

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
50	Precollege Mathematics I	Precollege Mathematics I	050	50.01	Arithmetic of fractions and decimals, basic algebra, graphing equations, geometry, exponents, applications of exponents, lines and slopes, area.	Not open to students with credit for any version of 50.xx or any higher numbered math course. Credit will not count toward graduation in any degree program.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5
50	Precollege Mathematics I	Precollege Mathematics I	050	50.02	Arithmetic of fractions and decimals, basic algebra, graphing equations, geometry, exponents, applications of exponents, lines and slopes, area.	Not open to students with credit for any version of 50.xx or any higher numbered math course. Credit will not count toward graduation in any degree program.	Special section designed for special audience and/or innovative teaching methods.	Su, Au, Wi, Sp	5 cl	U 5
117	Survey of Calculus	Survey of Calculus	117	117.01	An introduction to differential and integral calculus.	148 or 150 or Level L on Ohio State Math Skills Assessment or permission of dept. Not open to students with credit for any version of 117.xx or 132 or 151.xx. This course is not designated for students pursuing majors in business or the sciences.	Standard course.	Au, Wi, Sp	5 cl	U 5
117	Survey of Calculus	Survey of Calculus	117	117.25	An introduction to differential and integral calculus.	148 or 150 or Level L on Ohio State Math Skills Assessment or permission of dept. Not open to students with credit for any version of 117.xx or 132 or 151.xx. This course is not designated for students pursuing majors in business or the sciences.	Special topics and/or special projects will be part of the course.	Au, Wi, Sp	5 cl	U 5
151	Calculus and Analytic Geometry I	Calculus and Analytic Geometry I	151	151.01	Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exp functions.	C- or better in 150 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for any version of 151.xx or 152.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
151	Calculus and Analytic Geometry I	Calculus and Analytic Geometry I	151A	151.02	Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exp functions.	C- or better in 150 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for any version of 151.xx or 152.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Reformed calculus emphasizing applications and group work.	Su, Au, Wi, Sp	5 cl	U 5
151	Calculus and Analytic Geometry I	Calculus and Analytic Geometry I	151L	151.03	Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exp functions.	C- or better in 150 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for any version of 151.xx, 152.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Calculus for the biosciences with emphasis on biologically oriented applications.	Su, Au, Wi, Sp	5 cl	U 5
151	Calculus and Analytic Geometry I	Calculus and Analytic Geometry I	151C 151R	151.04	Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exp functions.	C- or better in 150 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for an version of 151.xx, 152.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	Su, Au, Wi, Sp	5 cl	U 5
151	Calculus and Analytic Geometry I	Calculus and Analytic Geometry I	151	151.10	Limits, continuity, derivatives, Mean Value Theorem, extrema, curve sketching, related rates, differentiation of the trig, log, and exp functions.	C- or better in 150 or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for any version of 151.xx, 152.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Special section designed for special audience and/or innovative teaching methods.	Su, Au, Wi, Sp	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
152	Calculus and Analytic Geometry II	Calculus and Analytic Geometry II	152	152.01	Integrals, area, fundamental theorems of calculus, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.	C- or better in 141 or 151.xx. Not open to students with credit for any version of 152.xx or 153.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5
152	Calculus and Analytic Geometry II	Calculus and Analytic Geometry II	152A	152.02	Integrals, area, fundamental theorems of calculus, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.	C- or better in 141 or 151.xx. Not open to students with credit for any version of 152.xx or 153.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Reformed calculus emphasizing applications and group work.	Su, Au, Wi, Sp	5 cl	U 5
152	Calculus and Analytic Geometry II	Calculus and Analytic Geometry II	152L	152.03	Integrals, area, fundamental theorems of calculus, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.	C- or better in 141 or 151.xx. Not open to students with credit for any version of 152.xx or 153.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Calculus for the biosciences with emphasis on biologically oriented applications.	Su, Au, Wi, Sp	5 cl	U 5
152	Calculus and Analytic Geometry II	Calculus and Analytic Geometry II	152C 152R	152.04	Integrals, area, fundamental theorems of calculus, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.	C- or better in 141 or 151.xx. Not open to students with credit for any version of 152.xx or 153.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	Su, Au, Wi, Sp	5 cl	U 5
152	Calculus and Analytic Geometry II	Calculus and Analytic Geometry II	152	152.10	Integrals, area, fundamental theorems of calculus, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, methods of integration, applications of integration, polar coordinates.	C- or better in 141 or 151.xx. Not open to students with credit for any version of 152.xx or 153.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. GEC math and logical analysis course. This course is available for EM credit.	Special section designed for special audience and/or innovative teaching methods.	Su, Au, Wi, Sp	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
153	Calculus and Analytic Geometry III	Calculus and Analytic Geometry III	153	153.01	Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space.	C- or better in 152.xx or 161.xx or 161H.xx. Not open to students with credit for any version of 153.xx or 254.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5
153	Calculus and Analytic Geometry III	Calculus and Analytic Geometry III	153A	153.02	Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space.	C- or better in 152.xx or 161.xx or 161H.xx. Not open to students with credit for any version of 153.xx or 254.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Reformed calculus emphasizing applications and group work.	Su, Au, Wi, Sp	5 cl	U 5
153	Calculus and Analytic Geometry III	Calculus and Analytic Geometry III	153C 153R	153.04	Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space.	C- or better in 152.xx or 161.xx or 161H.xx. Not open to students with credit for any version of 153.xx or 254.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	Su, Au, Wi, Sp	5 cl	U 5
153	Calculus and Analytic Geometry III	Calculus and Analytic Geometry III	153	153.10	Indeterminate forms, Taylor's formula, improper integrals, infinite series, parametric curves, and vectors in the plane; vectors, curves, and surfaces in space.	C- or better in 152.xx or 161.xx or 161H.xx. Not open to students with credit for any version of 153.xx or 254.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Special section designed for special audience and/or innovative teaching methods.	Su, Au, Wi, Sp	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
161	Accelerated Calculus with Analytic Geometry I	Accelerated Calculus with Analytic Geometry I	161	161.01	Functions, limits and continuity, derivatives, applications of the derivative, the integral, inverse functions, techniques of integration, applications of integration.	161H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Course Code L placement and high school calculus experience or permission of dept; prereq for 161H: Math 151.xx or permission of dept. 161.01 not open to students with credit for 161.02 or for any version of 152.xx; 161H has no exclusion. The sequence 161-162-263.xx covers calculus at an accelerated pace for students with superior algebraic and geometric skills, and with previous calculus experience. 161.01 assumes mastery of the computational aspects of polynomial and trigonometric differentiation and will concentrate on integral calculus.	Standard course.	Au	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
161	Accelerated Calculus with Analytic Geometry I	Accelerated Calculus with Analytic Geometry I	161A	161.02	Functions, limits and continuity, derivatives, applications of the derivative, the integral, inverse functions, techniques of integration, applications of integration.	161H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Course Code L placement and high school calculus experience or permission of dept; prereq for 161H: Math 151.xx or permission of dept. 161.02 not open to students with credit for 161.01 or any version of 152.xx; 161H has no exclusion. The sequence 161-162-263.xx covers calculus at an accelerated pace for students with superior algebraic and geometric skills, and with previous calculus experience. 161.02 assumes mastery of the computational aspects of polynomial and trigonometric differentiation and will concentrate on integral calculus.	Only open to College of Engineering students.	Au	5 cl	U 5
162	Accelerated Calculus with Analytic Geometry II	Accelerated Calculus with Analytic Geometry II	162	162.01	Improper integrals; polynomial approximations and Taylor's theorem; infinite sequences and series; tests for convergence, vectors, lines and planes.	162H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 161.xx or written permission of Math Counseling Office. Not open to students with credit for any version of 162.xx or 153.xx.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5
162	Accelerated Calculus with Analytic Geometry II.	Accelerated Calculus with Analytic Geometry II.	162A	162.02	Improper integrals; polynomial approximations and Taylor's theorem; infinite sequences and series; tests for convergence, vectors, lines and planes.	162H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 161.xx or written permission of Math Counseling Office. Not open to students with credit for any version of 162.xx or 153.xx.	Only open to College of Engineering students.	Su, Au, Wi, Sp	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
187	Topics in Mathematics	Topics in Mathematics	187	187.01	An enrichment course for interested and capable students.	H187 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of dept. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		AU		U 2-5
187	Topics in Mathematics	Topics in Mathematics	187	187.02	An enrichment course for interested and capable students.	H187 (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of dept. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	AU		U 2-5
254	Calculus and Analytic Geometry IV	Calculus and Analytic Geometry IV	254	254.01	Partial differentiation, Lagrange multipliers, multiple integrals, line integrals, and Green's theorem.	Prereq: 153.xx. Not open to students with credit for any version of 254.xx or 255.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5
254	Calculus and Analytic Geometry IV	Calculus and Analytic Geometry IV	254A	254.02	Partial differentiation, Lagrange multipliers, multiple integrals, line integrals, and Green's theorem.	Prereq: 153.xx. Not open to students with credit for any version of 254.xx or 255.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Reformed calculus emphasizing applications and group work.	Su, Au, Wi, Sp	5 cl	U 5
254	Calculus and Analytic Geometry IV	Calculus and Analytic Geometry IV	254C 254R	254.04	Partial differentiation, Lagrange multipliers, multiple integrals, line integrals, and Green's theorem.	Prereq: 153.xx. Not open to students with credit for any version of 254.xx or 255.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	Su, Au, Wi, Sp	5 cl	U 5
254	Calculus and Analytic Geometry IV	Calculus and Analytic Geometry IV	254	254.10	Partial differentiation, Lagrange multipliers, multiple integrals, line integrals, and Green's theorem.	Prereq: 153.xx. Not open to students with credit for any version of 254.xx or 255.xx or higher; use of the Freshman Forgiveness Rule is restricted by this exclusion. This course is available for EM credit.	Special section designed for special audience and/or innovative teaching methods.	Su, Au, Wi, Sp	5 cl	U 5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
255	Differential Equations and Their Applications	Differential Equations and Their Applications	255	255.01	Basic concepts and methods in solving ordinary differential equations, first and second order, linear differential equations, series solutions, numerical methods, Laplace transforms, physical applications.	Prereq: 254.xx. Not open to students with credit for any version of 255.xx or 415.xx.	Standard course.	Su, Au, Wi, Sp	5 cl	U 5
255	Differential Equations and Their Applications	Differential Equations and Their Applications	255C 255R	255.04	Basic concepts and methods in solving ordinary differential equations, first and second order, linear differential equations, series solutions, numerical methods, Laplace transforms, physical applications.	Prereq: 254.xx. Not open to students with credit for any version of 255.xx or 415.xx.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	Su, Au, Wi, Sp	5 cl	U 5
263	Accelerated Calculus with Analytic Geometry III	Accelerated Calculus with Analytic Geometry III	263	263.01	Multivariable calculus (vector approach), line and surface integrals, vector differential operators.	263H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 162.xx or written permission of Math Counseling Office. Not open to students with credit for any version of 263.xx.	Standard course.	Sp	5 cl	U 5
263	Accelerated Calculus with Analytic Geometry III	Accelerated Calculus with Analytic Geometry III	263A	263.02	Multivariable calculus (vector approach), line and surface integrals, vector differential operators.	263H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: 162.xx or written permission of Math Counseling Office. Not open to students with credit for any version of 263.xx.	Only open to College of Engineering students.	Sp	5 cl	U 5
415	Ordinary and Partial Differential Equations	Ordinary and Partial Differential Equations	415	415.01	Ordinary, partial, linear, and nonlinear differential equations; Fourier series; boundary value problems; and Bessel functions.	Prereq: 254.xx. Not open to students with credit for any version of 255.xx or 415.xx.	Standard course.	Su, Au, Wi, Sp	4 cl	U 4
415	Ordinary and Partial Differential Equations	Ordinary and Partial Differential Equations	415A	415.02	Ordinary, partial, linear, and nonlinear differential equations; Fourier series; boundary value problems; and Bessel functions.	Prereq: 254.xx. Not open to students with credit for any version of 255.xx or 415.xx.	Only open to College of Engineering students.	Su, Au, Wi, Sp	4 cl	U 4
415	Ordinary and Partial Differential Equations	Ordinary and Partial Differential Equations	415C 415R	415.04	Ordinary, partial, linear, and nonlinear differential equations; Fourier series; boundary value problems; and Bessel functions.	Prereq: 254.xx. Not open to students with credit for any version of 255.xx or 415.xx.	Calculus using computer algebra system either in designated lab and/or remote computer hook-up.	Su, Au, Wi, Sp	4 cl	U 4
415	Ordinary and Partial Differential Equations	Ordinary and Partial Differential Equations	415	415.10	Ordinary, partial, linear, and nonlinear differential equations; Fourier series; boundary value problems; and Bessel functions.	Prereq: 254.xx. Not open to students with credit for any version of 255.xx or 415.xx.	Special section designed for special audience and/or innovative teaching methods.	Su, Au, Wi, Sp	4 cl	U 4

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
530	Probability	Probability	530	530.01	Combinatorial probability, random variables, independence, expectations, variance.	Prereq: 254.xx. Not open to students with credit for any version of 530.xx.	Standard course.	Au	3 cl	G 3
530	Probability	Probability	530	530.02	Combinatorial probability, random variables, independence, expectations, variance.	Prereq: 254.xx. Not open to students with credit for any version of 530.xx.	Special section designed for special audience and/or innovative teaching methods.	Au	3 cl	G 3
568	Introductory Linear Algebra	Introductory Linear Algebra	568	568.01	The n-dimensional Eucidean space and its subspaces; matrices as mappings; matrix algebra; systems of equations; determinants; dot product; geometric interpretations.	Prereq: 254.xx or equiv with written permission of dept. Not open to students with credit for any version of 568.xx or 571.	Standard course.	Su Term 1, Au, Wi, Sp	3 cl	U G 3
568	Introductory Linear Algebra	Introductory Linear Algebra	568	568.02	The n-dimensional Eucidean space and its subspaces; matrices as mappings; matrix algebra; systems of equations; determinants; dot product; geometric interpretations.	Prereq: 254.xx or equiv with written permission of dept. Not open to students with credit for for any version of 568.xx or 571.	Special section designed for special audience and/or innovative teaching methods.	Su Term 1, Au, Wi, Sp	3 cl	U G 3
594	Group Studies	Group Studies	594	594.01	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	594H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.	Geometry	Su, Au, Wi, Sp		U 2-5
594	Group Studies	Group Studies	594	594.02	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	594H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.	Algebra	Su, Au, Wi, Sp		U 2-5
594	Group Studies	Group Studies	594	594.03	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	594H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.	Analysis	Su, Au, Wi, Sp		U 2-5
594	Group Studies	Group Studies	594	594.04	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	594H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.	Probability	Su, Au, Wi, Sp		U 2-5

Crse Num	Old Course Name	New Course Name	Old Num	New Num	Description	Prerequisite & Exclusion	Other General Course Information	Qtrs Offered	Distribution of Contact Time	Level and Credit Hours
594	Group Studies	Group Studies	594	594.25	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	594H (honors) may be available to students enrolled in an honors program or by permission of dept or instructor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.	Special topics and/or special projects will be part of the course.	Su, Au, Wi, Sp		U 2-5
694	Group Studies	Group Studies	694	694.01	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs.	Geometry	Su, Au, Wi, Sp		U,G 2-5
694	Group Studies	Group Studies	694	694.02	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs.	Algebra	Su, Au, Wi, Sp		U,G 2-5
694	Group Studies	Group Studies	694	694.03	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs.	Analysis	Su, Au, Wi, Sp		U,G 2-5
694	Group Studies	Group Studies	694	694.04	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs.	Probability	Su, Au, Wi, Sp		U,G 2-5
694	Group Studies	Group Studies	694	694.25	Designed to give groups of advanced undergraduate students an opportunity to pursue special studies not otherwise offered.	Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs.	Special topics and/or special projects will be part of the course.	Su, Au, Wi, Sp		U,G 2-5