9**/7 XP
Mathematics for Machine Learning	Lesson	Limits and Continuity of Multivariable Functions	**13**/15 XP

Sat, May 24th, 2025 (49 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Level Curves	**14**/11 XP
Mathematics for Machine Learning	Review	Finding Displacement Vectors in Two Dimensions Using Integration	**7**/5 XP
Mathematics for Machine Learning	Lesson	Ellipsoids	**15**/12 XP
Mathematics for Machine Learning	Lesson	Finding Determinants Using Laplace Expansions	**13**/10 XP

Fri, May 23rd, 2025 (82 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Finding Areas Using the Cross Product	**8**/6 XP
Mathematics for Machine Learning	Quiz	Quiz 1	**13**/13 XP
Mathematics for Machine Learning	Review	Solving Quartic Equations With Complex Roots	**9**/7 XP
Mathematics for Machine Learning	Review	Graphing the Inverse Tangent Function	**4**/4 XP
Mathematics for Machine Learning	Review	Using the First Derivative Test to Classify Local Extrema	**4**/6 XP
Mathematics for Machine Learning	Review	Finding Areas Using the Cross Product	**8**/6 XP
Mathematics for Machine Learning	Review	Combining Graph Transformations of Sine and Cosine	**6**/4 XP
Mathematics for Machine Learning	Quiz	Quiz 1	**0**/14 XP
Mathematics for Machine Learning	Review	Continuous Random Variables Over Infinite Domains	**4**/4 XP
Mathematics for Machine Learning	Lesson	Vectors in N-Dimensional Euclidean Space	**9**/7 XP
Mathematics for Machine Learning	Lesson	The Parametric Equations of a Plane	**11**/11 XP
Mathematics for Machine Learning	Review	Taylor Series	**6**/6 XP

Thu, May 22nd, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Solving Systems of Equations Using Back Substitution	**6**/4 XP
Mathematics for Machine Learning	Lesson	Tangent Vectors and Tangent Lines to Curves	**25**/20 XP
Mathematics for Machine Learning	Lesson	The Determinant of an NxN Matrix	**10**/8 XP

Wed, May 21st, 2025 (49 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Review	Mean and Variance of the Discrete Uniform Distribution	**2**/4 XP
Mathematics for Machine Learning	Review	The Linear Correlation Coefficient	**6**/4 XP
Mathematics for Machine Learning	Lesson	The Invertible Matrix Theorem in Terms of 2x2 Systems of Equations	**9**/7 XP
Mathematics for Machine Learning	Lesson	The Eigenvalues and Eigenvectors of a 2x2 Matrix	**15**/15 XP
Mathematics for Machine Learning	Lesson	The Continuous Uniform Distribution	**9**/7 XP

| Mathematics for Machine Learning | Lesson | Elementary Row Operations | **8**/8 XP |

Tue, May 20th, 2025 (41 XP)

COURSE	TASK	DESCRIPTION	XP EARNED
Mathematics for Machine Learning	Lesson	Matrices With Easy-to-Find Inverses	**9**/7 XP
Mathematics for Machine Learning	Placement		**32**/ XP

Notes:

1. Every learning task is assigned an XP (eXperience Point) value to signify the time required to successfully complete that task.
2. 1 XP is equivalent to 1 minute of focused effort (e.g. a 10 XP lesson should take roughly 10 minutes to complete)
3. The amount of XP awarded is based on the students' performance on that task, with additional "bonus" XP awarded if every question is answered correctly