

MSC Classification Codes

- [00-xx](#): General
 - 00-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 00-02: Research exposition (monographs, survey articles)
 - [00Axx](#): General and miscellaneous specific topics
 - 00A05: General mathematics
 - 00A06: Mathematics for nonmathematicians (engineering, social sciences, etc.)
 - 00A07: Problem books
 - 00A08: Recreational mathematics
 - 00A15: Bibliographies
 - 00A17: External book reviews
 - 00A20: Dictionaries and other general reference works
 - 00A22: Formularies
 - 00A30: Philosophy of mathematics
 - 00A35: Methodology of mathematics, didactics
 - 00A69: General applied mathematics
 - 00A71: Theory of mathematical modeling
 - 00A72: General methods of simulation
 - 00A73: Dimensional analysis
 - 00A79: Physics (use more specific entries from Sections 70 through 86 when possible)
 - 00A99: Miscellaneous topics
 - [00Bxx](#): Conference proceedings and collections of papers
 - 00B05: Collections of abstracts of lectures
 - 00B10: Collections of articles of general interest
 - 00B15: Collections of articles of miscellaneous specific content
 - 00B20: Proceedings of conferences of general interest
 - 00B25: Proceedings of conferences of miscellaneous specific interest
 - 00B30: Festschriften
 - 00B50: Volumes of selected translations
 - 00B55: Miscellaneous volumes of translations
 - 00B60: Collections of reprinted articles
- [01-xx](#): History and biography
 - 01-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 01-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 01-02: Research exposition (monographs, survey articles)
 - 01-06: Proceedings, conferences, collections, etc.
 - 01-08: Computational methods
 - [01Axx](#): History of mathematics and mathematicians
 - 01A05: General histories, source books
 - 01A07: Ethnomathematics, general
 - 01A10: Paleolithic, Neolithic
 - 01A12: Indigenous cultures of the Americas
 - 01A13: Other indigenous cultures (non-European)
 - 01A15: Indigenous European cultures (pre-Greek, etc.)
 - 01A16: Egyptian
 - 01A17: Babylonian
 - 01A20: Greek, Roman
 - 01A25: China
 - 01A27: Japan
 - 01A29: Southeast Asia
 - 01A30: Islam (Medieval)
 - 01A32: India
 - 01A35: Medieval
 - 01A40: 15th and 16th centuries, Renaissance
 - 01A45: 17th century
 - 01A50: 18th century

- 01A55: 19th century
 - 01A60: 20th century
 - 01A61: Twenty-first century
 - 01A65: Contemporary
 - 01A67: Future prospectives
 - 01A70: Biographies, obituaries, personalia, bibliographies
 - 01A72: Schools of mathematics
 - 01A73: Universities
 - 01A74: Other institutions and academies
 - 01A75: Collected or selected works; reprintings or translations of classics
 - 01A80: Sociology (and profession) of mathematics
 - 01A85: Historiography
 - 01A90: Bibliographic studies
 - 01A99: Miscellaneous topics
- [03-xx](#): Mathematical logic and foundations
 - 03-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 03-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 03-02: Research exposition (monographs, survey articles)
 - 03-03: Historical (must also be assigned at least one classification number from Section 01)
 - 03-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 03-06: Proceedings, conferences, collections, etc.
 - 03A05: Philosophical and critical
 - [03Bxx](#): General logic
 - 03B05: Classical propositional logic
 - 03B10: Classical first-order logic
 - 03B15: Higher-order logic and type theory
 - 03B20: Subsystems of classical logic (including intuitionistic logic)
 - 03B22: Abstract deductive systems
 - 03B25: Decidability of theories and sets of sentences
 - 03B30: Foundations of classical theories (including reverse mathematics)
 - 03B35: Mechanization of proofs and logical operations
 - 03B40: Combinatory logic and lambda-calculus
 - 03B42: Logic of knowledge and belief
 - 03B44: Temporal logic
 - 03B45: Modal logic
 - 03B47: Substructural logics (including relevance, entailment, linear logic, Lambek calculus, BCK and BCI logics)
 - 03B48: Probability and inductive logic
 - 03B50: Many-valued logic
 - 03B52: Fuzzy logic; logic of vagueness
 - 03B53: Logics admitting inconsistency (paraconsistent logics, discussive logics, etc.)
 - 03B55: Intermediate logics
 - 03B60: Other nonclassical logic
 - 03B65: Logic of natural languages
 - 03B70: Logic in computer science
 - 03B80: Other applications of logic
 - 03B99: None of the above, but in this section
 - [03Cxx](#): Model theory
 - 03C05: Equational classes, universal algebra
 - 03C07: Basic properties of first-order languages and structures
 - 03C10: Quantifier elimination, model completeness and related topics
 - 03C13: Finite structures
 - 03C15: Denumerable structures
 - 03C20: Ultraproducts and related constructions
 - 03C25: Model-theoretic forcing
 - 03C30: Other model constructions
 - 03C35: Categoricity and completeness of theories

- 03C40: Interpolation, preservation, definability
- 03C45: Classification theory, stability and related concepts
- 03C50: Models with special properties (saturated, rigid, etc.)
- 03C52: Properties of classes of models
- 03C55: Set-theoretic model theory
- 03C57: Effective and recursion-theoretic model theory
- 03C60: Model-theoretic algebra
- 03C62: Models of arithmetic and set theory
- 03C64: Model theory of ordered structures; o-minimality
- 03C65: Models of other mathematical theories
- 03C68: Other classical first-order model theory
- 03C70: Logic on admissible sets
- 03C75: Other infinitary logic
- 03C80: Logic with extra quantifiers and operators
- 03C85: Second- and higher-order model theory
- 03C90: Nonclassical models (Boolean-valued, sheaf, etc.)
- 03C95: Abstract model theory
- 03C98: Applications of model theory
- 03C99: None of the above, but in this section
- [03Dxx](#): Computability and recursion theory
 - 03D03: Thue and Post systems, etc.
 - 03D05: Automata and formal grammars in connection with logical questions
 - 03D10: Turing machines and related notions
 - 03D15: Complexity of computation
 - 03D20: Recursive functions and relations, subrecursive hierarchies
 - 03D25: Recursively (computably) enumerable sets and degrees
 - 03D28: Other Turing degree structures
 - 03D30: Other degrees and reducibilities
 - 03D35: Undecidability and degrees of sets of sentences
 - 03D40: Word problems, etc.
 - 03D45: Theory of numerations, effectively presented structures
 - 03D50: Recursive equivalence types of sets and structures, isol
 - 03D55: Hierarchies
 - 03D60: Computability and recursion theory on ordinals, admissible sets, etc.
 - 03D65: Higher-type and set recursion theory
 - 03D70: Inductive definability
 - 03D75: Abstract and axiomatic computability and recursion theory
 - 03D80: Applications of computability and recursion theory
 - 03D99: None of the above, but in this section
- [03Exx](#): Set theory
 - 03E02: Partition relations
 - 03E04: Ordered sets and their cofinalities; pcf theory
 - 03E05: Other combinatorial set theory
 - 03E10: Ordinal and cardinal numbers
 - 03E15: Descriptive set theory
 - 03E17: Cardinal characteristics of the continuum
 - 03E20: Other classical set theory (including functions, relations, and set algebra)
 - 03E25: Axiom of choice and related propositions
 - 03E30: Axiomatics of classical set theory and its fragments
 - 03E35: Consistency and independence results
 - 03E40: Other aspects of forcing and Boolean-valued models
 - 03E45: Inner models, including constructibility, ordinal definability, and core models
 - 03E47: Other notions of set-theoretic definability
 - 03E50: Continuum hypothesis and Martin's axiom
 - 03E55: Large cardinals
 - 03E60: Determinacy principles
 - 03E65: Other hypotheses and axioms
 - 03E70: Nonclassical and second-order set theories

- 03E72: Fuzzy set theory
 - 03E75: Applications of set theory
 - 03E99: None of the above, but in this section
- [03Fxx](#): Proof theory and constructive mathematics
 - 03F03: Proof theory, general
 - 03F05: Cut-elimination and normal-form theorems
 - 03F07: Structure of proofs
 - 03F10: Functionals in proof theory
 - 03F15: Recursive ordinals and ordinal notations
 - 03F20: Complexity of proofs
 - 03F25: Relative consistency and interpretations
 - 03F30: First-order arithmetic and fragments
 - 03F35: Second- and higher-order arithmetic and fragments
 - 03F40: Gödel numberings in proof theory
 - 03F45: Provability logics and related algebras (e.g., diagonalizable algebras)
 - 03F50: Metamathematics of constructive systems
 - 03F52: Linear logic and other substructural logics
 - 03F55: Intuitionistic mathematics
 - 03F60: Constructive and recursive analysis
 - 03F65: Other constructive mathematics
 - 03F99: None of the above, but in this section
- [03Gxx](#): Algebraic logic
 - 03G05: Boolean algebras
 - 03G10: Lattices and related structures
 - 03G12: Quantum logic
 - 03G15: Cylindric and polyadic algebras; relation algebras
 - 03G20: Lukasiewicz and Post algebras
 - 03G25: Other algebras related to logic
 - 03G30: Categorical logic, topoi
 - 03G99: None of the above, but in this section
- [03Hxx](#): Nonstandard models
 - 03H05: Nonstandard models in mathematics
 - 03H10: Other applications of nonstandard models (economics, physics, etc.)
 - 03H15: Nonstandard models of arithmetic
 - 03H99: None of the above, but in this section
- [05-xx](#): Combinatorics
 - 05-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 05-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 05-02: Research exposition (monographs, survey articles)
 - 05-03: Historical (must also be assigned at least one classification number from Section 01)
 - 05-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 05-06: Proceedings, conferences, collections, etc.
 - [05Axx](#): Enumerative combinatorics
 - 05A05: Combinatorial choice problems (subsets, representatives, permutations)
 - 05A10: Factorials, binomial coefficients, combinatorial functions
 - 05A15: Exact enumeration problems, generating functions
 - 05A16: Asymptotic enumeration
 - 05A17: Partitions of integers
 - 05A18: Partitions of sets
 - 05A19: Combinatorial identities
 - 05A20: Combinatorial inequalities
 - 05A30: q -calculus and related topics
 - 05A40: Umbral calculus
 - 05A99: None of the above, but in this section
 - [05Bxx](#): Designs and configurations
 - 05B05: Block designs
 - 05B07: Triple systems

- 05B10: Difference sets (number-theoretic, group-theoretic, etc.)
- 05B15: Orthogonal arrays, Latin squares, Room squares
- 05B20: Matrices (incidence, Hadamard, etc.)
- 05B25: Finite geometries
- 05B30: Other designs, configurations
- 05B35: Matroids, geometric lattices
- 05B40: Packing and covering
- 05B45: Tessellation and tiling problems
- 05B50: Polyominoes
- 05B99: None of the above, but in this section
- [05Cxx](#): Graph theory
 - 05C05: Trees
 - 05C07: Degree sequences
 - 05C10: Topological graph theory, imbedding
 - 05C12: Distance in graphs
 - 05C15: Coloring of graphs and hypergraphs
 - 05C17: Perfect graphs
 - 05C20: Directed graphs (digraphs), tournaments
 - 05C22: Signed, gain and biased graphs
 - 05C25: Graphs and groups
 - 05C30: Enumeration of graphs and maps
 - 05C35: Extremal problems
 - 05C38: Paths and cycles
 - 05C40: Connectivity
 - 05C45: Eulerian and Hamiltonian graphs
 - 05C50: Graphs and matrices
 - 05C55: Generalized Ramsey theory
 - 05C60: Isomorphism problems (reconstruction conjecture, etc.)
 - 05C62: Graph representations (geometric and intersection representations, etc.)
 - 05C65: Hypergraphs
 - 05C69: Dominating sets, independent sets, cliques
 - 05C70: Factorization, matching, covering and packing
 - 05C75: Structural characterization of types of graphs
 - 05C78: Graph labelling (graceful graphs, bandwidth, etc.)
 - 05C80: Random graphs
 - 05C83: Graph minors
 - 05C85: Graph algorithms
 - 05C90: Applications
 - 05C99: None of the above, but in this section
- [05Dxx](#): Extremal combinatorics
 - 05D05: Extremal set theory
 - 05D10: Ramsey theory
 - 05D15: Transversal (matching) theory
 - 05D40: Probabilistic methods
 - 05D99: None of the above, but in this section
- [05Exx](#): Algebraic combinatorics
 - 05E05: Symmetric functions
 - 05E10: Tableaux, representations of the symmetric group
 - 05E15: Combinatorial problems concerning the classical groups
 - 05E20: Group actions on designs, geometries and codes
 - 05E25: Group actions on posets and homology groups of posets
 - 05E30: Association schemes, strongly regular graphs
 - 05E35: Orthogonal polynomials
 - 05E99: None of the above, but in this section
- [06-xx](#): Order, lattices, ordered algebraic structures
 - 06-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 06-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 06-02: Research exposition (monographs, survey articles)

- 06-03: Historical (must also be assigned at least one classification number from Section 01)
- 06-04: Explicit machine computation and programs (not the theory of computation or programming)
- 06-06: Proceedings, conferences, collections, etc.
- [06Axx](#): Ordered sets
 - 06A05: Total order
 - 06A06: Partial order, general
 - 06A07: Combinatorics of partially ordered sets
 - 06A11: Algebraic aspects of posets
 - 06A12: Semilattices
 - 06A15: Galois correspondences, closure operators
 - 06A99: None of the above, but in this section
- [06Bxx](#): Lattices
 - 06B05: Structure theory
 - 06B10: Ideals, congruence relations
 - 06B15: Representation theory
 - 06B20: Varieties of lattices
 - 06B23: Complete lattices, completions
 - 06B25: Free lattices, projective lattices, word problems
 - 06B30: Topological lattices, order topologies
 - 06B35: Continuous lattices and posets, applications
 - 06B99: None of the above, but in this section
- [06Cxx](#): Modular lattices, complemented lattices
 - 06C05: Modular lattices, Desarguesian lattices
 - 06C10: Semimodular lattices, geometric lattices
 - 06C15: Complemented lattices, orthocomplemented lattices and posets
 - 06C20: Complemented modular lattices, continuous geometries
 - 06C99: None of the above, but in this section
- [06Dxx](#): Distributive lattices
 - 06D05: Structure and representation theory
 - 06D10: Complete distributivity
 - 06D15: Pseudocomplemented lattices
 - 06D20: Heyting algebras
 - 06D22: Frames, locales
 - 06D25: Post algebras
 - 06D30: De Morgan algebras, Lukasiewicz algebras
 - 06D35: MV-algebras
 - 06D50: Lattices and duality
 - 06D72: Fuzzy lattices (soft algebras) and related topics
 - 06D99: None of the above, but in this section
- [06Exx](#): Boolean algebras (Boolean rings)
 - 06E05: Structure theory
 - 06E10: Chain conditions, complete algebras
 - 06E15: Stone space and related constructions
 - 06E20: Ring-theoretic properties
 - 06E25: Boolean algebras with additional operations (diagonalizable algebras, etc.)
 - 06E30: Boolean functions
 - 06E99: None of the above, but in this section
- [06Fxx](#): Ordered structures
 - 06F05: Ordered semigroups and monoids
 - 06F07: Quantales
 - 06F10: Noether lattices
 - 06F15: Ordered groups
 - 06F20: Ordered abelian groups, Riesz groups, ordered linear spaces
 - 06F25: Ordered rings, algebras, modules
 - 06F30: Topological lattices, order topologies
 - 06F35: BCK-algebras, BCI-algebras
 - 06F99: None of the above, but in this section

- [08-xx](#): General algebraic systems
 - 08-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 08-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 08-02: Research exposition (monographs, survey articles)
 - 08-03: Historical (must also be assigned at least one classification number from Section 01)
 - 08-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 08-06: Proceedings, conferences, collections, etc.
 - [08Axx](#): Algebraic structures
 - 08A02: Relational systems, laws of composition
 - 08A05: Structure theory
 - 08A30: Subalgebras, congruence relations
 - 08A35: Automorphisms, endomorphisms
 - 08A40: Operations, polynomials, primal algebras
 - 08A45: Equational compactness
 - 08A50: Word problems
 - 08A55: Partial algebras
 - 08A60: Unary algebras
 - 08A62: Finitary algebras
 - 08A65: Infinitary algebras
 - 08A68: Heterogeneous algebras
 - 08A70: Applications of universal algebra in computer science
 - 08A72: Fuzzy algebraic structures
 - 08A99: None of the above, but in this section
 - [08Bxx](#): Varieties
 - 08B05: Equational logic, Malcev (Maltsev) conditions
 - 08B10: Congruence modularity, congruence distributivity
 - 08B15: Lattices of varieties
 - 08B20: Free algebras
 - 08B25: Products, amalgamated products, and other kinds of limits and colimits
 - 08B26: Subdirect products and subdirect irreducibility
 - 08B30: Injectives, projectives
 - 08B99: None of the above, but in this section
 - [08Cxx](#): Other classes of algebras
 - 08C05: Categories of algebras
 - 08C10: Axiomatic model classes
 - 08C15: Quasivarieties
 - 08C99: None of the above, but in this section
- [11-xx](#): Number theory
 - 11-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 11-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 11-02: Research exposition (monographs, survey articles)
 - 11-03: Historical (must also be assigned at least one classification number from Section 01)
 - 11-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 11-06: Proceedings, conferences, collections, etc.
 - [11Axx](#): Elementary number theory
 - 11A05: Multiplicative structure; Euclidean algorithm; greatest common divisors
 - 11A07: Congruences; primitive roots; residue systems
 - 11A15: Power residues, reciprocity
 - 11A25: Arithmetic functions; related numbers; inversion formulas
 - 11A41: Primes
 - 11A51: Factorization; primality
 - 11A55: Continued fractions
 - 11A63: Radix representation; digital problems
 - 11A67: Other representations
 - 11A99: None of the above, but in this section
 - [11Bxx](#): Sequences and sets

- 11B05: Density, gaps, topology
- 11B13: Additive bases
- 11B25: Arithmetic progressions
- 11B34: Representation functions
- 11B37: Recurrences
- 11B39: Fibonacci and Lucas numbers and polynomials and generalizations
- 11B50: Sequences (mod m)
- 11B57: Farey sequences; the sequences $\{1^k, 2^k, \dots\}$
- 11B65: Binomial coefficients; factorials; q -identities
- 11B68: Bernoulli and Euler numbers and polynomials
- 11B73: Bell and Stirling numbers
- 11B75: Other combinatorial number theory
- 11B83: Special sequences and polynomials
- 11B85: Automata sequences
- 11B99: None of the above, but in this section
- [11Cxx](#): Polynomials and matrices
 - 11C08: Polynomials
 - 11C20: Matrices, determinants
 - 11C99: None of the above, but in this section
- [11Dxx](#): Diophantine equations
 - 11D04: Linear equations
 - 11D09: Quadratic and bilinear equations
 - 11D25: Cubic and quartic equations
 - 11D41: Higher degree equations; Fermat's equation
 - 11D45: Counting solutions of Diophantine equations
 - 11D57: Multiplicative and norm form equations
 - 11D59: Thue-Mahler equations
 - 11D61: Exponential equations
 - 11D68: Rational numbers as sums of fractions
 - 11D72: Equations in many variables
 - 11D75: Diophantine inequalities
 - 11D79: Congruences in many variables
 - 11D85: Representation problems
 - 11D88: p -adic and power series fields
 - 11D99: None of the above, but in this section
- [11Exx](#): Forms and linear algebraic groups
 - 11E04: Quadratic forms over general fields
 - 11E08: Quadratic forms over local rings and fields
 - 11E10: Forms over real fields
 - 11E12: Quadratic forms over global rings and fields
 - 11E16: General binary quadratic forms
 - 11E20: General ternary and quaternary quadratic forms; forms of more than two variables
 - 11E25: Sums of squares and representations by other particular quadratic forms
 - 11E39: Bilinear and Hermitian forms
 - 11E41: Class numbers of quadratic and Hermitian forms
 - 11E45: Analytic theory (Epstein zeta functions; relations with automorphic forms and functions)
 - 11E57: Classical groups
 - 11E70: K -theory of quadratic and Hermitian forms
 - 11E72: Galois cohomology of linear algebraic groups
 - 11E76: Forms of degree higher than two
 - 11E81: Algebraic theory of quadratic forms; Witt groups and rings
 - 11E88: Quadratic spaces; Clifford algebras
 - 11E95: p -adic theory
 - 11E99: None of the above, but in this section
- [11Fxx](#): Discontinuous groups and automorphic forms
 - 11F03: Modular and automorphic functions
 - 11F06: Structure of modular groups and generalizations; arithmetic groups

- 11F11: Modular forms, one variable
- 11F12: Automorphic forms, one variable
- 11F20: Dedekind eta function, Dedekind sums
- 11F22: Relationship to Lie algebras and finite simple groups
- 11F23: Relations with algebraic geometry and topology
- 11F25: Hecke-Petersson operators, differential operators (one variable)
- 11F27: Theta series; Weil representation
- 11F30: Fourier coefficients of automorphic forms
- 11F32: Modular correspondences, etc.
- 11F33: Congruences for modular and p -adic modular forms
- 11F37: Forms of half-integer weight; nonholomorphic modular forms
- 11F41: Hilbert and Hilbert-Siegel modular groups and their modular and automorphic forms; Hilbert modular surfaces
- 11F46: Siegel modular groups and their modular and automorphic forms
- 11F50: Jacobi forms
- 11F52: Modular forms associated to Drinfel'd modules
- 11F55: Other groups and their modular and automorphic forms (several variables)
- 11F60: Hecke-Petersson operators, differential operators (several variables)
- 11F66: Dirichlet series and functional equations in connection with modular forms
- 11F67: Special values of automorphic L -series, periods of modular forms, cohomology, modular symbols
- 11F70: Representation-theoretic methods; automorphic representations over local and global fields
- 11F72: Spectral theory; Selberg trace formula
- 11F75: Cohomology of arithmetic groups
- 11F80: Galois representations
- 11F85: p -adic theory, local fields
- 11F99: None of the above, but in this section
- [11Gxx](#): Arithmetic algebraic geometry (Diophantine geometry)
 - 11G05: Elliptic curves over global fields
 - 11G07: Elliptic curves over local fields
 - 11G09: Drinfeld modules; higher-dimensional motives, etc.
 - 11G10: Abelian varieties of dimension ≥ 1
 - 11G15: Complex multiplication and moduli of abelian varieties
 - 11G16: Elliptic and modular units
 - 11G18: Arithmetic aspects of modular and Shimura varieties
 - 11G20: Curves over finite and local fields
 - 11G25: Varieties over finite and local fields
 - 11G30: Curves of arbitrary genus or genus $\neq 1$ over global fields
 - 11G35: Varieties over global fields
 - 11G40: L -functions of varieties over global fields; Birch-Swinnerton-Dyer conjecture
 - 11G45: Geometric class field theory
 - 11G50: Heights
 - 11G55: Polylogarithms and relations with K -theory
 - 11G99: None of the above, but in this section
- [11Hxx](#): Geometry of numbers
 - 11H06: Lattices and convex bodies
 - 11H16: Nonconvex bodies
 - 11H31: Lattice packing and covering
 - 11H46: Products of linear forms
 - 11H50: Minima of forms
 - 11H55: Quadratic forms (reduction theory, extreme forms, etc.)
 - 11H56: Automorphism groups of lattices
 - 11H60: Mean value and transfer theorems
 - 11H71: Relations with coding theory
 - 11H99: None of the above, but in this section
- [11Jxx](#): Diophantine approximation, transcendental number theory
 - 11J04: Homogeneous approximation to one number

- 11J06: Markov and Lagrange spectra and generalizations
- 11J13: Simultaneous homogeneous approximation, linear forms
- 11J17: Approximation by numbers from a fixed field
- 11J20: Inhomogeneous linear forms
- 11J25: Diophantine inequalities
- 11J54: Small fractional parts of polynomials and generalizations
- 11J61: Approximation in non-Archimedean valuations
- 11J68: Approximation to algebraic numbers
- 11J70: Continued fractions and generalizations
- 11J71: Distribution modulo one
- 11J72: Irrationality; linear independence over a field
- 11J81: Transcendence (general theory)
- 11J82: Measures of irrationality and of transcendence
- 11J83: Metric theory
- 11J85: Algebraic independence; Gelfond's method
- 11J86: Linear forms in logarithms; Baker's method
- 11J89: Transcendence theory of elliptic and abelian functions
- 11J91: Transcendence theory of other special functions
- 11J93: Transcendence theory of Drinfel'd and t -modules
- 11J95: Results involving abelian varieties
- 11J97: Analogues of methods in Nevanlinna theory (work of Vojta et al.)
- 11J99: None of the above, but in this section
- [11Kxx](#): Probabilistic theory: distribution modulo 1 ; metric theory of algorithms
 - 11K06: General theory of distribution modulo 1
 - 11K16: Normal numbers, radix expansions, etc.
 - 11K31: Special sequences
 - 11K36: Well-distributed sequences and other variations
 - 11K38: Irregularities of distribution, discrepancy
 - 11K41: Continuous, p -adic and abstract analogues
 - 11K45: Pseudo-random numbers; Monte Carlo methods
 - 11K50: Metric theory of continued fractions
 - 11K55: Metric theory of other algorithms and expansions; measure and Hausdorff dimension
 - 11K60: Diophantine approximation
 - 11K65: Arithmetic functions
 - 11K70: Harmonic analysis and almost periodicity
 - 11K99: None of the above, but in this section
- [11Lxx](#): Exponential sums and character sums
 - 11L03: Trigonometric and exponential sums, general
 - 11L05: Gauss and Kloosterman sums; generalizations
 - 11L07: Estimates on exponential sums
 - 11L10: Jacobsthal and Brewer sums; other complete character sums
 - 11L15: Weyl sums
 - 11L20: Sums over primes
 - 11L26: Sums over arbitrary intervals
 - 11L40: Estimates on character sums
 - 11L99: None of the above, but in this section
- [11Mxx](#): Zeta and L -functions: analytic theory
 - 11M06: $\zeta(s)$ and $L(s, \chi)$
 - 11M20: Real zeros of $L(s, \chi)$; results on $L(1, \chi)$
 - 11M26: Nonreal zeros of $\zeta(s)$ and $L(s, \chi)$; Riemann and other hypotheses
 - 11M35: Hurwitz and Lerch zeta functions
 - 11M36: Selberg zeta functions and regularized determinants; applications to spectral theory, Dirichlet series, Eisenstein series, etc. Explicit formulas
 - 11M38: Zeta and L -functions in characteristic p
 - 11M41: Other Dirichlet series and zeta functions
 - 11M45: Tauberian theorems
 - 11M99: None of the above, but in this section

- [11Nxx](#): Multiplicative number theory
 - 11N05: Distribution of primes
 - 11N13: Primes in progressions
 - 11N25: Distribution of integers with specified multiplicative constraints
 - 11N30: Turán theory
 - 11N32: Primes represented by polynomials; other multiplicative structure of polynomial values
 - 11N35: Sieves
 - 11N36: Applications of sieve methods
 - 11N37: Asymptotic results on arithmetic functions
 - 11N45: Asymptotic results on counting functions for algebraic and topological structures
 - 11N56: Rate of growth of arithmetic functions
 - 11N60: Distribution functions associated with additive and positive multiplicative functions
 - 11N64: Other results on the distribution of values or the characterization of arithmetic functions
 - 11N69: Distribution of integers in special residue classes
 - 11N75: Applications of automorphic functions and forms to multiplicative problems
 - 11N80: Generalized primes and integers
 - 11N99: None of the above, but in this section
- [11Pxx](#): Additive number theory; partitions
 - 11P05: Waring's problem and variants
 - 11P21: Lattice points in specified regions
 - 11P32: Goldbach-type theorems; other additive questions involving primes
 - 11P55: Applications of the Hardy-Littlewood method
 - 11P70: Inverse problems of additive number theory
 - 11P81: Elementary theory of partitions
 - 11P82: Analytic theory of partitions
 - 11P83: Partitions; congruences and congruential restrictions
 - 11P99: None of the above, but in this section
- [11Rxx](#): Algebraic number theory: global fields
 - 11R04: Algebraic numbers; rings of algebraic integers
 - 11R06: PV-numbers and generalizations; other special algebraic numbers
 - 11R09: Polynomials (irreducibility, etc.)
 - 11R11: Quadratic extensions
 - 11R16: Cubic and quartic extensions
 - 11R18: Cyclotomic extensions
 - 11R20: Other abelian and metabelian extensions
 - 11R21: Other number fields
 - 11R23: Iwasawa theory
 - 11R27: Units and factorization
 - 11R29: Class numbers, class groups, discriminants
 - 11R32: Galois theory
 - 11R33: Integral representations related to algebraic numbers; Galois module structure of rings of integers
 - 11R34: Galois cohomology
 - 11R37: Class field theory
 - 11R39: Langlands-Weil conjectures, nonabelian class field theory
 - 11R42: Zeta functions and L -functions of number fields
 - 11R44: Distribution of prime ideals
 - 11R45: Density theorems
 - 11R47: Other analytic theory
 - 11R52: Quaternion and other division algebras: arithmetic, zeta functions
 - 11R54: Other algebras and orders, and their zeta and L -functions
 - 11R56: Adèle rings and groups
 - 11R58: Arithmetic theory of algebraic function fields
 - 11R60: Cyclotomic function fields (class groups, Bernoulli objects, etc.)
 - 11R65: Class groups and Picard groups of orders

- 11R70: $\mathbb{K}$ -theory of global fields
 - 11R80: Totally real and totally positive fields
 - 11R99: None of the above, but in this section
- [11Sxx](#): Algebraic number theory: local and $\mathbb{p}$ -adic fields
 - 11S05: Polynomials
 - 11S15: Ramification and extension theory
 - 11S20: Galois theory
 - 11S23: Integral representations
 - 11S25: Galois cohomology
 - 11S31: Class field theory; $\mathbb{p}$ -adic formal groups
 - 11S37: Langlands-Weil conjectures, nonabelian class field theory
 - 11S40: Zeta functions and L -functions
 - 11S45: Algebras and orders, and their zeta functions
 - 11S70: $\mathbb{K}$ -theory of local fields
 - 11S80: Other analytic theory (analogues of beta and gamma functions, $\mathbb{p}$ -adic integration, etc.)
 - 11S85: Other nonanalytic theory
 - 11S90: Prehomogeneous vector spaces
 - 11S99: None of the above, but in this section
- [11Txx](#): Finite fields and commutative rings (number-theoretic aspects)
 - 11T06: Polynomials
 - 11T22: Cyclotomy
 - 11T23: Exponential sums
 - 11T24: Other character sums and Gauss sums
 - 11T30: Structure theory
 - 11T55: Arithmetic theory of polynomial rings over finite fields
 - 11T60: Finite upper half-planes
 - 11T71: Algebraic coding theory; cryptography
 - 11T99: None of the above, but in this section
- [11Uxx](#): Connections with logic
 - 11U05: Decidability
 - 11U07: Ultraproducts
 - 11U09: Model theory
 - 11U10: Nonstandard arithmetic
 - 11U99: None of the above, but in this section
- [11Yxx](#): Computational number theory
 - 11Y05: Factorization
 - 11Y11: Primality
 - 11Y16: Algorithms; complexity
 - 11Y35: Analytic computations
 - 11Y40: Algebraic number theory computations
 - 11Y50: Computer solution of Diophantine equations
 - 11Y55: Calculation of integer sequences
 - 11Y60: Evaluation of constants
 - 11Y65: Continued fraction calculations
 - 11Y70: Values of arithmetic functions; tables
 - 11Y99: None of the above, but in this section
 - 11Z05: Miscellaneous applications of number theory
- [12-xx](#): Field theory and polynomials
 - 12-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 12-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 12-02: Research exposition (monographs, survey articles)
 - 12-03: Historical (must also be assigned at least one classification number from Section 01)
 - 12-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 12-06: Proceedings, conferences, collections, etc.
 - [12Dxx](#): Real and complex fields
 - 12D05: Polynomials: factorization

- 12D10: Polynomials: location of zeros (algebraic theorems)
 - 12D15: Fields related with sums of squares (formally real fields, Pythagorean fields, etc.)
 - 12D99: None of the above, but in this section
- [12Exx](#): General field theory
 - 12E05: Polynomials (irreducibility, etc.)
 - 12E10: Special polynomials
 - 12E12: Equations
 - 12E15: Skew fields, division rings
 - 12E20: Finite fields (field-theoretic aspects)
 - 12E25: Hilbertian fields; Hilbert's irreducibility theorem
 - 12E30: Field arithmetic
 - 12E99: None of the above, but in this section
- [12Fxx](#): Field extensions
 - 12F05: Algebraic extensions
 - 12F10: Separable extensions, Galois theory
 - 12F12: Inverse Galois theory
 - 12F15: Inseparable extensions
 - 12F20: Transcendental extensions
 - 12F99: None of the above, but in this section
- [12Gxx](#): Homological methods (field theory)
 - 12G05: Galois cohomology
 - 12G10: Cohomological dimension
 - 12G99: None of the above, but in this section
- [12Hxx](#): Differential and difference algebra
 - 12H05: Differential algebra
 - 12H10: Difference algebra
 - 12H20: Abstract differential equations
 - 12H25: p -adic differential equations
 - 12H99: None of the above, but in this section
- [12Jxx](#): Topological fields
 - 12J05: Normed fields
 - 12J10: Valued fields
 - 12J12: Formally p -adic fields
 - 12J15: Ordered fields
 - 12J17: Topological semifields
 - 12J20: General valuation theory
 - 12J25: Non-Archimedean valued fields
 - 12J27: Krasner-Tate algebras
 - 12J99: None of the above, but in this section
- [12Kxx](#): Generalizations of fields
 - 12K05: Near-fields
 - 12K10: Semifields
 - 12K99: None of the above, but in this section
- [12Lxx](#): Connections with logic
 - 12L05: Decidability
 - 12L10: Ultraproducts
 - 12L12: Model theory
 - 12L15: Nonstandard arithmetic
 - 12L99: None of the above, but in this section
 - 12Y05: Computational aspects of field theory and polynomials
- [13-xx](#): Commutative rings and algebras
 - 13-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 13-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 13-02: Research exposition (monographs, survey articles)
 - 13-03: Historical (must also be assigned at least one classification number from Section 01)
 - 13-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 13-06: Proceedings, conferences, collections, etc.

- [13Axx](#): General commutative ring theory
 - 13A02: Graded rings
 - 13A05: Divisibility
 - 13A10: Radical theory
 - 13A15: Ideals; multiplicative ideal theory
 - 13A18: Valuations and their generalizations
 - 13A30: Associated graded rings of ideals (Rees ring, form ring), analytic spread and related topics
 - 13A35: Characteristic p methods (Frobenius endomorphism) and reduction to characteristic p ; tight closure
 - 13A50: Actions of groups on commutative rings; invariant theory
 - 13A99: None of the above, but in this section
- [13Bxx](#): Ring extensions and related topics
 - 13B02: Extension theory
 - 13B05: Galois theory
 - 13B10: Morphisms
 - 13B21: Integral dependence
 - 13B22: Integral closure of rings and ideals; integrally closed rings, related rings (Japanese, etc.)
 - 13B24: Going up; going down; going between
 - 13B25: Polynomials over commutative rings
 - 13B30: Quotients and localization
 - 13B35: Completion
 - 13B40: Étale and flat extensions; Henselization; Artin approximation
 - 13B99: None of the above, but in this section
- [13Cxx](#): Theory of modules and ideals
 - 13C05: Structure, classification theorems
 - 13C10: Projective and free modules and ideals
 - 13C11: Injective and flat modules and ideals
 - 13C12: Torsion modules and ideals
 - 13C13: Other special types
 - 13C14: Cohen-Macaulay modules
 - 13C15: Dimension theory, depth, related rings (catenary, etc.)
 - 13C20: Class groups
 - 13C40: Linkage, complete intersections and determinantal ideals
 - 13C99: None of the above, but in this section
- [13Dxx](#): Homological methods
 - 13D02: Syzygies and resolutions
 - 13D03: (Co)homology of commutative rings and algebras (e.g., Hochschild, André-Quillen, cyclic, dihedral, etc.)
 - 13D05: Homological dimension
 - 13D07: Homological functors on modules (Tor, Ext, etc.)
 - 13D10: Deformations and infinitesimal methods
 - 13D15: Grothendieck groups, K -theory
 - 13D22: Homological conjectures (intersection theorems)
 - 13D25: Complexes
 - 13D30: Torsion theory
 - 13D40: Hilbert-Samuel and Hilbert-Kunz functions; Poincaré series
 - 13D45: Local cohomology
 - 13D99: None of the above, but in this section
- [13Exx](#): Chain conditions, finiteness conditions
 - 13E05: Noetherian rings and modules
 - 13E10: Artinian rings and modules, finite-dimensional algebras
 - 13E15: Rings and modules of finite generation or presentation; number of generators
 - 13E99: None of the above, but in this section
- [13Fxx](#): Arithmetic rings and other special rings
 - 13F05: Dedekind, Prüfer and Krull rings and their generalizations
 - 13F07: Euclidean rings and generalizations

- 13F10: Principal ideal rings
 - 13F15: Factorial rings, unique factorization domains
 - 13F20: Polynomial rings and ideals; rings of integer-valued polynomials
 - 13F25: Formal power series rings
 - 13F30: Valuation rings
 - 13F40: Excellent rings
 - 13F45: Seminormal rings
 - 13F50: Rings with straightening laws, Hodge algebras
 - 13F55: Face and Stanley-Reisner rings; simplicial complexes
 - 13F99: None of the above, but in this section
 - 13G05: Integral domains
- [13Hxx](#): Local rings and semilocal rings
 - 13H05: Regular local rings
 - 13H10: Special types (Cohen-Macaulay, Gorenstein, Buchsbaum, etc.)
 - 13H15: Multiplicity theory and related topics
 - 13H99: None of the above, but in this section
- [13Jxx](#): Topological rings and modules
 - 13J05: Power series rings
 - 13J07: Analytical algebras and rings
 - 13J10: Complete rings, completion
 - 13J15: Henselian rings
 - 13J20: Global topological rings
 - 13J25: Ordered rings
 - 13J30: Real algebra
 - 13J99: None of the above, but in this section
 - 13K05: Witt vectors and related rings
 - 13L05: Applications of logic to commutative algebra
- [13Mxx](#): Finite commutative rings
 - 13M05: Structure
 - 13M10: Polynomials
 - 13M99: None of the above, but in this section
- [13Nxx](#): Differential algebra
 - 13N05: Modules of differentials
 - 13N10: Rings of differential operators and their modules
 - 13N15: Derivations
 - 13N99: None of the above, but in this section
- [13Pxx](#): Computational aspects of commutative algebra
 - 13P05: Polynomials, factorization
 - 13P10: Polynomial ideals, Gröbner bases
 - 13P99: None of the above, but in this section
- [14-xx](#): Algebraic geometry
 - 14-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 14-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 14-02: Research exposition (monographs, survey articles)
 - 14-03: Historical (must also be assigned at least one classification number from Section 01)
 - 14-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 14-06: Proceedings, conferences, collections, etc.
 - [14Axx](#): Foundations
 - 14A05: Relevant commutative algebra
 - 14A10: Varieties and morphisms
 - 14A15: Schemes and morphisms
 - 14A20: Generalizations (algebraic spaces, stacks)
 - 14A22: Noncommutative algebraic geometry
 - 14A25: Elementary questions
 - 14A99: None of the above, but in this section
 - [14Bxx](#): Local theory
 - 14B05: Singularities

- 14B07: Deformations of singularities
- 14B10: Infinitesimal methods
- 14B12: Local deformation theory, Artin approximation, etc.
- 14B15: Local cohomology
- 14B20: Formal neighborhoods
- 14B25: Local structure of morphisms: étale, flat, etc.
- 14B99: None of the above, but in this section
- [14Cxx](#): Cycles and subschemes
 - 14C05: Parametrization (Chow and Hilbert schemes)
 - 14C15: Chow groups and rings
 - 14C17: Intersection theory, characteristic classes, intersection multiplicities
 - 14C20: Divisors, linear systems, invertible sheaves
 - 14C21: Pencils, nets, webs
 - 14C22: Picard groups
 - 14C25: Algebraic cycles
 - 14C30: Transcendental methods, Hodge theory, Hodge conjecture
 - 14C34: Torelli problem
 - 14C35: Applications of methods of algebraic K -theory
 - 14C40: Riemann-Roch theorems
 - 14C99: None of the above, but in this section
- [14Dxx](#): Families, fibrations
 - 14D05: Structure of families (Picard-Lefschetz, monodromy, etc.)
 - 14D06: Fibrations, degenerations
 - 14D07: Variation of Hodge structures
 - 14D10: Arithmetic ground fields (finite, local, global)
 - 14D15: Formal methods; deformations
 - 14D20: Algebraic moduli problems, moduli of vector bundles
 - 14D21: Applications of vector bundles and moduli spaces in mathematical physics (twistor theory, instantons, quantum field theory)
 - 14D22: Fine and coarse moduli spaces
 - 14D99: None of the above, but in this section
- [14Exx](#): Birational geometry
 - 14E05: Rational and birational maps
 - 14E07: Birational automorphisms, Cremona group and generalizations
 - 14E08: Rationality questions
 - 14E15: Global theory and resolution of singularities
 - 14E20: Coverings
 - 14E22: Ramification problems
 - 14E25: Embeddings
 - 14E30: Minimal model program (Mori theory, extremal rays)
 - 14E99: None of the above, but in this section
- [14Fxx](#): (Co)homology theory
 - 14F05: Vector bundles, sheaves, related constructions
 - 14F10: Differentials and other special sheaves
 - 14F17: Vanishing theorems
 - 14F20: Étale and other Grothendieck topologies and cohomologies
 - 14F22: Brauer groups of schemes
 - 14F25: Classical real and complex cohomology
 - 14F30: p -adic cohomology, crystalline cohomology
 - 14F35: Homotopy theory; fundamental groups
 - 14F40: de Rham cohomology
 - 14F42: Motivic cohomology
 - 14F43: Other algebro-geometric (co)homologies (e.g., intersection, equivariant, Lawson, Deligne (co)homologies)
 - 14F45: Topological properties
 - 14F99: None of the above, but in this section
- [14Gxx](#): Arithmetic problems. Diophantine geometry
 - 14G05: Rational points

- 14G10: Zeta-functions and related questions(Birch-Swinnerton-Dyer conjecture)
- 14G15: Finite ground fields
- 14G20: Local ground fields
- 14G22: Rigid analytic geometry
- 14G25: Global ground fields
- 14G27: Other nonalgebraically closed ground fields
- 14G32: Universal profinite groups (relationship to moduli spaces, projective and moduli towers, Galois theory)
- 14G35: Modular and Shimura varieties
- 14G40: Arithmetic varieties and schemes; Arakelov theory; heights
- 14G50: Applications to coding theory and cryptography
- 14G99: None of the above, but in this section
- [14Hxx](#): Curves
 - 14H05: Algebraic functions; function fields
 - 14H10: Families, moduli (algebraic)
 - 14H15: Families, moduli (analytic)
 - 14H20: Singularities, local rings
 - 14H25: Arithmetic ground fields
 - 14H30: Coverings, fundamental group
 - 14H37: Automorphisms
 - 14H40: Jacobians, Prym varieties
 - 14H42: Theta functions; Schottky problem
 - 14H45: Special curves and curves of low genus
 - 14H50: Plane and space curves
 - 14H51: Special divisors (gonality, Brill-Noether theory)
 - 14H52: Elliptic curves
 - 14H55: Riemann surfaces; Weierstrass points; gap sequences
 - 14H60: Vector bundles on curves and their moduli
 - 14H70: Relationships with integrable systems
 - 14H81: Relationships with physics
 - 14H99: None of the above, but in this section
- [14Jxx](#): Surfaces and higher-dimensional varieties
 - 14J10: Families, moduli, classification: algebraic theory
 - 14J15: Moduli, classification: analytic theory; relations with modular forms
 - 14J17: Singularities
 - 14J20: Arithmetic ground fields
 - 14J25: Special surfaces
 - 14J26: Rational and ruled surfaces
 - 14J27: Elliptic surfaces
 - 14J28: $K3$ surfaces and Enriques surfaces
 - 14J29: Surfaces of general type
 - 14J30: 3 -folds
 - 14J32: Calabi-Yau manifolds, mirror symmetry
 - 14J35: 4 -folds
 - 14J40: n -folds ($n > 4$)
 - 14J45: Fano varieties
 - 14J50: Automorphisms of surfaces and higher-dimensional varieties
 - 14J60: Vector bundles on surfaces and higher-dimensional varieties, and their moduli
 - 14J70: Hypersurfaces
 - 14J80: Topology of surfaces (Donaldson polynomials, Seiberg-Witten invariants)
 - 14J81: Relationships with physics
 - 14J99: None of the above, but in this section
- [14Kxx](#): Abelian varieties and schemes
 - 14K02: Isogeny
 - 14K05: Algebraic theory
 - 14K10: Algebraic moduli, classification
 - 14K12: Subvarieties
 - 14K15: Arithmetic ground fields

- 14K20: Analytic theory; abelian integrals and differentials
- 14K22: Complex multiplication
- 14K25: Theta functions
- 14K30: Picard schemes, higher Jacobians
- 14K99: None of the above, but in this section
- [14Lxx](#): Algebraic groups
 - 14L05: Formal groups, $\mathbb{p}$ -divisible groups
 - 14L10: Group varieties
 - 14L15: Group schemes
 - 14L17: Affine algebraic groups, hyperalgebra constructions
 - 14L24: Geometric invariant theory
 - 14L30: Group actions on varieties or schemes (quotients)
 - 14L35: Classical groups (geometric aspects)
 - 14L40: Other algebraic groups (geometric aspects)
 - 14L99: None of the above, but in this section
- [14Mxx](#): Special varieties
 - 14M05: Varieties defined by ring conditions (factorial, Cohen-Macaulay, seminormal)
 - 14M06: Linkage
 - 14M07: Low codimension problems
 - 14M10: Complete intersections
 - 14M12: Determinantal varieties
 - 14M15: Grassmannians, Schubert varieties, flag manifolds
 - 14M17: Homogeneous spaces and generalizations
 - 14M20: Rational and unirational varieties
 - 14M25: Toric varieties, Newton polyhedra
 - 14M30: Supervarieties
 - 14M99: None of the above, but in this section
- [14Nxx](#): Projective and enumerative geometry
 - 14N05: Projective techniques
 - 14N10: Enumerative problems (combinatorial problems)
 - 14N15: Classical problems, Schubert calculus
 - 14N20: Configurations of linear subspaces
 - 14N25: Varieties of low degree
 - 14N30: Adjunction problems
 - 14N35: Gromov-Witten invariants, quantum cohomology
 - 14N99: None of the above, but in this section
- [14Pxx](#): Real algebraic and real analytic geometry
 - 14P05: Real algebraic sets
 - 14P10: Semialgebraic sets and related spaces
 - 14P15: Real analytic and semianalytic sets
 - 14P20: Nash functions and manifolds
 - 14P25: Topology of real algebraic varieties
 - 14P99: None of the above, but in this section
- [14Qxx](#): Computational aspects in algebraic geometry
 - 14Q05: Curves
 - 14Q10: Surfaces, hypersurfaces
 - 14Q15: Higher-dimensional varieties
 - 14Q20: Effectivity
 - 14Q99: None of the above, but in this section
- [14Rxx](#): Affine geometry
 - 14R05: Classification of affine varieties
 - 14R10: Affine spaces (automorphisms, embeddings, exotic structures, cancellation problem)
 - 14R15: Jacobian problem
 - 14R20: Group actions on affine varieties
 - 14R25: Affine fibrations
 - 14R99: None of the above, but in this section
- [15-xx](#): Linear and multilinear algebra; matrix theory

- 15-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
- 15-01: Instructional exposition (textbooks, tutorial papers, etc.)
- 15-02: Research exposition (monographs, survey articles)
- 15-03: Historical (must also be assigned at least one classification number from Section 01)
- 15-04: Explicit machine computation and programs (not the theory of computation or programming)
- 15-06: Proceedings, conferences, collections, etc.
 - 15A03: Vector spaces, linear dependence, rank
 - 15A04: Linear transformations, semilinear transformations
 - 15A06: Linear equations
 - 15A09: Matrix inversion, generalized inverses
 - 15A12: Conditioning of matrices
 - 15A15: Determinants, permanents, other special matrix functions
 - 15A18: Eigenvalues, singular values, and eigenvectors
 - 15A21: Canonical forms, reductions, classification
 - 15A22: Matrix pencils
 - 15A23: Factorization of matrices
 - 15A24: Matrix equations and identities
 - 15A27: Commutativity
 - 15A29: Inverse problems
 - 15A30: Algebraic systems of matrices
 - 15A33: Matrices over special rings (quaternions, finite fields, etc.)
 - 15A36: Matrices of integers
 - 15A39: Linear inequalities
 - 15A42: Inequalities involving eigenvalues and eigenvectors
 - 15A45: Miscellaneous inequalities involving matrices
 - 15A48: Positive matrices and their generalizations; cones of matrices
 - 15A51: Stochastic matrices
 - 15A52: Random matrices
 - 15A54: Matrices over function rings in one or more variables
 - 15A57: Other types of matrices (Hermitian, skew-Hermitian, etc.)
 - 15A60: Norms of matrices, numerical range, applications of functional analysis to matrix theory
 - 15A63: Quadratic and bilinear forms, inner products
 - 15A66: Clifford algebras, spinors
 - 15A69: Multilinear algebra, tensor products
 - 15A72: Vector and tensor algebra, theory of invariants
 - 15A75: Exterior algebra, Grassmann algebras
 - 15A78: Other algebras built from modules
 - 15A90: Applications of matrix theory to physics
 - 15A99: Miscellaneous topics
- [16-xx](#): Associative rings and algebras
 - 16-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 16-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 16-02: Research exposition (monographs, survey articles)
 - 16-03: Historical (must also be assigned at least one classification number from Section 01)
 - 16-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 16-06: Proceedings, conferences, collections, etc.
 - [16Bxx](#): General and miscellaneous
 - 16B50: Category-theoretic methods and results (except as in 16D90)
 - 16B70: Applications of logic
 - 16B99: None of the above, but in this section
 - [16Dxx](#): Modules, bimodules and ideals
 - 16D10: General module theory
 - 16D20: Bimodules
 - 16D25: Ideals
 - 16D30: Infinite-dimensional simple rings (except as in 16Kxx)

- 16D40: Free, projective, and flat modules and ideals
- 16D50: Injective modules, self-injective rings
- 16D60: Simple and semisimple modules, primitive rings and ideals
- 16D70: Structure and classification (except as in 16Gxx), direct sum decomposition, cancellation
- 16D80: Other classes of modules and ideals
- 16D90: Module categories; module theory in a category-theoretic context; Morita equivalence and duality
- 16D99: None of the above, but in this section
- [16Exx](#): Homological methods
 - 16E05: Syzygies, resolutions, complexes
 - 16E10: Homological dimension
 - 16E20: Grothendieck groups, KS -theory, etc.
 - 16E30: Homological functors on modules (Tor, Ext, etc.)
 - 16E40: (Co)homology of rings and algebras (e.g. Hochschild, cyclic, dihedral, etc.)
 - 16E45: Differential graded algebras and applications
 - 16E50: von Neumann regular rings and generalizations
 - 16E60: Semihereditary and hereditary rings, free ideal rings, Sylvester rings, etc.
 - 16E65: Homological conditions on rings (generalizations of regular, Gorenstein, Cohen-Macaulay rings, etc.)
 - 16E99: None of the above, but in this section
- [16Gxx](#): Representation theory of rings and algebras
 - 16G10: Representations of Artinian rings
 - 16G20: Representations of quivers and partially ordered sets
 - 16G30: Representations of orders, lattices, algebras over commutative rings
 - 16G50: Cohen-Macaulay modules
 - 16G60: Representation type (finite, tame, wild, etc.)
 - 16G70: Auslander-Reiten sequences (almost split sequences) and Auslander-Reiten quivers
 - 16G99: None of the above, but in this section
 - 16H05: Orders and arithmetic, separable algebras, Azumaya algebras
- [16Kxx](#): Division rings and semisimple Artin rings
 - 16K20: Finite-dimensional
 - 16K40: Infinite-dimensional and general
 - 16K50: Brauer groups
 - 16K99: None of the above, but in this section
- [16Lxx](#): Local rings and generalizations
 - 16L30: Noncommutative local and semilocal rings, perfect rings
 - 16L60: Quasi-Frobenius rings
 - 16L99: None of the above, but in this section
- [16Nxx](#): Radicals and radical properties of rings
 - 16N20: Jacobson radical, quasimultiplication
 - 16N40: Nil and nilpotent radicals, sets, ideals, rings
 - 16N60: Prime and semiprime rings
 - 16N80: General radicals and rings
 - 16N99: None of the above, but in this section
- [16Pxx](#): Chain conditions, growth conditions, and other forms of finiteness
 - 16P10: Finite rings and finite-dimensional algebras
 - 16P20: Artinian rings and modules
 - 16P40: Noetherian rings and modules
 - 16P50: Localization and Noetherian rings
 - 16P60: Chain conditions on annihilators and summands: Goldie-type conditions, Krull dimension
 - 16P70: Chain conditions on other classes of submodules, ideals, subrings, etc.; coherence
 - 16P90: Growth rate, Gelfand-Kirillov dimension
 - 16P99: None of the above, but in this section
- [16Rxx](#): Rings with polynomial identity
 - 16R10: ST -ideals, identities, varieties of rings and algebras

- 16R20: Semiprime p.i. rings, rings embeddable in matrices over commutative rings
- 16R30: Trace rings and invariant theory
- 16R40: Identities other than those of matrices over commutative rings
- 16R50: Other kinds of identities (generalized polynomial, rational, involution)
- 16R99: None of the above, but in this section
- [16Sxx](#): Rings and algebras arising under various constructions
 - 16S10: Rings determined by universal properties (free algebras, coproducts, adjunction of inverses, etc.)
 - 16S15: Finite generation, finite presentability, normal forms (diamond lemma, term-rewriting)
 - 16S20: Centralizing and normalizing extensions
 - 16S30: Universal enveloping algebras of Lie algebras
 - 16S32: Rings of differential operators
 - 16S34: Group rings, Laurent polynomial rings
 - 16S35: Twisted and skew group rings, crossed products
 - 16S36: Ordinary and skew polynomial rings and semigroup rings
 - 16S37: Quadratic and Koszul algebras
 - 16S38: Rings arising from non-commutative algebraic geometry
 - 16S40: Smash products of general Hopf actions
 - 16S50: Endomorphism rings; matrix rings
 - 16S60: Rings of functions, subdirect products, sheaves of rings
 - 16S70: Extensions of rings by ideals
 - 16S80: Deformations of rings
 - 16S90: Maximal ring of quotients, torsion theories, radicals on module categories
 - 16S99: None of the above, but in this section
- [16Uxx](#): Conditions on elements
 - 16U10: Integral domains
 - 16U20: Ore rings, multiplicative sets, Ore localization
 - 16U30: Divisibility, noncommutative UFDs
 - 16U60: Units, groups of units
 - 16U70: Center, normalizer (invariant elements)
 - 16U80: Generalizations of commutativity
 - 16U99: None of the above, but in this section
- [16Wxx](#): Rings and algebras with additional structure
 - 16W10: Rings with involution; Lie, Jordan and other nonassociative structures
 - 16W20: Automorphisms and endomorphisms
 - 16W22: Actions of groups and semigroups; invariant theory
 - 16W25: Derivations, actions of Lie algebras
 - 16W30: Coalgebras, bialgebras, Hopf algebras; rings, modules, etc. on which these act
 - 16W35: Ring-theoretic aspects of quantum groups
 - 16W50: Graded rings and modules
 - 16W55: "Super" (or "skew") structure
 - 16W60: Valuations, completions, formal power series and related constructions
 - 16W70: Filtered rings; filtrational and graded techniques
 - 16W80: Topological and ordered rings and modules
 - 16W99: None of the above, but in this section
- [16Yxx](#): Generalizations
 - 16Y30: Near-rings
 - 16Y60: Semirings
 - 16Y99: None of the above, but in this section
 - 16Z05: Computational aspects of associative rings
- [17-xx](#): Nonassociative rings and algebras
 - 17-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 17-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 17-02: Research exposition (monographs, survey articles)
 - 17-03: Historical (must also be assigned at least one classification number from Section 01)
 - 17-04: Explicit machine computation and programs (not the theory of computation or programming)

- 17-06: Proceedings, conferences, collections, etc.
- 17-08: Computational methods
- [17Axx](#): General nonassociative rings
 - 17A01: General theory
 - 17A05: Power-associative rings
 - 17A15: Noncommutative Jordan algebras
 - 17A20: Flexible algebras
 - 17A30: Algebras satisfying other identities
 - 17A32: Leibniz algebras
 - 17A35: Division algebras
 - 17A36: Automorphisms, derivations, other operators
 - 17A40: Ternary compositions
 - 17A42: Other n -ary compositions ($n \geq 3$)
 - 17A45: Quadratic algebras (but not quadratic Jordan algebras)
 - 17A50: Free algebras
 - 17A60: Structure theory
 - 17A65: Radical theory
 - 17A70: Superalgebras
 - 17A75: Composition algebras
 - 17A80: Valued algebras
 - 17A99: None of the above, but in this section
- [17Bxx](#): Lie algebras and Lie superalgebras
 - 17B01: Identities, free Lie (super)algebras
 - 17B05: Structure theory
 - 17B10: Representations, algebraic theory (weights)
 - 17B15: Representations, analytic theory
 - 17B20: Simple, semisimple, reductive (super)algebras (roots)
 - 17B25: Exceptional (super)algebras
 - 17B30: Solvable, nilpotent (super)algebras
 - 17B35: Universal enveloping (super)algebras
 - 17B37: Quantum groups (quantized enveloping algebras) and related deformations
 - 17B40: Automorphisms, derivations, other operators
 - 17B45: Lie algebras of linear algebraic groups
 - 17B50: Modular Lie (super)algebras
 - 17B55: Homological methods in Lie (super)algebras
 - 17B56: Cohomology of Lie (super)algebras
 - 17B60: Lie (super)algebras associated with other structures (associative, Jordan, etc.)
 - 17B62: Lie bialgebras
 - 17B63: Poisson algebras
 - 17B65: Infinite-dimensional Lie (super)algebras
 - 17B66: Lie algebras of vector fields and related (super) algebras
 - 17B67: Kac-Moody (super)algebras (structure and representation theory)
 - 17B68: Virasoro and related algebras
 - 17B69: Vertex operators; vertex operator algebras and related structures
 - 17B70: Graded Lie (super)algebras
 - 17B75: Color Lie (super)algebras
 - 17B80: Applications to integrable systems
 - 17B81: Applications to physics
 - 17B99: None of the above, but in this section
- [17Cxx](#): Jordan algebras (algebras, triples and pairs)
 - 17C05: Identities and free Jordan structures
 - 17C10: Structure theory
 - 17C17: Radicals
 - 17C20: Simple, semisimple algebras
 - 17C27: Idempotents, Peirce decompositions
 - 17C30: Associated groups, automorphisms
 - 17C36: Associated manifolds
 - 17C37: Associated geometries

- 17C40: Exceptional Jordan structures
 - 17C50: Jordan structures associated with other structures
 - 17C55: Finite-dimensional structures
 - 17C60: Division algebras
 - 17C65: Jordan structures on Banach spaces and algebras
 - 17C70: Super structures
 - 17C90: Applications to physics
 - 17C99: None of the above, but in this section
- [17Dxx](#): Other nonassociative rings and algebras
 - 17D05: Alternative rings
 - 17D10: Malcev (Maltsev) rings and algebras
 - 17D15: Right alternative rings
 - 17D20: (γ, δ) -rings, including $(1, -1)$ -rings
 - 17D25: Lie-admissible algebras
 - 17D92: Genetic algebras
 - 17D99: None of the above, but in this section
- [18-xx](#): Category theory; homological algebra
 - 18-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 18-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 18-02: Research exposition (monographs, survey articles)
 - 18-03: Historical (must also be assigned at least one classification number from Section 01)
 - 18-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 18-06: Proceedings, conferences, collections, etc.
 - [18Axx](#): General theory of categories and functors
 - 18A05: Definitions, generalizations
 - 18A10: Graphs, diagram schemes, precategories
 - 18A15: Foundations, relations to logic and deductive systems
 - 18A20: Epimorphisms, monomorphisms, special classes of morphisms, null morphisms
 - 18A22: Special properties of functors (faithful, full, etc.)
 - 18A23: Natural morphisms, dinatural morphisms
 - 18A25: Functor categories, comma categories
 - 18A30: Limits and colimits (products, sums, directed limits, pushouts, fiber products, equalizers, kernels, ends and coends, etc.)
 - 18A32: Factorization of morphisms, substructures, quotient structures, congruences, amalgams
 - 18A35: Categories admitting limits (complete categories), functors preserving limits, completions
 - 18A40: Adjoint functors (universal constructions, reflective subcategories, Kan extensions, etc.)
 - 18A99: None of the above, but in this section
 - [18Bxx](#): Special categories
 - 18B05: Category of sets, characterizations
 - 18B10: Category of relations, additive relations
 - 18B15: Embedding theorems, universal categories
 - 18B20: Categories of machines, automata, operative categories
 - 18B25: Topoi
 - 18B30: Categories of topological spaces and continuous mappings
 - 18B35: Preorders, orders and lattices (viewed as categories)
 - 18B40: Groupoids, semigroupoids, semigroups, groups (viewed as categories)
 - 18B99: None of the above, but in this section
 - [18Cxx](#): Categories and theories
 - 18C05: Equational categories
 - 18C10: Theories (e.g. algebraic theories), structure, and semantics
 - 18C15: Triples (= standard construction, monad or triad), algebras for a triple, homology and derived functors for triples
 - 18C20: Algebras and Kleisli categories associated with monads
 - 18C30: Sketches and generalizations

- 18C35: Accessible and locally presentable categories
 - 18C50: Categorical semantics of formal languages
 - 18C99: None of the above, but in this section
- [18Dxx](#): Categories with structure
 - 18D05: Double categories, 2 -categories, bicategories and generalizations
 - 18D10: Monoidal categories (= multiplicative categories), symmetric monoidal categories, braided categories
 - 18D15: Closed categories (closed monoidal and Cartesian closed categories, etc.)
 - 18D20: Enriched categories (over closed or monoidal categories)
 - 18D25: Strong functors, strong adjunctions
 - 18D30: Fibered categories
 - 18D35: Structured objects in a category (group objects, etc.)
 - 18D50: Operads
 - 18D99: None of the above, but in this section
- [18Exx](#): Abelian categories
 - 18E05: Preadditive, additive categories
 - 18E10: Exact categories, abelian categories
 - 18E15: Grothendieck categories
 - 18E20: Embedding theorems
 - 18E25: Derived functors and satellites
 - 18E30: Derived categories, triangulated categories
 - 18E35: Localization of categories
 - 18E40: Torsion theories, radicals
 - 18E99: None of the above, but in this section
- [18Fxx](#): Categories and geometry
 - 18F05: Local categories and functors
 - 18F10: Grothendieck topologies
 - 18F15: Abstract manifolds and fiber bundles
 - 18F20: Presheaves and sheaves
 - 18F25: Algebraic K -theory and L -theory
 - 18F30: Grothendieck groups
 - 18F99: None of the above, but in this section
- [18Gxx](#): Homological algebra
 - 18G05: Projectives and injectives
 - 18G10: Resolutions; derived functors
 - 18G15: Ext and Tor, generalizations, Künneth formula
 - 18G20: Homological dimension
 - 18G25: Relative homological algebra, projective classes
 - 18G30: Simplicial sets, simplicial objects (in a category)
 - 18G35: Chain complexes
 - 18G40: Spectral sequences, hypercohomology
 - 18G50: Nonabelian homological algebra
 - 18G55: Homotopical algebra
 - 18G60: Other (co)homology theories
 - 18G99: None of the above, but in this section
- [19-xx](#): K -theory
 - 19-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 19-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 19-02: Research exposition (monographs, survey articles)
 - 19-03: Historical (must also be assigned at least one classification number from Section 01)
 - 19-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 19-06: Proceedings, conferences, collections, etc.
 - [19Axx](#): Grothendieck groups and K_0
 - 19A13: Stability for projective modules
 - 19A15: Efficient generation
 - 19A22: Frobenius induction, Burnside and representation rings
 - 19A31: K_0 of group rings and orders

- 19A49: $\mathbb{Z}$ of other rings
 - 19A99: None of the above, but in this section
- [19Bxx](#): Whitehead groups and $\mathbb{Z}$
 - 19B10: Stable range conditions
 - 19B14: Stability for linear groups
 - 19B28: $\mathbb{Z}$ of group rings and orders
 - 19B37: Congruence subgroup problems
 - 19B99: None of the above, but in this section
- [19Cxx](#): Steinberg groups and $\mathbb{Z}$
 - 19C09: Central extensions and Schur multipliers
 - 19C20: Symbols, presentations and stability of $\mathbb{Z}$
 - 19C30: $\mathbb{Z}$ and the Brauer group
 - 19C40: Excision for $\mathbb{Z}$
 - 19C99: None of the above, but in this section
- [19Dxx](#): Higher algebraic $\mathbb{Z}$ -theory
 - 19D06: $\mathbb{Q}$ - and plus-constructions
 - 19D10: Algebraic $\mathbb{Z}$ -theory of spaces
 - 19D23: Symmetric monoidal categories
 - 19D25: Karoubi-Villamayor-Gersten $\mathbb{Z}$ -theory
 - 19D35: Negative $\mathbb{Z}$ -theory, NK and Nil
 - 19D45: Higher symbols, Milnor $\mathbb{Z}$ -theory
 - 19D50: Computations of higher $\mathbb{Z}$ -theory of rings
 - 19D55: $\mathbb{Z}$ -theory and homology; cyclic homology and cohomology
 - 19D99: None of the above, but in this section
- [19Exx](#): $\mathbb{Z}$ -theory in geometry
 - 19E08: $\mathbb{Z}$ -theory of schemes
 - 19E15: Algebraic cycles and motivic cohomology
 - 19E20: Relations with cohomology theories
 - 19E99: None of the above, but in this section
- [19Fxx](#): $\mathbb{Z}$ -theory in number theory
 - 19F05: Generalized class field theory
 - 19F15: Symbols and arithmetic
 - 19F27: Étale cohomology, higher regulators, zeta and $\mathbb{Z}$ -functions
 - 19F99: None of the above, but in this section
- [19Gxx](#): $\mathbb{Z}$ -theory of forms
 - 19G05: Stability for quadratic modules
 - 19G12: Witt groups of rings
 - 19G24: $\mathbb{Z}$ -theory of group rings
 - 19G38: Hermitian $\mathbb{Z}$ -theory, relations with $\mathbb{Z}$ -theory of rings
 - 19G99: None of the above, but in this section
- [19Jxx](#): Obstructions from topology
 - 19J05: Finiteness and other obstructions in $\mathbb{Z}$
 - 19J10: Whitehead (and related) torsion
 - 19J25: Surgery obstructions
 - 19J35: Obstructions to group actions
 - 19J99: None of the above, but in this section
- [19Kxx](#): $\mathbb{Z}$ -theory and operator algebras
 - 19K14: $\mathbb{Z}$ as an ordered group, traces
 - 19K33: EXT and $\mathbb{Z}$ -homology
 - 19K35: Kasparov theory ($\mathbb{Z}$ -theory)
 - 19K56: Index theory
 - 19K99: None of the above, but in this section
- [19Lxx](#): Topological $\mathbb{Z}$ -theory
 - 19L10: Riemann-Roch theorems, Chern characters
 - 19L20: $\mathbb{Z}$ -homomorphism, Adams operations
 - 19L41: Connective $\mathbb{Z}$ -theory, cobordism
 - 19L47: Equivariant $\mathbb{Z}$ -theory
 - 19L64: Computations, geometric applications

- 19L99: None of the above, but in this section
 - 19M05: Miscellaneous applications of K -theory
- [20-xx](#): Group theory and generalizations
 - 20-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 20-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 20-02: Research exposition (monographs, survey articles)
 - 20-03: Historical (must also be assigned at least one classification number from Section 01)
 - 20-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 20-06: Proceedings, conferences, collections, etc.
 - [20Axx](#): Foundations
 - 20A05: Axiomatics and elementary properties
 - 20A10: Metamathematical considerations
 - 20A15: Applications of logic to group theory
 - 20A99: None of the above, but in this section
 - [20Bxx](#): Permutation groups
 - 20B05: General theory for finite groups
 - 20B07: General theory for infinite groups
 - 20B10: Characterization theorems
 - 20B15: Primitive groups
 - 20B20: Multiply transitive finite groups
 - 20B22: Multiply transitive infinite groups
 - 20B25: Finite automorphism groups of algebraic, geometric, or combinatorial structures
 - 20B27: Infinite automorphism groups
 - 20B30: Symmetric groups
 - 20B35: Subgroups of symmetric groups
 - 20B40: Computational methods
 - 20B99: None of the above, but in this section
 - [20Cxx](#): Representation theory of groups
 - 20C05: Group rings of finite groups and their modules
 - 20C07: Group rings of infinite groups and their modules
 - 20C08: Hecke algebras and their representations
 - 20C10: Integral representations of finite groups
 - 20C11: p -adic representations of finite groups
 - 20C12: Integral representations of infinite groups
 - 20C15: Ordinary representations and characters
 - 20C20: Modular representations and characters
 - 20C25: Projective representations and multipliers
 - 20C30: Representations of finite symmetric groups
 - 20C32: Representations of infinite symmetric groups
 - 20C33: Representations of finite groups of Lie type
 - 20C34: Representations of sporadic groups
 - 20C35: Applications of group representations to physics
 - 20C40: Computational methods
 - 20C99: None of the above, but in this section
 - [20Dxx](#): Abstract finite groups
 - 20D05: Classification of simple and nonsolvable groups
 - 20D06: Simple groups: alternating groups and groups of Lie type
 - 20D08: Simple groups: sporadic groups
 - 20D10: Solvable groups, theory of formations, Schunck classes, Fitting classes, π -length, ranks
 - 20D15: Nilpotent groups, p -groups
 - 20D20: Sylow subgroups, Sylow properties, π -groups, π -structure
 - 20D25: Special subgroups (Fratini, Fitting, etc.)
 - 20D30: Series and lattices of subgroups
 - 20D35: Subnormal subgroups
 - 20D40: Products of subgroups
 - 20D45: Automorphisms

- 20D60: Arithmetic and combinatorial problems
- 20D99: None of the above, but in this section
- [20Exx](#): Structure and classification of infinite or finite groups
 - 20E05: Free nonabelian groups
 - 20E06: Free products, free products with amalgamation, Higman-Neumann-Neumann extensions, and generalizations
 - 20E07: Subgroup theorems; subgroup growth
 - 20E08: Groups acting on trees
 - 20E10: Quasivarieties and varieties of groups
 - 20E15: Chains and lattices of subgroups, subnormal subgroups
 - 20E18: Limits, profinite groups
 - 20E22: Extensions, wreath products, and other compositions
 - 20E25: Local properties
 - 20E26: Residual properties and generalizations
 - 20E28: Maximal subgroups
 - 20E32: Simple groups
 - 20E34: General structure theorems
 - 20E36: General theorems concerning automorphisms of groups
 - 20E42: Groups with a BN -pair; buildings
 - 20E45: Conjugacy classes
 - 20E99: None of the above, but in this section
- [20Fxx](#): Special aspects of infinite or finite groups
 - 20F05: Generators, relations, and presentations
 - 20F06: Cancellation theory; application of van Kampen diagrams
 - 20F10: Word problems, other decision problems, connections with logic and automata
 - 20F12: Commutator calculus
 - 20F14: Derived series, central series, and generalizations
 - 20F16: Solvable groups, supersolvable groups
 - 20F17: Formations of groups, Fitting classes
 - 20F18: Nilpotent groups
 - 20F19: Generalizations of solvable and nilpotent groups
 - 20F22: Other classes of groups defined by subgroup chains
 - 20F24: FC-groups and their generalizations
 - 20F28: Automorphism groups of groups
 - 20F29: Representations of groups as automorphism groups of algebraic systems
 - 20F34: Fundamental groups and their automorphisms
 - 20F36: Braid groups; Artin groups
 - 20F38: Other groups related to topology or analysis
 - 20F40: Associated Lie structures
 - 20F45: Engel conditions
 - 20F50: Periodic groups; locally finite groups
 - 20F55: Reflection and Coxeter groups
 - 20F60: Ordered groups
 - 20F65: Geometric group theory
 - 20F67: Hyperbolic groups and nonpositively curved groups
 - 20F69: Asymptotic properties of groups
 - 20F99: None of the above, but in this section
- [20Gxx](#): Linear algebraic groups (classical groups)
 - 20G05: Representation theory
 - 20G10: Cohomology theory
 - 20G15: Linear algebraic groups over arbitrary fields
 - 20G20: Linear algebraic groups over the reals, the complexes, the quaternions
 - 20G25: Linear algebraic groups over local fields and their integers
 - 20G30: Linear algebraic groups over global fields and their integers
 - 20G35: Linear algebraic groups over adèles and other rings and schemes
 - 20G40: Linear algebraic groups over finite fields
 - 20G42: Quantum groups (quantized function algebras) and their representations
 - 20G45: Applications to physics

- 20G99: None of the above, but in this section
- [20Hxx](#): Other groups of matrices
 - 20H05: Unimodular groups, congruence subgroups
 - 20H10: Fuchsian groups and their generalizations
 - 20H15: Other geometric groups, including crystallographic groups
 - 20H20: Other matrix groups over fields
 - 20H25: Other matrix groups over rings
 - 20H30: Other matrix groups over finite fields
 - 20H99: None of the above, but in this section
- [20Jxx](#): Connections with homological algebra and category theory
 - 20J05: Homological methods in group theory
 - 20J06: Cohomology of groups
 - 20J15: Category of groups
 - 20J99: None of the above, but in this section
- [20Kxx](#): Abelian groups
 - 20K01: Finite abelian groups
 - 20K10: Torsion groups, primary groups and generalized primary groups
 - 20K15: Torsion-free groups, finite rank
 - 20K20: Torsion-free groups, infinite rank
 - 20K21: Mixed groups
 - 20K25: Direct sums, direct products, etc.
 - 20K27: Subgroups
 - 20K30: Automorphisms, homomorphisms, endomorphisms, etc.
 - 20K35: Extensions
 - 20K40: Homological and categorical methods
 - 20K45: Topological methods
 - 20K99: None of the above, but in this section
 - 20L05: Groupoids (i.e. small categories in which all morphisms are isomorphisms)
- [20Mxx](#): Semigroups
 - 20M05: Free semigroups, generators and relations, word problems
 - 20M07: Varieties of semigroups
 - 20M10: General structure theory
 - 20M11: Radical theory
 - 20M12: Ideal theory
 - 20M14: Commutative semigroups
 - 20M15: Mappings of semigroups
 - 20M17: Regular semigroups
 - 20M18: Inverse semigroups
 - 20M19: Orthodox semigroups
 - 20M20: Semigroups of transformations, etc.
 - 20M25: Semigroup rings, multiplicative semigroups of rings
 - 20M30: Representation of semigroups; actions of semigroups on sets
 - 20M35: Semigroups in automata theory, linguistics, etc.
 - 20M50: Connections of semigroups with homological algebra and category theory
 - 20M99: None of the above, but in this section
- [20Nxx](#): Other generalizations of groups
 - 20N02: Sets with a single binary operation (groupoids)
 - 20N05: Loops, quasigroups
 - 20N10: Ternary systems (heaps, semiheaps, heapoids, etc.)
 - 20N15: n -ary systems $(n \geq 3)$
 - 20N20: Hypergroups
 - 20N25: Fuzzy groups
 - 20N99: None of the above, but in this section
 - 20P05: Probabilistic methods in group theory
- [22-xx](#): Topological groups, Lie groups
 - 22-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 22-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 22-02: Research exposition (monographs, survey articles)

- 22-03: Historical (must also be assigned at least one classification number from Section 01)
- 22-04: Explicit machine computation and programs (not the theory of computation or programming)
- 22-06: Proceedings, conferences, collections, etc.
- [22Axx](#): Topological and differentiable algebraic systems
 - 22A05: Structure of general topological groups
 - 22A10: Analysis on general topological groups
 - 22A15: Structure of topological semigroups
 - 22A20: Analysis on topological semigroups
 - 22A22: Topological groupoids (including differentiable and Lie groupoids)
 - 22A25: Representations of general topological groups and semigroups
 - 22A26: Topological semilattices, lattices and applications
 - 22A30: Other topological algebraic systems and their representations
 - 22A99: None of the above, but in this section
- [22Bxx](#): Locally compact abelian groups (LCA groups)
 - 22B05: General properties and structure of LCA groups
 - 22B10: Structure of group algebras of LCA groups
 - 22B99: None of the above, but in this section
 - 22C05: Compact groups
- [22Dxx](#): Locally compact groups and their algebras
 - 22D05: General properties and structure of locally compact groups
 - 22D10: Unitary representations of locally compact groups
 - 22D12: Other representations of locally compact groups
 - 22D15: Group algebras of locally compact groups
 - 22D20: Representations of group algebras
 - 22D25: C^* -algebras and W^* -algebras in relation to group representations
 - 22D30: Induced representations
 - 22D35: Duality theorems
 - 22D40: Ergodic theory on groups
 - 22D45: Automorphism groups of locally compact groups
 - 22D99: None of the above, but in this section
- [22Exx](#): Lie groups
 - 22E05: Local Lie groups
 - 22E10: General properties and structure of complex Lie groups
 - 22E15: General properties and structure of real Lie groups
 - 22E20: General properties and structure of other Lie groups
 - 22E25: Nilpotent and solvable Lie groups
 - 22E27: Representations of nilpotent and solvable Lie groups (special orbital integrals, non-type I representations, etc.)
 - 22E30: Analysis on real and complex Lie groups
 - 22E35: Analysis on p -adic Lie groups
 - 22E40: Discrete subgroups of Lie groups
 - 22E41: Continuous cohomology
 - 22E43: Structure and representation of the Lorentz group
 - 22E45: Representations of Lie and linear algebraic groups over real fields: analytic methods
 - 22E46: Semisimple Lie groups and their representations
 - 22E47: Representations of Lie and real algebraic groups: algebraic methods (Verma modules, etc.)
 - 22E50: Representations of Lie and linear algebraic groups over local fields
 - 22E55: Representations of Lie and linear algebraic groups over global fields and adèle rings
 - 22E60: Lie algebras of Lie groups
 - 22E65: Infinite-dimensional Lie groups and their Lie algebras
 - 22E67: Loop groups and related constructions, group-theoretic treatment
 - 22E70: Applications of Lie groups to physics; explicit representations
 - 22E99: None of the above, but in this section
- [22Fxx](#): Noncompact transformation groups

- 22F05: General theory of group and pseudogroup actions
- 22F10: Measurable group actions
- 22F30: Homogeneous spaces
- 22F50: Groups as automorphisms of other structures
- [26-xx](#): Real functions
 - 26-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 26-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 26-02: Research exposition (monographs, survey articles)
 - 26-03: Historical (must also be assigned at least one classification number from Section 01)
 - 26-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 26-06: Proceedings, conferences, collections, etc.
 - [26Axx](#): Functions of one variable
 - 26A03: Foundations: limits and generalizations, elementary topology of the line
 - 26A06: One-variable calculus
 - 26A09: Elementary functions
 - 26A12: Rate of growth of functions, orders of infinity, slowly varying functions
 - 26A15: Continuity and related questions (modulus of continuity, semicontinuity, discontinuities, etc.)
 - 26A16: Lipschitz (Hölder) classes
 - 26A18: Iteration
 - 26A21: Classification of real functions; Baire classification of sets and functions
 - 26A24: Differentiation (functions of one variable): general theory, generalized derivatives, mean-value theorems
 - 26A27: Nondifferentiability (nondifferentiable functions, points of nondifferentiability), discontinuous derivatives
 - 26A30: Singular functions, Cantor functions, functions with other special properties
 - 26A33: Fractional derivatives and integrals
 - 26A36: Antidifferentiation
 - 26A39: Denjoy and Perron integrals, other special integrals
 - 26A42: Integrals of Riemann, Stieltjes and Lebesgue type
 - 26A45: Functions of bounded variation, generalizations
 - 26A46: Absolutely continuous functions
 - 26A48: Monotonic functions, generalizations
 - 26A51: Convexity, generalizations
 - 26A99: None of the above, but in this section
 - [26Bxx](#): Functions of several variables
 - 26B05: Continuity and differentiation questions
 - 26B10: Implicit function theorems, Jacobians, transformations with several variables
 - 26B12: Calculus of vector functions
 - 26B15: Integration: length, area, volume
 - 26B20: Integral formulas (Stokes, Gauss, Green, etc.)
 - 26B25: Convexity, generalizations
 - 26B30: Absolutely continuous functions, functions of bounded variation
 - 26B35: Special properties of functions of several variables, Hölder conditions, etc.
 - 26B40: Representation and superposition of functions
 - 26B99: None of the above, but in this section
 - [26Cxx](#): Polynomials, rational functions
 - 26C05: Polynomials: analytic properties, etc.
 - 26C10: Polynomials: location of zeros
 - 26C15: Rational functions
 - 26C99: None of the above, but in this section
 - [26Dxx](#): Inequalities
 - 26D05: Inequalities for trigonometric functions and polynomials
 - 26D07: Inequalities involving other types of functions
 - 26D10: Inequalities involving derivatives and differential and integral operators
 - 26D15: Inequalities for sums, series and integrals
 - 26D20: Other analytical inequalities

- 26D99: None of the above, but in this section
- [26Exx](#): Miscellaneous topics
 - 26E05: Real-analytic functions
 - 26E10: $\mathbb{C}^\infty$ -functions, quasi-analytic functions
 - 26E15: Calculus of functions on infinite-dimensional spaces
 - 26E20: Calculus of functions taking values in infinite-dimensional spaces
 - 26E25: Set-valued functions
 - 26E30: Non-Archimedean analysis
 - 26E35: Nonstandard analysis
 - 26E40: Constructive real analysis
 - 26E50: Fuzzy real analysis
 - 26E60: Means
 - 26E99: None of the above, but in this section
- [28-xx](#): Measure and integration
 - 28-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 28-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 28-02: Research exposition (monographs, survey articles)
 - 28-03: Historical (must also be assigned at least one classification number from Section 01)
 - 28-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 28-06: Proceedings, conferences, collections, etc.
 - [28Axx](#): Classical measure theory
 - 28A05: Classes of sets (Borel fields, σ -rings, etc.), measurable sets, Suslin sets, analytic sets
 - 28A10: Real- or complex-valued set functions
 - 28A12: Contents, measures, outer measures, capacities
 - 28A15: Abstract differentiation theory, differentiation of set functions
 - 28A20: Measurable and nonmeasurable functions, sequences of measurable functions, modes of convergence
 - 28A25: Integration with respect to measures and other set functions
 - 28A33: Spaces of measures, convergence of measures
 - 28A35: Measures and integrals in product spaces
 - 28A50: Integration and disintegration of measures
 - 28A51: Lifting theory
 - 28A60: Measures on Boolean rings, measure algebras
 - 28A75: Length, area, volume, other geometric measure theory
 - 28A78: Hausdorff and packing measures
 - 28A80: Fractals
 - 28A99: None of the above, but in this section
 - [28Bxx](#): Set functions, measures and integrals with values in abstract spaces
 - 28B05: Vector-valued set functions, measures and integrals
 - 28B10: Group- or semigroup-valued set functions, measures and integrals
 - 28B15: Set functions, measures and integrals with values in ordered spaces
 - 28B20: Set-valued set functions and measures; integration of set-valued functions; measurable selections
 - 28B99: None of the above, but in this section
 - [28Cxx](#): Set functions and measures on spaces with additional structure
 - 28C05: Integration theory via linear functionals (Radon measures, Daniell integrals, etc.), representing set functions and measures
 - 28C10: Set functions and measures on topological groups, Haar measures, invariant measures
 - 28C15: Set functions and measures on topological spaces (regularity of measures, etc.)
 - 28C20: Set functions and measures and integrals in infinite-dimensional spaces (Wiener measure, Gaussian measure, etc.)
 - 28C99: None of the above, but in this section
 - [28Dxx](#): Measure-theoretic ergodic theory
 - 28D05: Measure-preserving transformations
 - 28D10: One-parameter continuous families of measure-preserving transformations

- 28D15: General groups of measure-preserving transformations
 - 28D20: Entropy and other invariants
 - 28D99: None of the above, but in this section
- [28Exx](#): Miscellaneous topics in measure theory
 - 28E05: Nonstandard measure theory
 - 28E10: Fuzzy measure theory
 - 28E15: Other connections with logic and set theory
 - 28E99: None of the above, but in this section
- [30-xx](#): Functions of a complex variable
 - 30-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 30-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 30-02: Research exposition (monographs, survey articles)
 - 30-03: Historical (must also be assigned at least one classification number from Section 01)
 - 30-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 30-06: Proceedings, conferences, collections, etc.
 - [30Axx](#): General properties
 - 30A05: Monogenic properties of complex functions (including polygenic and areolar monogenic functions)
 - 30A10: Inequalities in the complex domain
 - 30A99: None of the above, but in this section
 - [30Bxx](#): Series expansions
 - 30B10: Power series (including lacunary series)
 - 30B20: Random power series
 - 30B30: Boundary behavior of power series, over-convergence
 - 30B40: Analytic continuation
 - 30B50: Dirichlet series and other series expansions, exponential series
 - 30B60: Completeness problems, closure of a system of functions
 - 30B70: Continued fractions
 - 30B99: None of the above, but in this section
 - [30Cxx](#): Geometric function theory
 - 30C10: Polynomials
 - 30C15: Zeros of polynomials, rational functions, and other analytic functions (e.g. zeros of functions with bounded Dirichlet integral)
 - 30C20: Conformal mappings of special domains
 - 30C25: Covering theorems in conformal mapping theory
 - 30C30: Numerical methods in conformal mapping theory
 - 30C35: General theory of conformal mappings
 - 30C40: Kernel functions and applications
 - 30C45: Special classes of univalent and multivalent functions (starlike, convex, bounded rotation, etc.)
 - 30C50: Coefficient problems for univalent and multivalent functions
 - 30C55: General theory of univalent and multivalent functions
 - 30C62: Quasiconformal mappings in the plane
 - 30C65: Quasiconformal mappings in $\mathbb{R}^n$, other generalizations
 - 30C70: Extremal problems for conformal and quasiconformal mappings, variational methods
 - 30C75: Extremal problems for conformal and quasiconformal mappings, other methods
 - 30C80: Maximum principle; Schwarz's lemma, Lindelöf principle, analogues and generalizations; subordination
 - 30C85: Capacity and harmonic measure in the complex plane
 - 30C99: None of the above, but in this section
 - [30Dxx](#): Entire and meromorphic functions, and related topics
 - 30D05: Functional equations in the complex domain, iteration and composition of analytic functions
 - 30D10: Representations of entire functions by series and integrals
 - 30D15: Special classes of entire functions and growth estimates
 - 30D20: Entire functions, general theory

- 30D30: Meromorphic functions, general theory
 - 30D35: Distribution of values, Nevanlinna theory
 - 30D40: Cluster sets, prime ends, boundary behavior
 - 30D45: Bloch functions, normal functions, normal families
 - 30D50: Blaschke products, bounded mean oscillation, bounded characteristic, bounded functions, functions with positive real part
 - 30D55: $\{H\}^p$ -classes
 - 30D60: Quasi-analytic and other classes of functions
 - 30D99: None of the above, but in this section
- [30Exx](#): Miscellaneous topics of analysis in the complex domain
 - 30E05: Moment problems, interpolation problems
 - 30E10: Approximation in the complex domain
 - 30E15: Asymptotic representations in the complex domain
 - 30E20: Integration, integrals of Cauchy type, integral representations of analytic functions
 - 30E25: Boundary value problems
 - 30E99: None of the above, but in this section
- [30Fxx](#): Riemann surfaces
 - 30F10: Compact Riemann surfaces and uniformization
 - 30F15: Harmonic functions on Riemann surfaces
 - 30F20: Classification theory of Riemann surfaces
 - 30F25: Ideal boundary theory
 - 30F30: Differentials on Riemann surfaces
 - 30F35: Fuchsian groups and automorphic functions
 - 30F40: Kleinian groups
 - 30F45: Conformal metrics (hyperbolic, Poincaré, distance functions)
 - 30F50: Klein surfaces
 - 30F60: Teichmüller theory
 - 30F99: None of the above, but in this section
- [30Gxx](#): Generalized function theory
 - 30G06: Non-Archimedean function theory; nonstandard function theory
 - 30G12: Finely holomorphic functions and topological function theory
 - 30G20: Generalizations of Bers or Vekua type (pseudoanalytic, $\mathbb{S}^p$ -analytic, etc.)
 - 30G25: Discrete analytic functions
 - 30G30: Other generalizations of analytic functions (including abstract-valued functions)
 - 30G35: Functions of hypercomplex variables and generalized variables
 - 30G99: None of the above, but in this section
 - 30H05: Spaces and algebras of analytic functions
- [31-xx](#): Potential theory
 - 31-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 31-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 31-02: Research exposition (monographs, survey articles)
 - 31-03: Historical (must also be assigned at least one classification number from Section 01)
 - 31-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 31-06: Proceedings, conferences, collections, etc.
 - [31Axx](#): Two-dimensional theory
 - 31A05: Harmonic, subharmonic, superharmonic functions
 - 31A10: Integral representations, integral operators, integral equations methods
 - 31A15: Potentials and capacity, harmonic measure, extremal length
 - 31A20: Boundary behavior (theorems of Fatou type, etc.)
 - 31A25: Boundary value and inverse problems
 - 31A30: Biharmonic, polyharmonic functions and equations, Poisson's equation
 - 31A35: Connections with differential equations
 - 31A99: None of the above, but in this section
 - [31Bxx](#): Higher-dimensional theory
 - 31B05: Harmonic, subharmonic, superharmonic functions
 - 31B10: Integral representations, integral operators, integral equations methods
 - 31B15: Potentials and capacities, extremal length

- 31B20: Boundary value and inverse problems
 - 31B25: Boundary behavior
 - 31B30: Biharmonic and polyharmonic equations and functions
 - 31B35: Connections with differential equations
 - 31B99: None of the above, but in this section
- [31Cxx](#): Other generalizations
 - 31C05: Harmonic, subharmonic, superharmonic functions
 - 31C10: Pluriharmonic and plurisubharmonic functions
 - 31C12: Potential theory on Riemannian manifolds
 - 31C15: Potentials and capacities
 - 31C20: Discrete potential theory and numerical methods
 - 31C25: Dirichlet spaces
 - 31C35: Martin boundary theory
 - 31C40: Fine potential theory
 - 31C45: Other generalizations (nonlinear potential theory, etc.)
 - 31C99: None of the above, but in this section
 - 31D05: Axiomatic potential theory
- [32-xx](#): Several complex variables and analytic spaces
 - 32-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 32-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 32-02: Research exposition (monographs, survey articles)
 - 32-03: Historical (must also be assigned at least one classification number from Section 01)
 - 32-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 32-06: Proceedings, conferences, collections, etc.
 - [32Axx](#): Holomorphic functions of several complex variables
 - 32A05: Power series, series of functions
 - 32A07: Special domains (Reinhardt, Hartogs, circular, tube)
 - 32A10: Holomorphic functions
 - 32A12: Multifunctions
 - 32A15: Entire functions
 - 32A17: Special families of functions
 - 32A18: Bloch functions, normal functions
 - 32A19: Normal families of functions, mappings
 - 32A20: Meromorphic functions
 - 32A22: Nevanlinna theory (local); growth estimates; other inequalities
 - 32A25: Integral representations; canonical kernels (Szegő, Bergman, etc.)
 - 32A26: Integral representations, constructed kernels (e.g. Cauchy, Fantappiè-type kernels)
 - 32A27: Local theory of residues
 - 32A30: Other generalizations of function theory of one complex variable (should also be assigned at least one classification number from Section 30)
 - 32A35: H^p -spaces, Nevanlinna spaces
 - 32A36: Bergman spaces
 - 32A37: Other spaces of holomorphic functions (e.g. bounded mean oscillation (BMOA), vanishing mean oscillation (VMOA))
 - 32A38: Algebras of holomorphic functions
 - 32A40: Boundary behavior of holomorphic functions
 - 32A45: Hyperfunctions
 - 32A50: Harmonic analysis of several complex variables
 - 32A55: Singular integrals
 - 32A60: Zero sets of holomorphic functions
 - 32A65: Banach algebra techniques
 - 32A70: Functional analysis techniques
 - 32A99: None of the above, but in this section
 - [32Bxx](#): Local analytic geometry
 - 32B05: Analytic algebras and generalizations, preparation theorems
 - 32B10: Germs of analytic sets, local parametrization
 - 32B15: Analytic subsets of affine space

- 32B20: Semi-analytic sets and subanalytic sets
- 32B25: Triangulation and related questions
- 32B99: None of the above, but in this section
- [32Cxx](#): Analytic spaces
 - 32C05: Real-analytic manifolds, real-analytic spaces
 - 32C07: Real-analytic sets, complex Nash functions
 - 32C09: Embedding of real analytic manifolds
 - 32C11: Complex supergeometry
 - 32C15: Complex spaces
 - 32C18: Topology of analytic spaces
 - 32C20: Normal analytic spaces
 - 32C22: Embedding of analytic spaces
 - 32C25: Analytic subsets and submanifolds
 - 32C30: Integration on analytic sets and spaces, currents
 - 32C35: Analytic sheaves and cohomology groups
 - 32C36: Local cohomology of analytic spaces
 - 32C37: Duality theorems
 - 32C38: Sheaves of differential operators and their modules, $\mathcal{D}$ -modules
 - 32C55: The Levi problem in complex spaces; generalizations
 - 32C81: Applications to physics
 - 32C99: None of the above, but in this section
- [32Dxx](#): Analytic continuation
 - 32D05: Domains of holomorphy
 - 32D10: Envelopes of holomorphy
 - 32D15: Continuation of analytic objects
 - 32D20: Removable singularities
 - 32D26: Riemann domains
 - 32D99: None of the above, but in this section
- [32Exx](#): Holomorphic convexity
 - 32E05: Holomorphically convex complex spaces, reduction theory
 - 32E10: Stein spaces, Stein manifolds
 - 32E20: Polynomial convexity
 - 32E30: Holomorphic and polynomial approximation, Runge pairs, interpolation
 - 32E35: Global boundary behavior of holomorphic functions
 - 32E40: The Levi problem
 - 32E99: None of the above, but in this section
- [32Fxx](#): Geometric convexity
 - 32F10: $\mathbb{Q}$ -convexity, $\mathbb{Q}$ -concavity
 - 32F17: Other notions of convexity
 - 32F18: Finite-type conditions
 - 32F27: Topological consequences of geometric convexity
 - 32F32: Analytical consequences of geometric convexity (vanishing theorems, etc.)
 - 32F45: Invariant metrics and pseudodistances
 - 32F99: None of the above, but in this section
- [32Gxx](#): Deformations of analytic structures
 - 32G05: Deformations of complex structures
 - 32G07: Deformations of special (e.g. CR) structures
 - 32G08: Deformations of fiber bundles
 - 32G10: Deformations of submanifolds and subspaces
 - 32G13: Analytic moduli problems
 - 32G15: Moduli of Riemann surfaces, Teichmüller theory
 - 32G20: Period matrices, variation of Hodge structure; degenerations
 - 32G34: Moduli and deformations for ordinary differential equations (e.g. Khnizhnik-Zamolodchikov equation)
 - 32G81: Applications to physics
 - 32G99: None of the above, but in this section
- [32Hxx](#): Holomorphic mappings and correspondences
 - 32H02: Holomorphic mappings, (holomorphic) embeddings and related questions

- 32H04: Meromorphic mappings
- 32H12: Boundary uniqueness of mappings
- 32H25: Picard-type theorems and generalizations
- 32H30: Value distribution theory in higher dimensions
- 32H35: Proper mappings, finiteness theorems
- 32H40: Boundary regularity of mappings
- 32H50: Iteration problems
- 32H99: None of the above, but in this section
- [32Jxx](#): Compact analytic spaces
 - 32J05: Compactification of analytic spaces
 - 32J10: Algebraic dependence theorems
 - 32J15: Compact surfaces
 - 32J17: Compact S^3 -folds
 - 32J18: Compact S^n -folds
 - 32J25: Transcendental methods of algebraic geometry
 - 32J27: Compact Kähler manifolds: generalizations, classification
 - 32J81: Applications to physics
 - 32J99: None of the above, but in this section
- [32Kxx](#): Generalizations of analytic spaces (should also be assigned at least one other classification number from Section 32 describing the type of problem)
 - 32K05: Banach analytic spaces
 - 32K07: Formal and graded complex spaces
 - 32K15: Differentiable functions on analytic spaces, differentiable spaces
 - 32K99: None of the above, but in this section
- [32Lxx](#): Holomorphic fiber spaces
 - 32L05: Holomorphic bundles and generalizations
 - 32L10: Sheaves and cohomology of sections of holomorphic vector bundles, general results
 - 32L15: Bundle convexity
 - 32L20: Vanishing theorems
 - 32L25: Twistor theory, double fibrations
 - 32L81: Applications to physics
 - 32L99: None of the above, but in this section
- [32Mxx](#): Complex spaces with a group of automorphisms
 - 32M05: Complex Lie groups, automorphism groups acting on complex spaces
 - 32M10: Homogeneous complex manifolds
 - 32M12: Almost homogeneous manifolds and spaces
 - 32M15: Hermitian symmetric spaces, bounded symmetric domains, Jordan algebras
 - 32M17: Automorphism groups of $\mathbb{C}^n$ and affine manifolds
 - 32M25: Complex vector fields
 - 32M99: None of the above, but in this section
- [32Nxx](#): Automorphic functions
 - 32N05: General theory of automorphic functions of several complex variables
 - 32N10: Automorphic forms
 - 32N15: Automorphic functions in symmetric domains
 - 32N99: None of the above, but in this section
 - 32P05: Non-Archimedean complex analysis (should also be assigned at least one other classification number from Section 32 describing the type of problem)
- [32Qxx](#): Complex manifolds
 - 32Q05: Negative curvature manifolds
 - 32Q10: Positive curvature manifolds
 - 32Q15: Kähler manifolds
 - 32Q20: Kähler-Einstein manifolds
 - 32Q25: Calabi-Yau theory
 - 32Q28: Stein manifolds
 - 32Q30: Uniformization
 - 32Q35: Complex manifolds as subdomains of Euclidean space
 - 32Q40: Embedding theorems

- 32Q45: Hyperbolic and Kobayashi hyperbolic manifolds
- 32Q55: Topological aspects of complex manifolds
- 32Q57: Classification theorems
- 32Q60: Almost complex manifolds
- 32Q65: Pseudoholomorphic curves
- 32Q99: None of the above, but in this section
- [32Sxx](#): Singularities
 - 32S05: Local singularities
 - 32S10: Invariants of analytic local rings
 - 32S15: Equisingularity (topological and analytic)
 - 32S20: Global theory of singularities; cohomological properties
 - 32S22: Relations with arrangements of hyperplanes
 - 32S25: Surface and hypersurface singularities
 - 32S30: Deformations of singularities; vanishing cycles
 - 32S35: Mixed Hodge theory of singular varieties
 - 32S40: Monodromy; relations with differential equations and $\mathcal{D}$ -modules
 - 32S45: Modifications; resolution of singularities
 - 32S50: Topological aspects: Lefschetz theorems, topological classification, invariants
 - 32S55: Milnor fibration; relations with knot theory
 - 32S60: Stratifications; constructible sheaves; intersection cohomology
 - 32S65: Singularities of holomorphic vector fields and foliations
 - 32S70: Other operations on singularities
 - 32S99: None of the above, but in this section
- [32Txx](#): Pseudoconvex domains
 - 32T05: Domains of holomorphy
 - 32T15: Strongly pseudoconvex domains
 - 32T20: Worm domains
 - 32T25: Finite type domains
 - 32T27: Geometric and analytic invariants on weakly pseudoconvex boundaries
 - 32T35: Exhaustion functions
 - 32T40: Peak functions
 - 32T99: None of the above, but in this section
- [32Uxx](#): Pluripotential theory
 - 32U05: Plurisubharmonic functions and generalizations
 - 32U10: Plurisubharmonic exhaustion functions
 - 32U15: General pluripotential theory
 - 32U20: Capacity theory and generalizations
 - 32U25: Lelong numbers
 - 32U30: Removable sets
 - 32U35: Pluricomplex Green functions
 - 32U40: Currents
 - 32U99: None of the above, but in this section
- [32Vxx](#): CR manifolds
 - 32V05: CR structures, CR operators, and generalizations
 - 32V10: CR functions
 - 32V15: CR manifolds as boundaries of domains
 - 32V20: Analysis on CR manifolds
 - 32V25: Extension of functions and other analytic objects from CR manifolds
 - 32V30: Embeddings of CR manifolds
 - 32V35: Finite type conditions on CR manifolds
 - 32V40: Real submanifolds in complex manifolds
 - 32V99: None of the above, but in this section
- [32Wxx](#): Differential operators in several variables
 - 32W05: $\overline{\partial}$ and $\overline{\partial}$ -Neumann operators
 - 32W10: $\overline{\partial}_b$ and $\overline{\partial}_b$ -Neumann operators
 - 32W20: Complex Monge-Ampère operators
 - 32W25: Pseudodifferential operators in several complex variables
 - 32W30: Heat kernels in several complex variables

- 32W50: Other partial differential equations of complex analysis
 - 32W99: None of the above, but in this section
- [33-xx](#): Special functions (33-XX deals with the properties of functions as functions)
 - 33-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 33-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 33-02: Research exposition (monographs, survey articles)
 - 33-03: Historical (must also be assigned at least one classification number from Section 01)
 - 33-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 33-06: Proceedings, conferences, collections, etc.
 - [33Bxx](#): Elementary classical functions
 - 33B10: Exponential and trigonometric functions
 - 33B15: Gamma, beta and polygamma functions
 - 33B20: Incomplete beta and gamma functions (error functions, probability integral, Fresnel integrals)
 - 33B30: Higher logarithm functions
 - 33B99: None of the above, but in this section
 - [33Cxx](#): Hypergeometric functions
 - 33C05: Classical hypergeometric functions, ${}_2F_1$
 - 33C10: Bessel and Airy functions, cylinder functions, ${}_0F_1$
 - 33C15: Confluent hypergeometric functions, Whittaker functions, ${}_1F_1$
 - 33C20: Generalized hypergeometric series, ${}_pF_q$
 - 33C45: Orthogonal polynomials and functions of hypergeometric type (Jacobi, Laguerre, Hermite, Askey scheme, etc.)
 - 33C47: Other special orthogonal polynomials and functions
 - 33C50: Orthogonal polynomials and functions in several variables expressible in terms of special functions in one variable
 - 33C52: Orthogonal polynomials and functions associated with root systems
 - 33C55: Spherical harmonics
 - 33C60: Hypergeometric integrals and functions defined by them (SE , SG and $\{H\}$ functions)
 - 33C65: Appell, Horn and Lauricella functions
 - 33C67: Hypergeometric functions associated with root systems
 - 33C70: Other hypergeometric functions and integrals in several variables
 - 33C75: Elliptic integrals as hypergeometric functions
 - 33C80: Connections with groups and algebras, and related topics
 - 33C90: Applications
 - 33C99: None of the above, but in this section
 - [33Dxx](#): Basic hypergeometric functions
 - 33D05: q -gamma functions, q -beta functions and integrals
 - 33D15: Basic hypergeometric functions in one variable, ϕ_s
 - 33D45: Basic orthogonal polynomials and functions (Askey-Wilson polynomials, etc.)
 - 33D50: Orthogonal polynomials and functions in several variables expressible in terms of basic hypergeometric functions in one variable
 - 33D52: Basic orthogonal polynomials and functions associated with root systems (Macdonald polynomials, etc.)
 - 33D60: Basic hypergeometric integrals and functions defined by them
 - 33D65: Bibasic functions and multiple bases
 - 33D67: Basic hypergeometric functions associated with root systems
 - 33D70: Other basic hypergeometric functions and integrals in several variables
 - 33D80: Connections with quantum groups, Chevalley groups, p -adic groups, Hecke algebras, and related topics
 - 33D90: Applications
 - 33D99: None of the above, but in this section
 - [33Exx](#): Other special functions
 - 33E05: Elliptic functions and integrals
 - 33E10: Lamé, Mathieu, and spheroidal wave functions
 - 33E12: Mittag-Leffler functions and generalizations

- 33E15: Other wave functions
 - 33E17: Painlevé-type functions
 - 33E20: Other functions defined by series and integrals
 - 33E30: Other functions coming from differential, difference and integral equations
 - 33E50: Special functions in characteristic $\mathbb{C}$ (gamma functions, etc.)
 - 33E99: None of the above, but in this section
- [33Fxx](#): Computational aspects
 - 33F05: Numerical approximation
 - 33F10: Symbolic computation (Gosper and Zeilberger algorithms, etc.)
 - 33F99: None of the above, but in this section
- [34-xx](#): Ordinary differential equations
 - 34-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 34-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 34-02: Research exposition (monographs, survey articles)
 - 34-03: Historical (must also be assigned at least one classification number from Section 01)
 - 34-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 34-06: Proceedings, conferences, collections, etc.
 - [34Axx](#): General theory
 - 34A05: Explicit solutions and reductions
 - 34A09: Implicit equations, differential-algebraic equations
 - 34A12: Initial value problems, existence, uniqueness, continuous dependence and continuation of solutions
 - 34A25: Analytical theory: series, transformations, transforms, operational calculus, etc.
 - 34A26: Geometric methods in differential equations
 - 34A30: Linear equations and systems, general
 - 34A34: Nonlinear equations and systems, general
 - 34A35: Differential equations of infinite order
 - 34A36: Discontinuous equations
 - 34A37: Differential equations with impulses
 - 34A40: Differential inequalities
 - 34A45: Theoretical approximation of solutions
 - 34A55: Inverse problems
 - 34A60: Differential inclusions
 - 34A99: None of the above, but in this section
 - [34Bxx](#): Boundary value problems
 - 34B05: Linear boundary value problems
 - 34B07: Linear boundary value problems with nonlinear dependence on the spectral parameter
 - 34B08: Multi-parameter boundary value problems
 - 34B09: Boundary value problems with an indefinite weight
 - 34B10: Multipoint boundary value problems
 - 34B15: Nonlinear boundary value problems
 - 34B16: Singular nonlinear boundary value problems
 - 34B18: Positive solutions of nonlinear boundary value problems
 - 34B20: Weyl theory and its generalizations
 - 34B24: Sturm-Liouville theory
 - 34B27: Green functions
 - 34B30: Special equations (Mathieu, Hill, Bessel, etc.)
 - 34B37: Boundary value problems with impulses
 - 34B40: Boundary value problems on infinite intervals
 - 34B45: Boundary value problems on graphs and networks
 - 34B60: Applications
 - 34B99: None of the above, but in this section
 - [34Cxx](#): Qualitative theory
 - 34C05: Location of integral curves, singular points, limit cycles
 - 34C07: Theory of limit cycles of polynomial and analytic vector fields (existence, uniqueness, bounds, Hilbert's 16th problem and ramifications)

- 34C08: Connections with real algebraic geometry (fewnomials, desingularization, zeros of Abelian integrals, etc.)
- 34C10: Oscillation theory, zeros, disconjugacy and comparison theory
- 34C11: Growth, boundedness, comparison of solutions
- 34C12: Monotone systems
- 34C14: Symmetries, invariants
- 34C15: Nonlinear oscillations, coupled oscillators
- 34C20: Transformation and reduction of equations and systems, normal forms
- 34C23: Bifurcation
- 34C25: Periodic solutions
- 34C26: Relaxation oscillations
- 34C27: Almost periodic solutions
- 34C28: Complex behavior, chaotic systems
- 34C29: Averaging method
- 34C30: Manifolds of solutions
- 34C37: Homoclinic and heteroclinic solutions
- 34C40: Equations and systems on manifolds
- 34C41: Equivalence, asymptotic equivalence
- 34C45: Method of integral manifolds
- 34C55: Hysteresis
- 34C60: Applications
- 34C99: None of the above, but in this section
- [34Dxx](#): Stability theory
 - 34D05: Asymptotic properties
 - 34D08: Characteristic and Lyapunov exponents
 - 34D09: Dichotomy, trichotomy
 - 34D10: Perturbations
 - 34D15: Singular perturbations
 - 34D20: Lyapunov stability
 - 34D23: Global stability
 - 34D30: Structural stability and analogous concepts
 - 34D35: Stability of manifolds of solutions
 - 34D40: Ultimate boundedness
 - 34D45: Attractors
 - 34D99: None of the above, but in this section
- [34Exx](#): Asymptotic theory
 - 34E05: Asymptotic expansions
 - 34E10: Perturbations, asymptotics
 - 34E13: Multiple scale methods
 - 34E15: Singular perturbations, general theory
 - 34E18: Methods of nonstandard analysis
 - 34E20: Singular perturbations, turning point theory, WKB methods
 - 34E99: None of the above, but in this section
 - 34F05: Equations and systems with randomness
- [34Gxx](#): Differential equations in abstract spaces
 - 34G10: Linear equations
 - 34G20: Nonlinear equations
 - 34G25: Evolution inclusions
 - 34G99: None of the above, but in this section
 - 34H05: Control problems
- [34Kxx](#): Functional-differential and differential-difference equations
 - 34K05: General theory
 - 34K06: Linear functional-differential equations
 - 34K07: Theoretical approximation of solutions
 - 34K10: Boundary value problems
 - 34K11: Oscillation theory
 - 34K12: Growth, boundedness, comparison of solutions
 - 34K13: Periodic solutions

- 34K14: Almost periodic solutions
- 34K17: Transformation and reduction of equations and systems, normal forms
- 34K18: Bifurcation theory
- 34K19: Invariant manifolds
- 34K20: Stability theory
- 34K23: Complex (chaotic) behavior of solutions
- 34K25: Asymptotic theory
- 34K26: Singular perturbations
- 34K28: Numerical approximation of solutions
- 34K29: Inverse problems
- 34K30: Equations in abstract spaces
- 34K35: Control problems
- 34K40: Neutral equations
- 34K45: Equations with impulses
- 34K50: Stochastic delay equations
- 34K60: Applications
- 34K99: None of the above, but in this section
- [34Lxx](#): Ordinary differential operators
 - 34L05: General spectral theory
 - 34L10: Eigenfunction expansions, completeness of eigenfunctions
 - 34L15: Estimation of eigenvalues, upper and lower bounds
 - 34L16: Numerical approximation of eigenvalues and of other parts of the spectrum
 - 34L20: Asymptotic distribution of eigenvalues, asymptotic theory of eigenfunctions
 - 34L25: Scattering theory
 - 34L30: Nonlinear ordinary differential operators
 - 34L40: Particular operators (Dirac, one-dimensional Schrödinger, etc.)
 - 34L99: None of the above, but in this section
- [34Mxx](#): Differential equations in the complex domain
 - 34M05: Entire and meromorphic solutions
 - 34M10: Oscillation, growth of solutions
 - 34M15: Algebraic aspects (differential-algebraic, hypertranscendence, group-theoretical)
 - 34M20: Nonanalytic aspects
 - 34M25: Formal solutions, transform techniques
 - 34M30: Asymptotics, summation methods
 - 34M35: Singularities, monodromy, local behavior of solutions, normal forms
 - 34M37: Resurgence phenomena
 - 34M40: Stokes phenomena and connection problems (linear and nonlinear)
 - 34M45: Differential equations on complex manifolds
 - 34M50: Inverse problems (Riemann-Hilbert, inverse differential Galois, etc.)
 - 34M55: Painlevé and other special equations; classification, hierarchies; isomonodromic deformations
 - 34M60: Singular perturbation problems in the complex domain (complex WKB, turning points, steepest descent)
 - 34M99: None of the above, but in this section
- [35-xx](#): Partial differential equations
 - 35-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 35-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 35-02: Research exposition (monographs, survey articles)
 - 35-03: Historical (must also be assigned at least one classification number from Section 01)
 - 35-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 35-06: Proceedings, conferences, collections, etc.
 - [35Axx](#): General theory
 - 35A05: General existence and uniqueness theorems
 - 35A07: Local existence and uniqueness theorems
 - 35A08: Fundamental solutions
 - 35A10: Cauchy-Kovalevskaya theorems
 - 35A15: Variational methods

- 35A17: Parametrices
- 35A18: Wave front sets
- 35A20: Analytic methods, singularities
- 35A21: Propagation of singularities
- 35A22: Transform methods (e.g. integral transforms)
- 35A25: Other special methods
- 35A27: Microlocal methods; methods of sheaf theory and homological algebra in PDE
- 35A30: Geometric theory, characteristics, transformations
- 35A35: Theoretical approximation to solutions
- 35A99: None of the above, but in this section
- [35Bxx](#): Qualitative properties of solutions
 - 35B05: General behavior of solutions of PDE (comparison theorems; oscillation, zeros and growth of solutions; mean value theorems)
 - 35B10: Periodic solutions
 - 35B15: Almost periodic solutions
 - 35B20: Perturbations
 - 35B25: Singular perturbations
 - 35B27: Homogenization; partial differential equations in media with periodic structure
 - 35B30: Dependence of solutions of PDE on initial and boundary data, parameters
 - 35B32: Bifurcation
 - 35B33: Critical exponents
 - 35B34: Resonances
 - 35B35: Stability, boundedness
 - 35B37: PDE in connection with control problems
 - 35B38: Critical points
 - 35B40: Asymptotic behavior of solutions
 - 35B41: Attractors
 - 35B42: Inertial manifolds
 - 35B45: A priori estimates
 - 35B50: Maximum principles
 - 35B60: Continuation and prolongation of solutions of PDE
 - 35B65: Smoothness and regularity of solutions of PDE
 - 35B99: None of the above, but in this section
- [35Cxx](#): Representations of solutions
 - 35C05: Solutions in closed form
 - 35C10: Series solutions, expansion theorems
 - 35C15: Integral representations of solutions of PDE
 - 35C20: Asymptotic expansions
 - 35C99: None of the above, but in this section
- [35Dxx](#): Generalized solutions of partial differential equations
 - 35D05: Existence of generalized solutions
 - 35D10: Regularity of generalized solutions
 - 35D99: None of the above, but in this section
- [35Exx](#): Equations and systems with constant coefficients
 - 35E05: Fundamental solutions
 - 35E10: Convexity properties
 - 35E15: Initial value problems
 - 35E20: General theory
 - 35E99: None of the above, but in this section
- [35Fxx](#): General first-order equations and systems
 - 35F05: General theory of linear first-order PDE
 - 35F10: Initial value problems for linear first-order PDE, linear evolution equations
 - 35F15: Boundary value problems for linear first-order PDE
 - 35F20: General theory of nonlinear first-order PDE
 - 35F25: Initial value problems for nonlinear first-order PDE, nonlinear evolution equations
 - 35F30: Boundary value problems for nonlinear first-order PDE
 - 35F99: None of the above, but in this section
- [35Gxx](#): General higher-order equations and systems

- 35G05: General theory of linear higher-order PDE
- 35G10: Initial value problems for linear higher-order PDE, linear evolution equations
- 35G15: Boundary value problems for linear higher-order PDE
- 35G20: General theory of nonlinear higher-order PDE
- 35G25: Initial value problems for nonlinear higher-order PDE, nonlinear evolution equations
- 35G30: Boundary value problems for nonlinear higher-order PDE
- 35G99: None of the above, but in this section
- [35Hxx](#): Close-to-elliptic equations
 - 35H10: Hypoelliptic equations
 - 35H20: Subelliptic equations
 - 35H30: Quasi-elliptic equations
 - 35H99: None of the above, but in this section
- [35Jxx](#): Partial differential equations of elliptic type
 - 35J05: Laplace equation, reduced wave equation (Helmholtz), Poisson equation
 - 35J10: Schrödinger operator
 - 35J15: General theory of second-order, elliptic equations
 - 35J20: Variational methods for second-order, elliptic equations
 - 35J25: Boundary value problems for second-order, elliptic equations
 - 35J30: General theory of higher-order, elliptic equations
 - 35J35: Variational methods for higher-order, elliptic equations
 - 35J40: Boundary value problems for higher-order, elliptic equations
 - 35J45: General theory of elliptic systems of PDE
 - 35J50: Variational methods for elliptic systems
 - 35J55: Boundary value problems for elliptic systems
 - 35J60: Nonlinear PDE of elliptic type
 - 35J65: Nonlinear boundary value problems for linear elliptic PDE; boundary value problems for nonlinear elliptic PDE
 - 35J67: Boundary values of solutions to elliptic PDE
 - 35J70: Elliptic partial differential equations of degenerate type
 - 35J85: Unilateral problems and variational inequalities for elliptic PDE
 - 35J99: None of the above, but in this section
- [35Kxx](#): Parabolic equations and systems
 - 35K05: Heat equation
 - 35K10: General theory of second-order, parabolic equations
 - 35K15: Initial value problems for second-order, parabolic equations
 - 35K20: Boundary value problems for second-order, parabolic equations
 - 35K25: General theory of higher-order, parabolic equations
 - 35K30: Initial value problems for higher-order, parabolic equations
 - 35K35: Boundary value problems for higher-order, parabolic equations
 - 35K40: General theory of parabolic systems of PDE
 - 35K45: Initial value problems for parabolic systems
 - 35K50: Boundary value problems for parabolic systems
 - 35K55: Nonlinear PDE of parabolic type
 - 35K57: Reaction-diffusion equations
 - 35K60: Nonlinear boundary value problems for linear parabolic PDE; boundary value problems for nonlinear parabolic PDE
 - 35K65: Parabolic partial differential equations of degenerate type
 - 35K70: Ultraparabolic, pseudoparabolic PDE, etc.
 - 35K85: Unilateral problems and variational inequalities for parabolic PDE
 - 35K90: Abstract parabolic evolution equations
 - 35K99: None of the above, but in this section
- [35Lxx](#): Partial differential equations of hyperbolic type
 - 35L05: Wave equation
 - 35L10: General theory of second-order, hyperbolic equations
 - 35L15: Initial value problems for second-order, hyperbolic equations
 - 35L20: Boundary value problems for second-order, hyperbolic equations
 - 35L25: General theory of higher-order, hyperbolic equations

- 35L30: Initial value problems for higher-order, hyperbolic equations
- 35L35: Boundary value problems for higher-order, hyperbolic equations
- 35L40: General theory of hyperbolic systems of first-order PDE
- 35L45: Initial value problems for hyperbolic systems of first-order PDE
- 35L50: Boundary value problems for hyperbolic systems of first-order PDE
- 35L55: Hyperbolic systems of higher-order PDE
- 35L60: Nonlinear first-order PDE of hyperbolic type
- 35L65: Conservation laws
- 35L67: Shocks and singularities
- 35L70: Nonlinear second-order PDE of hyperbolic type
- 35L75: Nonlinear hyperbolic PDE of higher (≥ 2) order
- 35L80: Hyperbolic PDE of degenerate type
- 35L82: Pseudohyperbolic equations
- 35L85: Unilateral problems; variational inequalities for hyperbolic PDE
- 35L90: Abstract hyperbolic evolution equations
- 35L99: None of the above, but in this section
- [35Mxx](#): Partial differential equations of special type (mixed, composite, etc.)
 - 35M10: PDE of mixed type
 - 35M20: PDE of composite type
 - 35M99: None of the above, but in this section
- [35Nxx](#): Overdetermined systems
 - 35N05: Overdetermined systems with constant coefficients
 - 35N10: Overdetermined systems with variable coefficients (general)
 - 35N15: $\overline{\partial}$ -Neumann problem and generalizations; formal complexes
 - 35N99: None of the above, but in this section
- [35Pxx](#): Spectral theory and eigenvalue problems for partial differential operators
 - 35P05: General spectral theory of PDE
 - 35P10: Completeness of eigenfunctions, eigenfunction expansions for PDO
 - 35P15: Estimation of eigenvalues, upper and lower bounds
 - 35P20: Asymptotic distribution of eigenvalues and eigenfunctions for PDO
 - 35P25: Scattering theory for PDE
 - 35P30: Nonlinear eigenvalue problems, nonlinear spectral theory for PDO
 - 35P99: None of the above, but in this section
- [35Qxx](#): Equations of mathematical physics and other areas of application
 - 35Q05: Euler-Poisson-Darboux equation and generalizations
 - 35Q15: Riemann-Hilbert problems
 - 35Q30: Stokes and Navier-Stokes equations
 - 35Q35: Other equations arising in fluid mechanics
 - 35Q40: Equations from quantum mechanics
 - 35Q51: Solitons
 - 35Q53: KdV-like equations (Korteweg-de Vries, Burgers, sine-Gordon, sinh-Gordon, etc.)
 - 35Q55: NLS-like (nonlinear Schrödinger) equations
 - 35Q58: Other completely integrable equations
 - 35Q60: Equations of electromagnetic theory and optics
 - 35Q72: Other equations from mechanics
 - 35Q75: PDE in relativity
 - 35Q80: Applications of PDE in areas other than physics
 - 35Q99: None of the above, but in this section
- [35Rxx](#): Miscellaneous topics involving partial differential equations
 - 35R05: PDE with discontinuous coefficients or data
 - 35R10: Partial functional-differential or differential-difference equations, with or without deviating arguments
 - 35R12: Impulsive partial differential equations
 - 35R15: Partial differential equations on infinite-dimensional (e.g. function) spaces (= PDE in infinitely many variables)
 - 35R20: Partial operator-differential equations (i.e. PDE on finite-dimensional spaces for abstract space valued functions)
 - 35R25: Improperly posed problems for PDE

- 35R30: Inverse problems (undetermined coefficients, etc.) for PDE
 - 35R35: Free boundary problems for PDE
 - 35R45: Partial differential inequalities
 - 35R50: Partial differential equations of infinite order
 - 35R60: Partial differential equations with randomness
 - 35R70: PDE with multivalued right-hand sides
 - 35R99: None of the above, but in this section
- [35Sxx](#): Pseudodifferential operators and other generalizations of partial differential operators
 - 35S05: General theory of PsDO
 - 35S10: Initial value problems for PsDO
 - 35S15: Boundary value problems for PsDO
 - 35S30: Fourier integral operators
 - 35S35: Topological aspects: intersection cohomology, stratified sets, etc.
 - 35S50: Paradifferential operators
 - 35S99: None of the above, but in this section
- [37-xx](#): Dynamical systems and ergodic theory
 - 37-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 37-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 37-02: Research exposition (monographs, survey articles)
 - 37-03: Historical (must also be assigned at least one classification number from Section 01)
 - 37-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 37-06: Proceedings, conferences, collections, etc.
 - [37Axx](#): Ergodic theory
 - 37A05: Measure-preserving transformations
 - 37A10: One-parameter continuous families of measure-preserving transformations
 - 37A15: General groups of measure-preserving transformations
 - 37A17: Homogeneous flows
 - 37A20: Orbit equivalence, cocycles, ergodic equivalence relations
 - 37A25: Ergodicity, mixing, rates of mixing
 - 37A30: Ergodic theorems, spectral theory, Markov operators
 - 37A35: Entropy and other invariants, isomorphism, classification
 - 37A40: Nonsingular (and infinite-measure preserving) transformations
 - 37A45: Relations with number theory and harmonic analysis
 - 37A50: Relations with probability theory and stochastic processes
 - 37A55: Relations with the theory of C^* -algebras
 - 37A60: Dynamical systems in statistical mechanics
 - 37A99: None of the above, but in this section
 - [37Bxx](#): Topological dynamics
 - 37B05: Transformations and group actions with special properties (minimality, distality, proximality, etc.)
 - 37B10: Symbolic dynamics
 - 37B15: Cellular automata
 - 37B20: Notions of recurrence
 - 37B25: Lyapunov functions and stability; attractors, repellers
 - 37B30: Index theory, Morse-Conley indices
 - 37B35: Gradient-like and recurrent behavior; isolated (locally-maximal) invariant sets
 - 37B40: Topological entropy
 - 37B45: Continua theory in dynamics
 - 37B50: Multi-dimensional shifts of finite type, tiling dynamics
 - 37B55: Nonautonomous dynamical systems
 - 37B99: None of the above, but in this section
 - [37Cxx](#): Smooth dynamical systems: general theory
 - 37C05: Smooth mappings and diffeomorphisms
 - 37C10: Vector fields, flows, ordinary differential equations
 - 37C15: Topological and differentiable equivalence, conjugacy, invariants, moduli, classification
 - 37C20: Generic properties, structural stability

- 37C25: Fixed points, periodic points, fixed-point index theory
- 37C27: Periodic orbits of vector fields and flows
- 37C29: Homoclinic and heteroclinic orbits
- 37C30: Zeta functions, (Ruelle-Frobenius) transfer operators, and other functional analytic techniques in dynamical systems
- 37C35: Orbit growth
- 37C40: Smooth ergodic theory, invariant measures
- 37C45: Dimension theory of dynamical systems
- 37C50: Approximate trajectories (pseudotrajectories, shadowing, etc.)
- 37C55: Periodic and quasiperiodic flows and diffeomorphisms
- 37C60: Nonautonomous smooth dynamical systems
- 37C65: Monotone flows
- 37C70: Attractors and repellers, topological structure
- 37C75: Stability theory
- 37C80: Symmetries, equivariant dynamical systems
- 37C85: Dynamics of group actions other than $\langle B \rangle Z \langle B \rangle$ and $\langle B \rangle R \langle B \rangle$, and foliations
- 37C99: None of the above, but in this section
- [37Dxx](#): Dynamical systems with hyperbolic behavior
 - 37D05: Hyperbolic orbits and sets
 - 37D10: Invariant manifold theory
 - 37D15: Morse-Smale systems
 - 37D20: Uniformly hyperbolic systems (expanding, Anosov, Axiom A, etc.)
 - 37D25: Nonuniformly hyperbolic systems (Lyapunov exponents, Pesin theory, etc.)
 - 37D30: Partially hyperbolic systems and dominated splittings
 - 37D35: Thermodynamic formalism, variational principles, equilibrium states
 - 37D40: Dynamical systems of geometric origin and hyperbolicity (geodesic and horocycle flows, etc.)
 - 37D45: Strange attractors, chaotic dynamics
 - 37D50: Hyperbolic systems with singularities (billiards, etc.)
 - 37D99: None of the above, but in this section
- [37Exx](#): Low-dimensional dynamical systems
 - 37E05: Maps of the interval (piecewise continuous, continuous, smooth)
 - 37E10: Maps of the circle
 - 37E15: Combinatorial dynamics (types of periodic orbits)
 - 37E20: Universality, renormalization
 - 37E25: Maps of trees and graphs
 - 37E30: Homeomorphisms and diffeomorphisms of planes and surfaces
 - 37E35: Flows on surfaces
 - 37E40: Twist maps
 - 37E45: Rotation numbers and vectors
 - 37E99: None of the above, but in this section
- [37Fxx](#): Complex dynamical systems
 - 37F05: Relations and correspondences
 - 37F10: Polynomials; rational maps; entire and meromorphic functions
 - 37F15: Expanding maps; hyperbolicity; structural stability
 - 37F20: Combinatorics and topology
 - 37F25: Renormalization
 - 37F30: Quasiconformal methods and Teichmüller theory; Fuchsian and Kleinian groups as dynamical systems
 - 37F35: Conformal densities and Hausdorff dimension
 - 37F40: Geometric limits
 - 37F45: Holomorphic families of dynamical systems; the Mandelbrot set; bifurcations
 - 37F50: Small divisors, rotation domains and linearization; Fatou and Julia sets
 - 37F75: Holomorphic foliations and vector fields
 - 37F99: None of the above, but in this section
- [37Gxx](#): Local and nonlocal bifurcation theory
 - 37G05: Normal forms
 - 37G10: Bifurcations of singular points

- 37G15: Bifurcations of limit cycles and periodic orbits
- 37G20: Hyperbolic singular points with homoclinic trajectories
- 37G25: Bifurcations connected with nontransversal intersection
- 37G30: Infinite nonwandering sets arising in bifurcations
- 37G35: Attractors and their bifurcations
- 37G40: Symmetries, equivariant bifurcation theory
- 37G99: None of the above, but in this section
- [37Hxx](#): Random dynamical systems
 - 37H05: Foundations, general theory of cocycles, algebraic ergodic theory
 - 37H10: Generation, random and stochastic difference and differential equations
 - 37H15: Multiplicative ergodic theory, Lyapunov exponents
 - 37H20: Bifurcation theory
 - 37H99: None of the above, but in this section
- [37Jxx](#): Finite-dimensional Hamiltonian, Lagrangian, contact, and nonholonomic systems
 - 37J05: General theory, relations with symplectic geometry and topology
 - 37J10: Symplectic mappings, fixed points
 - 37J15: Symmetries, invariants, invariant manifolds, momentum maps, reduction
 - 37J20: Bifurcation problems
 - 37J25: Stability problems
 - 37J30: Obstructions to integrability (nonintegrability criteria)
 - 37J35: Completely integrable systems, topological structure of phase space, integration methods
 - 37J40: Perturbations, normal forms, small divisors, KAM theory, Arnold diffusion
 - 37J45: Periodic, homoclinic and heteroclinic orbits; variational methods, degree-theoretic methods
 - 37J50: Action-minimizing orbits and measures
 - 37J55: Contact systems
 - 37J60: Nonholonomic dynamical systems
 - 37J99: None of the above, but in this section
- [37Kxx](#): Infinite-dimensional Hamiltonian systems
 - 37K05: Hamiltonian structures, symmetries, variational principles, conservation laws
 - 37K10: Completely integrable systems, integrability tests, bi-Hamiltonian structures, hierarchies (KdV, KP, Toda, etc.)
 - 37K15: Integration of completely integrable systems by inverse spectral and scattering methods
 - 37K20: Relations with algebraic geometry, complex analysis, special functions
 - 37K25: Relations with differential geometry
 - 37K30: Relations with infinite-dimensional Lie algebras and other algebraic structures
 - 37K35: Lie-Bäcklund and other transformations
 - 37K40: Soliton theory, asymptotic behavior of solutions
 - 37K45: Stability problems
 - 37K50: Bifurcation problems
 - 37K55: Perturbations, KAM for infinite-dimensional systems
 - 37K60: Lattice dynamics
 - 37K65: Hamiltonian systems on groups of diffeomorphisms and on manifolds of mappings and metrics
 - 37K99: None of the above, but in this section
- [37Lxx](#): Infinite-dimensional dissipative dynamical systems
 - 37L05: General theory, nonlinear semigroups, evolution equations
 - 37L10: Normal forms, center manifold theory, bifurcation theory
 - 37L15: Stability problems
 - 37L20: Symmetries
 - 37L25: Inertial manifolds and other invariant attracting sets
 - 37L30: Attractors and their dimensions, Lyapunov exponents
 - 37L40: Invariant measures
 - 37L45: Hyperbolicity; Lyapunov functions
 - 37L50: Noncompact semigroups; dispersive equations; perturbations of Hamiltonian systems

- 37L55: Infinite-dimensional random dynamical systems; stochastic equations
 - 37L60: Lattice dynamics
 - 37L65: Special approximation methods (nonlinear Galerkin, etc.)
 - 37L99: None of the above, but in this section
- [37Mxx](#): Approximation methods and numerical treatment of dynamical systems
 - 37M05: Simulation
 - 37M10: Time series analysis
 - 37M15: Symplectic integrators
 - 37M20: Computational methods for bifurcation problems
 - 37M25: Computational methods for ergodic theory (approximation of invariant measures, computation of Lyapunov exponents, entropy)
 - 37M99: None of the above, but in this section
- [37Nxx](#): Applications
 - 37N05: Dynamical systems in classical and celestial mechanics
 - 37N10: Dynamical systems in fluid mechanics, oceanography and meteorology
 - 37N15: Dynamical systems in solid mechanics
 - 37N20: Dynamical systems in other branches of physics (quantum mechanics, general relativity, laser physics)
 - 37N25: Dynamical systems in biology
 - 37N30: Dynamical systems in numerical analysis
 - 37N35: Dynamical systems in control
 - 37N40: Dynamical systems in optimization and economics
 - 37N99: None of the above, but in this section
- [39-xx](#): Difference and functional equations
 - 39-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 39-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 39-02: Research exposition (monographs, survey articles)
 - 39-03: Historical (must also be assigned at least one classification number from Section 01)
 - 39-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 39-06: Proceedings, conferences, collections, etc.
 - [39Axx](#): Difference equations
 - 39A05: General
 - 39A10: Difference equations, additive
 - 39A11: Stability and asymptotics of difference equations; oscillatory and periodic solutions, etc.
 - 39A12: Discrete version of topics in analysis
 - 39A13: Difference equations, scaling ($\sqrt{q}$ -differences)
 - 39A20: Multiplicative and other generalized difference equations, e.g. of Lyness type
 - 39A70: Difference operators
 - 39A99: None of the above, but in this section
 - [39Bxx](#): Functional equations and inequalities
 - 39B05: General
 - 39B12: Iteration theory, iterative and composite equations
 - 39B22: Equations for real functions
 - 39B32: Equations for complex functions
 - 39B42: Matrix and operator equations
 - 39B52: Equations for functions with more general domains and/or ranges
 - 39B55: Orthogonal additivity and other conditional equations
 - 39B62: Functional inequalities, including subadditivity, convexity, etc.
 - 39B72: Systems of functional equations and inequalities
 - 39B82: Stability, separation, extension, and related topics
 - 39B99: None of the above, but in this section
- [40-xx](#): Sequences, series, summability
 - 40-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 40-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 40-02: Research exposition (monographs, survey articles)
 - 40-03: Historical (must also be assigned at least one classification number from Section 01)

- 40-04: Explicit machine computation and programs (not the theory of computation or programming)
- 40-06: Proceedings, conferences, collections, etc.
- [40Axx](#): Convergence and divergence of infinite limiting processes
 - 40A05: Convergence and divergence of series and sequences
 - 40A10: Convergence and divergence of integrals
 - 40A15: Convergence and divergence of continued fractions
 - 40A20: Convergence and divergence of infinite products
 - 40A25: Approximation to limiting values (summation of series, etc.)
 - 40A30: Convergence and divergence of series and sequences of functions
 - 40A99: None of the above, but in this section
 - 40B05: Multiple sequences and series {(should also be assigned at least one other classification number in this section)}
- [40Cxx](#): General summability methods
 - 40C05: Matrix methods
 - 40C10: Integral methods
 - 40C15: Function-theoretic methods (including power series methods and semicontinuous methods)
 - 40C99: None of the above, but in this section
- [40Dxx](#): Direct theorems on summability
 - 40D05: General theorems
 - 40D09: Structure of summability fields
 - 40D10: Tauberian constants and oscillation limits
 - 40D15: Convergence factors and summability factors
 - 40D20: Summability and bounded fields of methods
 - 40D25: Inclusion and equivalence theorems
 - 40D99: None of the above, but in this section
- [40Exx](#): Inversion theorems
 - 40E05: Tauberian theorems, general
 - 40E10: Growth estimates
 - 40E15: Lacunary inversion theorems
 - 40E20: Tauberian constants
 - 40E99: None of the above, but in this section
 - 40F05: Absolute and strong summability
- [40Gxx](#): Special methods of summability
 - 40G05: Cesàro, Euler, Nörlund and Hausdorff methods
 - 40G10: Abel, Borel and power series methods
 - 40G99: None of the above, but in this section
 - 40H05: Functional analytic methods in summability
 - 40J05: Summability in abstract structures
- [41-xx](#): Approximations and expansions
 - 41-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 41-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 41-02: Research exposition (monographs, survey articles)
 - 41-03: Historical (must also be assigned at least one classification number from Section 01)
 - 41-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 41-06: Proceedings, conferences, collections, etc.
 - 41A05: Interpolation
 - 41A10: Approximation by polynomials
 - 41A15: Spline approximation
 - 41A17: Inequalities in approximation (Bernstein, Jackson, Nikol'skii-type inequalities)
 - 41A20: Approximation by rational functions
 - 41A21: Padé approximation
 - 41A25: Rate of convergence, degree of approximation
 - 41A27: Inverse theorems
 - 41A28: Simultaneous approximation

- 41A29: Approximation with constraints
- 41A30: Approximation by other special function classes
- 41A35: Approximation by operators (in particular, by integral operators)
- 41A36: Approximation by positive operators
- 41A40: Saturation
- 41A44: Best constants
- 41A45: Approximation by arbitrary linear expressions
- 41A46: Approximation by arbitrary nonlinear expressions; widths and entropy
- 41A50: Best approximation, Chebyshev systems
- 41A52: Uniqueness of best approximation
- 41A55: Approximate quadratures
- 41A58: Series expansions (e.g. Taylor, Lidstone series, but not Fourier series)
- 41A60: Asymptotic approximations, asymptotic expansions (steepest descent, etc.)
- 41A63: Multidimensional problems (should also be assigned at least one other classification number in this section)
- 41A65: Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)
- 41A80: Remainders in approximation formulas
- 41A99: Miscellaneous topics
- [42-xx](#): Fourier analysis
 - 42-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 42-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 42-02: Research exposition (monographs, survey articles)
 - 42-03: Historical (must also be assigned at least one classification number from Section 01)
 - 42-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 42-06: Proceedings, conferences, collections, etc.
 - [42Axx](#): Fourier analysis in one variable
 - 42A05: Trigonometric polynomials, inequalities, extremal problems
 - 42A10: Trigonometric approximation
 - 42A15: Trigonometric interpolation
 - 42A16: Fourier coefficients, Fourier series of functions with special properties, special Fourier series
 - 42A20: Convergence and absolute convergence of Fourier and trigonometric series
 - 42A24: Summability and absolute summability of Fourier and trigonometric series
 - 42A32: Trigonometric series of special types (positive coefficients, monotonic coefficients, etc.)
 - 42A38: Fourier and Fourier-Stieltjes transforms and other transforms of Fourier type
 - 42A45: Multipliers
 - 42A50: Conjugate functions, conjugate series, singular integrals
 - 42A55: Lacunary series of trigonometric and other functions; Riesz products
 - 42A61: Probabilistic methods
 - 42A63: Uniqueness of trigonometric expansions, uniqueness of Fourier expansions, Riemann theory, localization
 - 42A65: Completeness of sets of functions
 - 42A70: Trigonometric moment problems
 - 42A75: Classical almost periodic functions, mean periodic functions
 - 42A82: Positive definite functions
 - 42A85: Convolution, factorization
 - 42A99: None of the above, but in this section
 - [42Bxx](#): Fourier analysis in several variables
 - 42B05: Fourier series and coefficients
 - 42B08: Summability
 - 42B10: Fourier and Fourier-Stieltjes transforms and other transforms of Fourier type
 - 42B15: Multipliers
 - 42B20: Singular integrals (Calderón-Zygmund, etc.)
 - 42B25: Maximal functions, Littlewood-Paley theory
 - 42B30: H^p -spaces

- 42B35: Function spaces arising in harmonic analysis
 - 42B99: None of the above, but in this section
- [42Cxx](#): Nontrigonometric Fourier analysis
 - 42C05: Orthogonal functions and polynomials, general theory
 - 42C10: Fourier series in special orthogonal functions (Legendre polynomials, Walsh functions, etc.)
 - 42C15: Series of general orthogonal functions, generalized Fourier expansions, nonorthogonal expansions
 - 42C20: Rearrangements and other transformations of Fourier and other orthogonal series
 - 42C25: Uniqueness and localization for orthogonal series
 - 42C30: Completeness of sets of functions
 - 42C40: Wavelets
 - 42C99: None of the above, but in this section
- [43-xx](#): Abstract harmonic analysis
 - 43-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 43-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 43-02: Research exposition (monographs, survey articles)
 - 43-03: Historical (must also be assigned at least one classification number from Section 01)
 - 43-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 43-06: Proceedings, conferences, collections, etc.
 - 43A05: Measures on groups and semigroups, etc.
 - 43A07: Means on groups, semigroups, etc.; amenable groups
 - 43A10: Measure algebras on groups, semigroups, etc.
 - 43A15: L^p -spaces and other function spaces on groups, semigroups, etc.
 - 43A17: Analysis on ordered groups, H^p -theory
 - 43A20: L^1 -algebras on groups, semigroups, etc.
 - 43A22: Homomorphisms and multipliers of function spaces on groups, semigroups, etc.
 - 43A25: Fourier and Fourier-Stieltjes transforms on locally compact abelian groups
 - 43A30: Fourier and Fourier-Stieltjes transforms on nonabelian groups and on semigroups, etc.
 - 43A32: Other transforms and operators of Fourier type
 - 43A35: Positive definite functions on groups, semigroups, etc.
 - 43A40: Character groups and dual objects
 - 43A45: Spectral synthesis on groups, semigroups, etc.
 - 43A46: Special sets (thin sets, Kronecker sets, Helson sets, Ditkin sets, Sidon sets, etc.)
 - 43A50: Convergence of Fourier series and of inverse transforms
 - 43A55: Summability methods on groups, semigroups, etc.
 - 43A60: Almost periodic functions on groups and semigroups and their generalizations (recurrent functions, distal functions, etc.); almost automorphic functions
 - 43A62: Hypergroups
 - 43A65: Representations of groups, semigroups, etc.
 - 43A70: Analysis on specific locally compact abelian groups
 - 43A75: Analysis on specific compact groups
 - 43A77: Analysis on general compact groups
 - 43A80: Analysis on other specific Lie groups
 - 43A85: Analysis on homogeneous spaces
 - 43A90: Spherical functions
 - 43A95: Categorical methods
 - 43A99: Miscellaneous topics
- [44-xx](#): Integral transforms, operational calculus
 - 44-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 44-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 44-02: Research exposition (monographs, survey articles)
 - 44-03: Historical (must also be assigned at least one classification number from Section 01)
 - 44-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 44-06: Proceedings, conferences, collections, etc.

- 44A05: General transforms
 - 44A10: Laplace transform
 - 44A12: Radon transform
 - 44A15: Special transforms (Legendre, Hilbert, etc.)
 - 44A20: Transforms of special functions
 - 44A30: Multiple transforms
 - 44A35: Convolution
 - 44A40: Calculus of Mikusiński and other operational calculi
 - 44A45: Classical operational calculus
 - 44A55: Discrete operational calculus
 - 44A60: Moment problems
 - 44A99: Miscellaneous topics
- [45-xx](#): Integral equations
 - 45-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 45-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 45-02: Research exposition (monographs, survey articles)
 - 45-03: Historical (must also be assigned at least one classification number from Section 01)
 - 45-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 45-06: Proceedings, conferences, collections, etc.
 - 45A05: Linear integral equations
 - 45B05: Fredholm integral equations
 - 45C05: Eigenvalue problems
 - 45D05: Volterra integral equations
 - [45Exx](#): Singular integral equations
 - 45E05: Integral equations with kernels of Cauchy type
 - 45E10: Integral equations of the convolution type (Abel, Picard, Toeplitz and Wiener-Hopf type)
 - 45E99: None of the above, but in this section
 - [45Fxx](#): Systems of linear integral equations
 - 45F05: Systems of nonsingular linear integral equations
 - 45F10: Dual, triple, etc., integral and series equations
 - 45F15: Systems of singular linear integral equations
 - 45F99: None of the above, but in this section
 - [45Gxx](#): Nonlinear integral equations
 - 45G05: Singular nonlinear integral equations
 - 45G10: Other nonlinear integral equations
 - 45G15: Systems of nonlinear integral equations
 - 45H05: Miscellaneous special kernels
 - 45J05: Integro-ordinary differential equations
 - 45K05: Integro-partial differential equations
 - 45L05: Theoretical approximation of solutions
 - [45Mxx](#): Qualitative behavior
 - 45M05: Asymptotics
 - 45M10: Stability theory
 - 45M15: Periodic solutions
 - 45M20: Positive solutions
 - 45M99: None of the above, but in this section
 - 45N05: Abstract integral equations, integral equations in abstract spaces
 - 45P05: Integral operators
 - 45Q05: Inverse problems
 - 45R05: Random integral equations
- [46-xx](#): Functional analysis
 - 46-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 46-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 46-02: Research exposition (monographs, survey articles)
 - 46-03: Historical (must also be assigned at least one classification number from Section 01)

- 46-04: Explicit machine computation and programs (not the theory of computation or programming)
- 46-06: Proceedings, conferences, collections, etc.
- [46Axx](#): Topological linear spaces and related structures
 - 46A03: General theory of locally convex spaces
 - 46A04: Locally convex Fréchet spaces and (DF)-spaces
 - 46A08: Barrelled spaces, bornological spaces
 - 46A11: Spaces determined by compactness or summability properties (nuclear spaces, Schwartz spaces, Montel spaces, etc.)
 - 46A13: Spaces defined by inductive or projective limits (LB, LF, etc.)
 - 46A16: Not locally convex spaces (metrizable topological linear spaces, locally bounded spaces, quasi-Banach spaces, etc.)
 - 46A17: Bornologies and related structures; Mackey convergence, etc.
 - 46A19: Other "topological" linear spaces (convergence spaces, ranked spaces, spaces with a metric taking values in an ordered structure more general than $\mathbb{R}$, etc.)
 - 46A20: Duality theory
 - 46A22: Theorems of Hahn-Banach type; extension and lifting of functionals and operators
 - 46A25: Reflexivity and semi-reflexivity
 - 46A30: Open mapping and closed graph theorems; completeness (including B -, B_r -completeness)
 - 46A32: Spaces of linear operators; topological tensor products; approximation properties
 - 46A35: Summability and bases
 - 46A40: Ordered topological linear spaces, vector lattices
 - 46A45: Sequence spaces (including Köthe sequence spaces)
 - 46A50: Compactness in topological linear spaces; angelic spaces, etc.
 - 46A55: Convex sets in topological linear spaces; Choquet theory
 - 46A61: Graded Fréchet spaces and tame operators
 - 46A63: Topological invariants ((DN), (Ω) , etc.)
 - 46A70: Saks spaces and their duals (strict topologies, mixed topologies, two-norm spaces, co-Saks spaces, etc.)
 - 46A80: Modular spaces
 - 46A99: None of the above, but in this section
- [46Bxx](#): Normed linear spaces and Banach spaces; Banach lattices
 - 46B03: Isomorphic theory (including renorming) of Banach spaces
 - 46B04: Isometric theory of Banach spaces
 - 46B07: Local theory of Banach spaces
 - 46B08: Ultraproduct techniques in Banach space theory
 - 46B09: Probabilistic methods in Banach space theory
 - 46B10: Duality and reflexivity
 - 46B15: Summability and bases
 - 46B20: Geometry and structure of normed linear spaces
 - 46B22: Radon-Nikodym, Krein-Milman and related properties
 - 46B25: Classical Banach spaces in the general theory
 - 46B26: Nonseparable Banach spaces
 - 46B28: Spaces of operators; tensor products; approximation properties
 - 46B40: Ordered normed spaces
 - 46B42: Banach lattices
 - 46B45: Banach sequence spaces
 - 46B50: Compactness in Banach (or normed) spaces
 - 46B70: Interpolation between normed linear spaces
 - 46B99: None of the above, but in this section
- [46Cxx](#): Inner product spaces and their generalizations, Hilbert spaces
 - 46C05: Hilbert and pre-Hilbert spaces: geometry and topology (including spaces with semidefinite inner product)
 - 46C07: Hilbert subspaces (= operator ranges); complementation (Aronszajn, de Branges, etc.)
 - 46C15: Characterizations of Hilbert spaces
 - 46C20: Spaces with indefinite inner product (Krein spaces, Pontryagin spaces, etc.)

- 46C50: Generalizations of inner products (semi-inner products, partial inner products, etc.)
- 46C99: None of the above, but in this section
- [46Exx](#): Linear function spaces and their duals
 - 46E05: Lattices of continuous, differentiable or analytic functions
 - 46E10: Topological linear spaces of continuous, differentiable or analytic functions
 - 46E15: Banach spaces of continuous, differentiable or analytic functions
 - 46E20: Hilbert spaces of continuous, differentiable or analytic functions
 - 46E22: Hilbert spaces with reproducing kernels (= proper functional Hilbert spaces, including de Branges-Rovnyak and other structured spaces)
 - 46E25: Rings and algebras of continuous, differentiable or analytic functions
 - 46E27: Spaces of measures
 - 46E30: Spaces of measurable functions (L^p -spaces, Orlicz spaces, Köthe function spaces, Lorentz spaces, rearrangement invariant spaces, ideal spaces, etc.)
 - 46E35: Sobolev spaces and other spaces of "smooth" functions, embedding theorems, trace theorems
 - 46E39: Sobolev (and similar kinds of) spaces of functions of discrete variables
 - 46E40: Spaces of vector- and operator-valued functions
 - 46E50: Spaces of differentiable or holomorphic functions on infinite-dimensional spaces
 - 46E99: None of the above, but in this section
- [46Fxx](#): Distributions, generalized functions, distribution spaces
 - 46F05: Topological linear spaces of test functions, distributions and ultradistributions
 - 46F10: Operations with distributions
 - 46F12: Integral transforms in distribution spaces
 - 46F15: Hyperfunctions, analytic functionals
 - 46F20: Distributions and ultradistributions as boundary values of analytic functions
 - 46F25: Distributions on infinite-dimensional spaces
 - 46F30: Generalized functions for nonlinear analysis (Rosinger, Colombeau, nonstandard, etc.)
 - 46F99: None of the above, but in this section
- [46Gxx](#): Measures, integration, derivative, holomorphy (all involving infinite-dimensional spaces)
 - 46G05: Derivatives
 - 46G10: Vector-valued measures and integration
 - 46G12: Measures and integration on abstract linear spaces
 - 46G15: Functional analytic lifting theory
 - 46G20: Infinite-dimensional holomorphy
 - 46G25: (Spaces of) multilinear mappings, polynomials
 - 46G99: None of the above, but in this section
- [46Hxx](#): Topological algebras, normed rings and algebras, Banach algebras
 - 46H05: General theory of topological algebras
 - 46H10: Ideals and subalgebras
 - 46H15: Representations of topological algebras
 - 46H20: Structure, classification of topological algebras
 - 46H25: Normed modules and Banach modules, topological modules (if not placed in 13-XX or 16-XX)
 - 46H30: Functional calculus in topological algebras
 - 46H35: Topological algebras of operators
 - 46H40: Automatic continuity
 - 46H70: Nonassociative topological algebras
 - 46H99: None of the above, but in this section
- [46Jxx](#): Commutative Banach algebras and commutative topological algebras
 - 46J05: General theory of commutative topological algebras
 - 46J10: Banach algebras of continuous functions, function algebras
 - 46J15: Banach algebras of differentiable or analytic functions, H^p -spaces
 - 46J20: Ideals, maximal ideals, boundaries
 - 46J25: Representations of commutative topological algebras
 - 46J30: Subalgebras
 - 46J40: Structure, classification of commutative topological algebras

- 46J45: Radical Banach algebras
- 46J99: None of the above, but in this section
- [46Kxx](#): Topological (rings and) algebras with an involution
 - 46K05: General theory of topological algebras with involution
 - 46K10: Representations of topological algebras with involution
 - 46K15: Hilbert algebras
 - 46K50: Nonselfadjoint (sub)algebras in algebras with involution
 - 46K70: Nonassociative topological algebras with an involution
 - 46K99: None of the above, but in this section
- [46Lxx](#): Selfadjoint operator algebras (C^* -algebras, von Neumann (W^* -) algebras, etc.)
 - 46L05: General theory of C^* -algebras
 - 46L06: Tensor products of C^* -algebras
 - 46L07: Operator spaces and completely bounded maps
 - 46L08: C^* -modules
 - 46L09: Free products of C^* -algebras
 - 46L10: General theory of von Neumann algebras
 - 46L30: States
 - 46L35: Classifications of C^* -algebras, factors
 - 46L37: Subfactors and their classification
 - 46L40: Automorphisms
 - 46L45: Decomposition theory for C^* -algebras
 - 46L51: Noncommutative measure and integration
 - 46L52: Noncommutative function spaces
 - 46L53: Noncommutative probability and statistics
 - 46L54: Free probability and free operator algebras
 - 46L55: Noncommutative dynamical systems
 - 46L57: Derivations, dissipations and positive semigroups in C^* -algebras
 - 46L60: Applications of selfadjoint operator algebras to physics
 - 46L65: Quantizations, deformations
 - 46L70: Nonassociative selfadjoint operator algebras
 - 46L80: K -theory and operator algebras (including cyclic theory)
 - 46L85: Noncommutative topology
 - 46L87: Noncommutative differential geometry
 - 46L89: Other "noncommutative" mathematics based on C^* -algebra theory
 - 46L99: None of the above, but in this section
- [46Mxx](#): Methods of category theory in functional analysis
 - 46M05: Tensor products
 - 46M07: Ultraproducts
 - 46M10: Projective and injective objects
 - 46M15: Categories, functors
 - 46M18: Homological methods (exact sequences, right inverses, lifting, etc.)
 - 46M20: Methods of algebraic topology (cohomology, sheaf and bundle theory, etc.)
 - 46M35: Abstract interpolation of topological vector spaces
 - 46M40: Inductive and projective limits
 - 46M99: None of the above, but in this section
- [46Nxx](#): Miscellaneous applications of functional analysis
 - 46N10: Applications in optimization, convex analysis, mathematical programming, economics
 - 46N20: Applications to differential and integral equations
 - 46N30: Applications in probability theory and statistics
 - 46N40: Applications in numerical analysis
 - 46N50: Applications in quantum physics
 - 46N55: Applications in statistical physics
 - 46N60: Applications in biology and other sciences
 - 46N99: None of the above, but in this section
- [46Sxx](#): Other (nonclassical) types of functional analysis
 - 46S10: Functional analysis over fields other than $\mathbb{R}$ or $\mathbb{C}$ or the quaternions; non-Archimedean functional analysis

- 46S20: Nonstandard functional analysis
- 46S30: Constructive functional analysis
- 46S40: Fuzzy functional analysis
- 46S50: Functional analysis in probabilistic metric linear spaces
- 46S60: Functional analysis on superspaces (supermanifolds) or graded spaces
- 46S99: None of the above, but in this section
- [46Txx](#): Nonlinear functional analysis
 - 46T05: Infinite-dimensional manifolds
 - 46T10: Manifolds of mappings
 - 46T12: Measure (Gaussian, cylindrical, etc.) and integrals (Feynman, path, Fresnel, etc.) on manifolds
 - 46T20: Continuous and differentiable maps
 - 46T25: Holomorphic maps
 - 46T30: Distributions and generalized functions on nonlinear spaces
 - 46T99: None of the above, but in this section
- [47-xx](#): Operator theory
 - 47-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 47-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 47-02: Research exposition (monographs, survey articles)
 - 47-03: Historical (must also be assigned at least one classification number from Section 01)
 - 47-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 47-06: Proceedings, conferences, collections, etc.
 - [47Axx](#): General theory of linear operators
 - 47A05: General (adjoints, conjugates, products, inverses, domains, ranges, etc.)
 - 47A06: Linear relations (multivalued linear operators)
 - 47A07: Forms (bilinear, sesquilinear, multilinear)
 - 47A10: Spectrum, resolvent
 - 47A11: Local spectral properties
 - 47A12: Numerical range, numerical radius
 - 47A13: Several-variable operator theory (spectral, Fredholm, etc.)
 - 47A15: Invariant subspaces
 - 47A16: Cyclic and hypercyclic vectors
 - 47A20: Dilations, extensions, compressions
 - 47A25: Spectral sets
 - 47A30: Norms (inequalities, more than one norm, etc.)
 - 47A35: Ergodic theory
 - 47A40: Scattering theory
 - 47A45: Canonical models for contractions and nonselfadjoint operators
 - 47A46: Chains (nests) of projections or of invariant subspaces, integrals along chains, etc.
 - 47A48: Operator colligations (= nodes), vessels, linear systems, characteristic functions, realizations, etc.
 - 47A50: Equations and inequalities involving linear operators, with vector unknowns
 - 47A52: Ill-posed problems, regularization
 - 47A53: (Semi-) Fredholm operators; index theories
 - 47A55: Perturbation theory
 - 47A56: Functions whose values are linear operators (operator and matrix valued functions, etc., including analytic and meromorphic ones)
 - 47A57: Operator methods in interpolation, moment and extension problems
 - 47A58: Operator approximation theory
 - 47A60: Functional calculus
 - 47A62: Equations involving linear operators, with operator unknowns
 - 47A63: Operator inequalities
 - 47A64: Operator means, shorted operators, etc.
 - 47A65: Structure theory
 - 47A66: Quasitriangular and nonquasitriangular, quasidiagonal and nonquasidiagonal operators
 - 47A67: Representation theory

- 47A68: Factorization theory (including Wiener-Hopf and spectral factorizations)
- 47A70: (Generalized) eigenfunction expansions; rigged Hilbert spaces
- 47A75: Eigenvalue problems
- 47A80: Tensor products of operators
- 47A99: None of the above, but in this section
- [47Bxx](#): Special classes of linear operators
 - 47B06: Riesz operators; eigenvalue distributions; approximation numbers, s -numbers, Kolmogorov numbers, entropy numbers, etc. of operators
 - 47B07: Operators defined by compactness properties
 - 47B10: Operators belonging to operator ideals (nuclear, p -summing, in the Schatten-von Neumann classes, etc.)
 - 47B15: Hermitian and normal operators (spectral measures, functional calculus, etc.)
 - 47B20: Subnormal operators, hyponormal operators, etc.
 - 47B25: Symmetric and selfadjoint operators (unbounded)
 - 47B32: Operators in reproducing-kernel Hilbert spaces (including de Branges, de Branges-Rovnyak, and other structured spaces)
 - 47B33: Composition operators
 - 47B34: Kernel operators
 - 47B35: Toeplitz operators, Hankel operators, Wiener-Hopf operators
 - 47B36: Jacobi (tridiagonal) operators (matrices) and generalizations
 - 47B37: Operators on special spaces (weighted shifts, operators on sequence spaces, etc.)
 - 47B38: Operators on function spaces (general)
 - 47B39: Difference operators
 - 47B40: Spectral operators, decomposable operators, well-bounded operators, etc.
 - 47B44: Accretive operators, dissipative operators, etc.
 - 47B47: Commutators, derivations, elementary operators, etc.
 - 47B48: Operators on Banach algebras
 - 47B49: Transformers (= operators on spaces of operators)
 - 47B50: Operators on spaces with an indefinite metric
 - 47B60: Operators on ordered spaces
 - 47B65: Positive operators and order-bounded operators
 - 47B80: Random operators
 - 47B99: None of the above, but in this section
- [47Cxx](#): Individual linear operators as elements of algebraic systems
 - 47C05: Operators in algebras
 - 47C10: Operators in C^* -algebras
 - 47C15: Operators in C^* - or von Neumann algebras
 - 47C99: None of the above, but in this section
- [47Dxx](#): Groups and semigroups of linear operators, their generalizations and applications
 - 47D03: Groups and semigroups of linear operators
 - 47D06: One-parameter semigroups and linear evolution equations
 - 47D07: Markov semigroups and applications to diffusion processes
 - 47D08: Schrödinger and Feynman-Kac semigroups
 - 47D09: Operator sine and cosine functions and higher-order Cauchy problems
 - 47D60: C_0 -semigroups
 - 47D62: Integrated semigroups
 - 47D99: None of the above, but in this section
 - 47E05: Ordinary differential operators
 - 47F05: Partial differential operators
- [47Gxx](#): Integral, integro-differential, and pseudodifferential operators
 - 47G10: Integral operators
 - 47G20: Integro-differential operators
 - 47G30: Pseudodifferential operators
 - 47G99: None of the above, but in this section
- [47Hxx](#): Nonlinear operators and their properties
 - 47H04: Set-valued operators
 - 47H05: Monotone operators (with respect to duality)
 - 47H06: Accretive operators, dissipative operators, etc.

- 47H07: Monotone and positive operators on ordered Banach spaces or other ordered topological vector spaces
- 47H09: Nonexpansive mappings, and their generalizations (ultimately compact mappings, measures of noncompactness and condensing mappings, AS -proper mappings, KS -set contractions, etc.)
- 47H10: Fixed-point theorems
- 47H11: Degree theory
- 47H14: Perturbations of nonlinear operators
- 47H20: Semigroups of nonlinear operators
- 47H30: Particular nonlinear operators (superposition, Hammerstein, Nemytskii, Uryson, etc.)
- 47H40: Random operators
- 47H50: Potential operators
- 47H60: Multilinear and polynomial operators
- 47H99: None of the above, but in this section
- [47Jxx](#): Equations and inequalities involving nonlinear operators
 - 47J05: Equations involving nonlinear operators (general)
 - 47J06: Nonlinear ill-posed problems
 - 47J07: Abstract inverse mapping and implicit function theorems
 - 47J10: Nonlinear eigenvalue problems
 - 47J15: Abstract bifurcation theory
 - 47J20: Variational and other types of inequalities involving nonlinear operators (general)
 - 47J25: Methods for solving nonlinear operator equations (general)
 - 47J30: Variational methods
 - 47J35: Nonlinear evolution equations
 - 47J40: Equations with hysteresis operators
 - 47J99: None of the above, but in this section
- [47Lxx](#): Linear spaces and algebras of operators
 - 47L05: Linear spaces of operators
 - 47L07: Convex sets and cones of operators
 - 47L10: Algebras of operators on Banach spaces and other topological linear spaces
 - 47L15: Operator algebras with symbol structure
 - 47L20: Operator ideals
 - 47L25: Operator spaces (= matricially normed spaces)
 - 47L30: Abstract operator algebras on Hilbert spaces
 - 47L35: Nest algebras, CSL algebras
 - 47L40: Limit algebras, subalgebras of C^* -algebras
 - 47L45: Dual algebras; weakly closed singly generated operator algebras
 - 47L50: Dual spaces of operator algebras
 - 47L55: Representations of (nonselfadjoint) operator algebras
 - 47L60: Algebras of unbounded operators; partial algebras of operators
 - 47L65: Crossed product algebras (analytic crossed products)
 - 47L70: Nonassociative nonselfadjoint operator algebras
 - 47L75: Other nonselfadjoint operator algebras
 - 47L80: Algebras of specific types of operators (Toeplitz, integral, pseudodifferential, etc.)
 - 47L90: Applications of operator algebras to physics
 - 47L99: None of the above, but in this section
- [47Nxx](#): Miscellaneous applications of operator theory
 - 47N10: Applications in optimization, convex analysis, mathematical programming, economics
 - 47N20: Applications to differential and integral equations
 - 47N30: Applications in probability theory and statistics
 - 47N40: Applications in numerical analysis
 - 47N50: Applications in quantum physics
 - 47N55: Applications in statistical physics
 - 47N60: Applications in biology and other sciences
 - 47N70: Applications in systems theory, circuits, etc.
 - 47N99: None of the above, but in this section

- [47Sxx](#): Other (nonclassical) types of operator theory
 - 47S10: Operator theory over fields other than $\langle B \rangle R \langle B \rangle$, $\langle B \rangle C \langle B \rangle$ or the quaternions; non-Archimedean operator theory
 - 47S20: Nonstandard operator theory
 - 47S30: Constructive operator theory
 - 47S40: Fuzzy operator theory
 - 47S50: Operator theory in probabilistic metric linear spaces
 - 47S99: None of the above, but in this section
- [49-xx](#): Calculus of variations and optimal control; optimization
 - 49-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 49-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 49-02: Research exposition (monographs, survey articles)
 - 49-03: Historical (must also be assigned at least one classification number from Section 01)
 - 49-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 49-06: Proceedings, conferences, collections, etc.
 - [49Jxx](#): Existence theories
 - 49J05: Free problems in one independent variable
 - 49J10: Free problems in two or more independent variables
 - 49J15: Optimal control problems involving ordinary differential equations
 - 49J20: Optimal control problems involving partial differential equations
 - 49J22: Optimal control problems involving integral equations
 - 49J24: Optimal control problems involving differential inclusions
 - 49J25: Optimal control problems involving equations with retarded arguments
 - 49J27: Problems in abstract spaces
 - 49J30: Optimal solutions belonging to restricted classes (Lipschitz controls, bang-bang controls, etc.)
 - 49J35: Minimax problems
 - 49J40: Variational methods including variational inequalities
 - 49J45: Methods involving semicontinuity and convergence; relaxation
 - 49J50: Fréchet and Gateaux differentiability
 - 49J52: Nonsmooth analysis
 - 49J53: Set-valued and variational analysis
 - 49J55: Problems involving randomness
 - 49J99: None of the above, but in this section
 - [49Kxx](#): Necessary conditions and sufficient conditions for optimality
 - 49K05: Free problems in one independent variable
 - 49K10: Free problems in two or more independent variables
 - 49K15: Problems involving ordinary differential equations
 - 49K20: Problems involving partial differential equations
 - 49K22: Problems involving integral equations
 - 49K24: Problems involving differential inclusions
 - 49K25: Problems involving equations with retarded arguments
 - 49K27: Problems in abstract spaces
 - 49K30: Optimal solutions belonging to restricted classes
 - 49K35: Minimax problems
 - 49K40: Sensitivity, stability, well-posedness
 - 49K45: Problems involving randomness
 - 49K99: None of the above, but in this section
 - [49Lxx](#): Hamilton-Jacobi theories, including dynamic programming
 - 49L20: Dynamic programming method
 - 49L25: Viscosity solutions
 - 49L99: None of the above, but in this section
 - [49Mxx](#): Methods of successive approximations
 - 49M05: Methods based on necessary conditions
 - 49M15: Methods of Newton-Raphson, Galerkin and Ritz types
 - 49M20: Methods of relaxation type
 - 49M25: Discrete approximations

- 49M27: Decomposition methods
 - 49M29: Methods involving duality
 - 49M30: Other methods, not based on necessary conditions (penalty function, etc.)
 - 49M37: Methods of nonlinear programming type
 - 49M99: None of the above, but in this section
- [49Nxx](#): Miscellaneous topics
 - 49N05: Linear optimal control problems
 - 49N10: Linear-quadratic problems
 - 49N15: Duality theory
 - 49N20: Periodic optimization
 - 49N25: Impulsive optimal control problems
 - 49N30: Problems with incomplete information
 - 49N35: Optimal feedback synthesis
 - 49N45: Inverse problems
 - 49N60: Regularity of solutions
 - 49N70: Differential games
 - 49N75: Pursuit and evasion games
 - 49N90: Applications of optimal control and differential games
 - 49N99: None of the above, but in this section
- [49Qxx](#): Manifolds
 - 49Q05: Minimal surfaces
 - 49Q10: Optimization of shapes other than minimal surfaces
 - 49Q12: Sensitivity analysis
 - 49Q15: Geometric measure and integration theory, integral and normal currents
 - 49Q20: Variational problems in a geometric measure-theoretic setting
 - 49Q99: None of the above, but in this section
 - 49R50: Variational methods for eigenvalues of operators
 - 49S05: Variational principles of physics
- [51-xx](#): Geometry
 - 51-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 51-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 51-02: Research exposition (monographs, survey articles)
 - 51-03: Historical (must also be assigned at least one classification number from Section 01)
 - 51-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 51-06: Proceedings, conferences, collections, etc.
 - [51Axx](#): Linear incidence geometry
 - 51A05: General theory and projective geometries
 - 51A10: Homomorphism, automorphism and dualities
 - 51A15: Structures with parallelism
 - 51A20: Configuration theorems
 - 51A25: Algebraization
 - 51A30: Desarguesian and Pappian geometries
 - 51A35: Non-Desarguesian affine and projective planes
 - 51A40: Translation planes and spreads
 - 51A45: Incidence structures imbeddable into projective geometries
 - 51A50: Polar geometry, symplectic spaces, orthogonal spaces
 - 51A99: None of the above, but in this section
 - [51Bxx](#): Nonlinear incidence geometry
 - 51B05: General theory
 - 51B10: Möbius geometries
 - 51B15: Laguerre geometries
 - 51B20: Minkowski geometries
 - 51B25: Lie geometries
 - 51B99: None of the above, but in this section
 - 51C05: Ring geometry (Hjelmslev, Barbilian, etc.)
 - [51Dxx](#): Geometric closure systems
 - 51D05: Abstract (Maeda) geometries

- 51D10: Abstract geometries with exchange axiom
- 51D15: Abstract geometries with parallelism
- 51D20: Combinatorial geometries
- 51D25: Lattices of subspaces
- 51D30: Continuous geometries and related topics
- 51D99: None of the above, but in this section
- [51Exx](#): Finite geometry and special incidence structures
 - 51E05: General block designs
 - 51E10: Steiner systems
 - 51E12: Generalized quadrangles, generalized polygons
 - 51E14: Finite partial geometries (general), nets, partial spreads
 - 51E15: Affine and projective planes
 - 51E20: Combinatorial structures in finite projective spaces
 - 51E21: Blocking sets, ovals, k -arcs
 - 51E22: Linear codes and caps in Galois spaces
 - 51E23: Spreads and packing problems
 - 51E24: Buildings and the geometry of diagrams
 - 51E25: Other finite nonlinear geometries
 - 51E26: Other finite linear geometries
 - 51E30: Other finite incidence structures
 - 51E99: None of the above, but in this section
- [51Fxx](#): Metric geometry
 - 51F05: Absolute planes
 - 51F10: Absolute spaces
 - 51F15: Reflection groups, reflection geometries
 - 51F20: Congruence and orthogonality
 - 51F25: Orthogonal and unitary groups
 - 51F99: None of the above, but in this section
 - 51G05: Ordered geometries (ordered incidence structures, etc.)
- [51Hxx](#): Topological geometry
 - 51H05: General theory
 - 51H10: Topological linear incidence structures
 - 51H15: Topological nonlinear incidence structures
 - 51H20: Topological geometries on manifolds
 - 51H25: Geometries with differentiable structure
 - 51H30: Geometries with algebraic manifold structure
 - 51H99: None of the above, but in this section
- [51Jxx](#): Incidence groups
 - 51J05: General theory
 - 51J10: Projective incidence groups
 - 51J15: Kinematic spaces
 - 51J20: Representation by near-fields and near-algebras
 - 51J99: None of the above, but in this section
- [51Kxx](#): Distance geometry
 - 51K05: General theory
 - 51K10: Synthetic differential geometry
 - 51K99: None of the above, but in this section
- [51Lxx](#): Geometric order structures
 - 51L05: Geometry of orders of nondifferentiable curves
 - 51L10: Directly differentiable curves
 - 51L15: n -vertex theorems via direct methods
 - 51L20: Geometry of orders of surfaces
 - 51L99: None of the above, but in this section
- [51Mxx](#): Real and complex geometry
 - 51M04: Elementary problems in Euclidean geometries
 - 51M05: Euclidean geometries (general) and generalizations
 - 51M09: Elementary problems in hyperbolic and elliptic geometries
 - 51M10: Hyperbolic and elliptic geometries (general) and generalizations

- 51M15: Geometric constructions
 - 51M16: Inequalities and extremum problems
 - 51M20: Polyhedra and polytopes; regular figures, division of spaces
 - 51M25: Length, area and volume
 - 51M30: Line geometries and their generalizations
 - 51M35: Synthetic treatment of fundamental manifolds in projective geometries (Grassmannians, Veronesians and their generalizations)
 - 51M99: None of the above, but in this section
- [51Nxx](#): Analytic and descriptive geometry
 - 51N05: Descriptive geometry
 - 51N10: Affine analytic geometry
 - 51N15: Projective analytic geometry
 - 51N20: Euclidean analytic geometry
 - 51N25: Analytic geometry with other transformation groups
 - 51N30: Geometry of classical groups
 - 51N35: Questions of classical algebraic geometry
 - 51N99: None of the above, but in this section
 - 51P05: Geometry and physics (should also be assigned at least one other classification number from Sections 70--86)
- [52-xx](#): Convex and discrete geometry
 - 52-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 52-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 52-02: Research exposition (monographs, survey articles)
 - 52-03: Historical (must also be assigned at least one classification number from Section 01)
 - 52-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 52-06: Proceedings, conferences, collections, etc.
 - [52Axx](#): General convexity
 - 52A01: Axiomatic and generalized convexity
 - 52A05: Convex sets without dimension restrictions
 - 52A07: Convex sets in topological vector spaces
 - 52A10: Convex sets in $\mathbb{R}^2$ dimensions (including convex curves)
 - 52A15: Convex sets in $\mathbb{R}^3$ dimensions (including convex surfaces)
 - 52A20: Convex sets in $\mathbb{R}^n$ dimensions (including convex hypersurfaces)
 - 52A21: Finite-dimensional Banach spaces (including special norms, zonoids, etc.)
 - 52A22: Random convex sets and integral geometry
 - 52A27: Approximation by convex sets
 - 52A30: Variants of convex sets (star-shaped, $(\mathbb{R}^m, \mathbb{R}^n)$ -convex, etc.)
 - 52A35: Helly-type theorems and geometric transversal theory
 - 52A37: Other problems of combinatorial convexity
 - 52A38: Length, area, volume
 - 52A39: Mixed volumes and related topics
 - 52A40: Inequalities and extremum problems
 - 52A41: Convex functions and convex programs
 - 52A55: Spherical and hyperbolic convexity
 - 52A99: None of the above, but in this section
 - [52Bxx](#): Polytopes and polyhedra
 - 52B05: Combinatorial properties (number of faces, shortest paths, etc.)
 - 52B10: Three-dimensional polytopes
 - 52B11: $\mathbb{R}^n$ -dimensional polytopes
 - 52B12: Special polytopes (linear programming, centrally symmetric, etc.)
 - 52B15: Symmetry properties of polytopes
 - 52B20: Lattice polytopes (including relations with commutative algebra and algebraic geometry)
 - 52B22: Shellability
 - 52B35: Gale and other diagrams
 - 52B40: Matroids (realizations in the context of convex polytopes, convexity in combinatorial structures, etc.)

- 52B45: Dissections and valuations (Hilbert's third problem, etc.)
- 52B55: Computational aspects related to convexity
- 52B60: Isoperimetric problems for polytopes
- 52B70: Polyhedral manifolds
- 52B99: None of the above, but in this section
- [52Cxx](#): Discrete geometry
 - 52C05: Lattices and convex bodies in 2 dimensions
 - 52C07: Lattices and convex bodies in n dimensions
 - 52C10: Erdős problems and related topics of discrete geometry
 - 52C15: Packing and covering in 2 dimensions
 - 52C17: Packing and covering in n dimensions
 - 52C20: Tilings in 2 dimensions
 - 52C22: Tilings in n dimensions
 - 52C23: Quasicrystals, aperiodic tilings
 - 52C25: Rigidity and flexibility of structures
 - 52C26: Circle packings and discrete conformal geometry
 - 52C30: Planar arrangements of lines and pseudolines
 - 52C35: Arrangements of points, flats, hyperplanes
 - 52C40: Oriented matroids
 - 52C45: Combinatorial complexity of geometric structures
 - 52C99: None of the above, but in this section
- [53-xx](#): Differential geometry
 - 53-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 53-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 53-02: Research exposition (monographs, survey articles)
 - 53-03: Historical (must also be assigned at least one classification number from Section 01)
 - 53-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 53-06: Proceedings, conferences, collections, etc.
 - [53Axx](#): Classical differential geometry
 - 53A04: Curves in Euclidean space
 - 53A05: Surfaces in Euclidean space
 - 53A07: Higher-dimensional and $-$ -codimensional surfaces in Euclidean n -space
 - 53A10: Minimal surfaces, surfaces with prescribed mean curvature
 - 53A15: Affine differential geometry
 - 53A17: Kinematics
 - 53A20: Projective differential geometry
 - 53A25: Differential line geometry
 - 53A30: Conformal differential geometry
 - 53A35: Non-Euclidean differential geometry
 - 53A40: Other special differential geometries
 - 53A45: Vector and tensor analysis
 - 53A55: Differential invariants (local theory), geometric objects
 - 53A60: Geometry of webs
 - 53A99: None of the above, but in this section
 - [53Bxx](#): Local differential geometry
 - 53B05: Linear and affine connections
 - 53B10: Projective connections
 - 53B15: Other connections
 - 53B20: Local Riemannian geometry
 - 53B21: Methods of Riemannian geometry
 - 53B25: Local submanifolds
 - 53B30: Lorentz metrics, indefinite metrics
 - 53B35: Hermitian and Kählerian structures
 - 53B40: Finsler spaces and generalizations (areal metrics)
 - 53B50: Applications to physics
 - 53B99: None of the above, but in this section
 - [53Cxx](#): Global differential geometry

- 53C05: Connections, general theory
- 53C07: Special connections and metrics on vector bundles (Hermite-Einstein-Yang-Mills)
- 53C10: G -structures
- 53C12: Foliations (differential geometric aspects)
- 53C15: General geometric structures on manifolds (almost complex, almost product structures, etc.)
- 53C17: Sub-Riemannian geometry
- 53C20: Global Riemannian geometry, including pinching
- 53C21: Methods of Riemannian geometry, including PDE methods; curvature restrictions
- 53C22: Geodesics
- 53C23: Global topological methods (à la Gromov)
- 53C24: Rigidity results
- 53C25: Special Riemannian manifolds (Einstein, Sasakian, etc.)
- 53C26: Hyper-Kähler and quaternionic Kähler geometry, "special" geometry
- 53C27: Spin and Spin^c geometry
- 53C28: Twistor methods
- 53C29: Issues of holonomy
- 53C30: Homogeneous manifolds
- 53C35: Symmetric spaces
- 53C38: Calibrations and calibrated geometries
- 53C40: Global submanifolds
- 53C42: Immersions (minimal, prescribed curvature, tight, etc.)
- 53C43: Differential geometric aspects of harmonic maps
- 53C44: Geometric evolution equations (mean curvature flow)
- 53C45: Global surface theory (convex surfaces à la A. D. Aleksandrov)
- 53C50: Lorentz manifolds, manifolds with indefinite metrics
- 53C55: Hermitian and Kählerian manifolds
- 53C56: Other complex differential geometry
- 53C60: Finsler spaces and generalizations (areal metrics)
- 53C65: Integral geometry; differential forms, currents, etc.
- 53C70: Direct methods (G -spaces of Busemann, etc.)
- 53C75: Geometric orders, order geometry
- 53C80: Applications to physics
- 53C99: None of the above, but in this section
- [53Dxx](#): Symplectic geometry, contact geometry
 - 53D05: Symplectic manifolds, general
 - 53D10: Contact manifolds, general
 - 53D12: Lagrangian submanifolds; Maslov index
 - 53D15: Almost contact and almost symplectic manifolds
 - 53D17: Poisson manifolds
 - 53D20: Momentum maps; symplectic reduction
 - 53D22: Canonical transformations
 - 53D25: Geodesic flows
 - 53D30: Symplectic structures of moduli spaces
 - 53D35: Global theory of symplectic and contact manifolds
 - 53D40: Floer homology and cohomology, symplectic aspects
 - 53D45: Gromov-Witten invariants, quantum cohomology, Frobenius manifolds
 - 53D50: Geometric quantization
 - 53D55: Deformation quantization, star products
 - 53D99: None of the above, but in this section
 - 53Z05: Applications to physics
- [54-xx](#): General topology
 - 54-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 54-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 54-02: Research exposition (monographs, survey articles)
 - 54-03: Historical (must also be assigned at least one classification number from Section 01)
 - 54-04: Explicit machine computation and programs (not the theory of computation or programming)

- 54-06: Proceedings, conferences, collections, etc.
- [54Axx](#): Generalities
 - 54A05: Topological spaces and generalizations (closure spaces, etc.)
 - 54A10: Several topologies on one set (change of topology, comparison of topologies, lattices of topologies)
 - 54A15: Syntopogeneous structures
 - 54A20: Convergence in general topology (sequences, filters, limits, convergence spaces, etc.)
 - 54A25: Cardinality properties (cardinal functions and inequalities, discrete subsets)
 - 54A35: Consistency and independence results
 - 54A40: Fuzzy topology
 - 54A99: None of the above, but in this section
- [54Bxx](#): Basic constructions
 - 54B05: Subspaces
 - 54B10: Product spaces
 - 54B15: Quotient spaces, decompositions
 - 54B17: Adjunction spaces and similar constructions
 - 54B20: Hyperspaces
 - 54B30: Categorical methods
 - 54B35: Spectra
 - 54B40: Presheaves and sheaves
 - 54B99: None of the above, but in this section
- [54Cxx](#): Maps and general types of spaces defined by maps
 - 54C05: Continuous maps
 - 54C08: Weak and generalized continuity
 - 54C10: Special maps on topological spaces (open, closed, perfect, etc.)
 - 54C15: Retraction
 - 54C20: Extension of maps
 - 54C25: Embedding
 - 54C30: Real-valued functions
 - 54C35: Function spaces
 - 54C40: Algebraic properties of function spaces
 - 54C45: C^* - and C -embedding
 - 54C50: Special sets defined by functions
 - 54C55: Absolute neighborhood extensor, absolute extensor, absolute neighborhood retract (ANR), absolute retract spaces (general properties)
 - 54C56: Shape theory
 - 54C60: Set-valued maps
 - 54C65: Selections
 - 54C70: Entropy
 - 54C99: None of the above, but in this section
- [54Dxx](#): Fairly general properties
 - 54D05: Connected and locally connected spaces (general aspects)
 - 54D10: Lower separation axioms (T_0 – T_3 , etc.)
 - 54D15: Higher separation axioms (completely regular, normal, perfectly or collectionwise normal, etc.)
 - 54D20: Noncompact covering properties (paracompact, Lindelöf, etc.)
 - 54D25: " $\mathcal{P}$ -minimal" and " $\mathcal{P}$ -closed" spaces
 - 54D30: Compactness
 - 54D35: Extensions of spaces (compactifications, supercompactifications, completions, etc.)
 - 54D40: Remainders
 - 54D45: Local compactness, σ -compactness
 - 54D50: k -spaces
 - 54D55: Sequential spaces
 - 54D60: Realcompactness and realcompactification
 - 54D65: Separability
 - 54D70: Base properties

- 54D80: Special constructions of spaces (spaces of ultrafilters, etc.)
 - 54D99: None of the above, but in this section
 - [54Exx](#): Spaces with richer structures
 - 54E05: Proximity structures and generalizations
 - 54E15: Uniform structures and generalizations
 - 54E17: Nearness spaces
 - 54E18: $\mathcal{P}$ -spaces, $\mathcal{M}$ -spaces, $\mathcal{S}$ -spaces, etc.
 - 54E20: Stratifiable spaces, cosmic spaces, etc.
 - 54E25: Semimetric spaces
 - 54E30: Moore spaces
 - 54E35: Metric spaces, metrizability
 - 54E40: Special maps on metric spaces
 - 54E45: Compact (locally compact) metric spaces
 - 54E50: Complete metric spaces
 - 54E52: Baire category, Baire spaces
 - 54E55: Bitopologies
 - 54E70: Probabilistic metric spaces
 - 54E99: None of the above, but in this section
 - [54Fxx](#): Special properties
 - 54F05: Linearly ordered topological spaces, generalized ordered spaces, and partially ordered spaces
 - 54F15: Continua and generalizations
 - 54F35: Higher-dimensional local connectedness
 - 54F45: Dimension theory
 - 54F50: Spaces of dimension ≤ 1 ; curves, dendrites
 - 54F55: Unicoherence, multicoherence
 - 54F65: Topological characterizations of particular spaces
 - 54F99: None of the above, but in this section
 - [54Gxx](#): Peculiar spaces
 - 54G05: Extremely disconnected spaces, $\mathcal{F}$ -spaces, etc.
 - 54G10: $\mathcal{P}$ -spaces
 - 54G12: Scattered spaces
 - 54G15: Pathological spaces
 - 54G20: Counterexamples
 - 54G99: None of the above, but in this section
 - [54Hxx](#): Connections with other structures, applications
 - 54H05: Descriptive set theory (topological aspects of Borel, analytic, projective, etc. sets)
 - 54H10: Topological representations of algebraic systems
 - 54H11: Topological groups
 - 54H12: Topological lattices, etc.
 - 54H13: Topological fields, rings, etc.
 - 54H15: Transformation groups and semigroups
 - 54H20: Topological dynamics
 - 54H25: Fixed-point and coincidence theorems
 - 54H99: None of the above, but in this section
 - 54J05: Nonstandard topology
- [55-xx](#): Algebraic topology
 - 55-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 55-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 55-02: Research exposition (monographs, survey articles)
 - 55-03: Historical (must also be assigned at least one classification number from Section 01)
 - 55-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 55-06: Proceedings, conferences, collections, etc.
 - [55Mxx](#): Classical topics
 - 55M05: Duality
 - 55M10: Dimension theory
 - 55M15: Absolute neighborhood retracts

- 55M20: Fixed points and coincidences
- 55M25: Degree, winding number
- 55M30: Ljusternik-Schnirelman (Lyusternik-Shnirelman) category of a space
- 55M35: Finite groups of transformations (including Smith theory)
- 55M99: None of the above, but in this section
- [55Nxx](#): Homology and cohomology theories
 - 55N05: Čech types
 - 55N07: Steenrod-Sitnikov homologies
 - 55N10: Singular theory
 - 55N15: K -theory
 - 55N20: Generalized (extraordinary) homology and cohomology theories
 - 55N22: Bordism and cobordism theories, formal group laws
 - 55N25: Homology with local coefficients, equivariant cohomology
 - 55N30: Sheaf cohomology
 - 55N33: Intersection homology and cohomology
 - 55N34: Elliptic cohomology
 - 55N35: Other homology theories
 - 55N40: Axioms for homology theory and uniqueness theorems
 - 55N45: Products and intersections
 - 55N91: Equivariant homology and cohomology
 - 55N99: None of the above, but in this section
- [55Pxx](#): Homotopy theory
 - 55P05: Homotopy extension properties, cofibrations
 - 55P10: Homotopy equivalences
 - 55P15: Classification of homotopy type
 - 55P20: Eilenberg-Mac Lane spaces
 - 55P25: Spanier-Whitehead duality
 - 55P30: Eckmann-Hilton duality
 - 55P35: Loop spaces
 - 55P40: Suspensions
 - 55P42: Stable homotopy theory, spectra
 - 55P43: Spectra with additional structure (E_{∞} , A_{∞} , ring spectra, etc.)
 - 55P45: H -spaces and duals
 - 55P47: Infinite loop spaces
 - 55P48: Loop space machines, operads
 - 55P55: Shape theory
 - 55P57: Proper homotopy theory
 - 55P60: Localization and completion
 - 55P62: Rational homotopy theory
 - 55P65: Homotopy functors
 - 55P91: Equivariant homotopy theory
 - 55P92: Relations between equivariant and nonequivariant homotopy theory
 - 55P99: None of the above, but in this section
- [55Qxx](#): Homotopy groups
 - 55Q05: Homotopy groups, general; sets of homotopy classes
 - 55Q07: Shape groups
 - 55Q10: Stable homotopy groups
 - 55Q15: Whitehead products and generalizations
 - 55Q20: Homotopy groups of wedges, joins, and simple spaces
 - 55Q25: Hopf invariants
 - 55Q35: Operations in homotopy groups
 - 55Q40: Homotopy groups of spheres
 - 55Q45: Stable homotopy of spheres
 - 55Q50: J -morphism
 - 55Q51: v_n -periodicity
 - 55Q52: Homotopy groups of special spaces
 - 55Q55: Cohomotopy groups
 - 55Q70: Homotopy groups of special types

- 55Q91: Equivariant homotopy groups
 - 55Q99: None of the above, but in this section
 - [55Rxx](#): Fiber spaces and bundles
 - 55R05: Fiber spaces
 - 55R10: Fiber bundles
 - 55R12: Transfer
 - 55R15: Classification
 - 55R20: Spectral sequences and homology of fiber spaces
 - 55R25: Sphere bundles and vector bundles
 - 55R35: Classifying spaces of groups and $\{H\}$ -spaces
 - 55R37: Maps between classifying spaces
 - 55R40: Homology of classifying spaces, characteristic classes
 - 55R45: Homology and homotopy of $B\{O\}$ and $B\{U\}$; Bott periodicity
 - 55R50: Stable classes of vector space bundles, K -theory
 - 55R55: Fiberings with singularities
 - 55R60: Microbundles and block bundles
 - 55R65: Generalizations of fiber spaces and bundles
 - 55R70: Fibrewise topology
 - 55R80: Discriminantal varieties, configuration spaces
 - 55R91: Equivariant fiber spaces and bundles
 - 55R99: None of the above, but in this section
 - [55Sxx](#): Operations and obstructions
 - 55S05: Primary cohomology operations
 - 55S10: Steenrod algebra
 - 55S12: Dyer-Lashof operations
 - 55S15: Symmetric products, cyclic products
 - 55S20: Secondary and higher cohomology operations
 - 55S25: K -theory operations and generalized cohomology operations
 - 55S30: Massey products
 - 55S35: Obstruction theory
 - 55S36: Extension and compression of mappings
 - 55S37: Classification of mappings
 - 55S40: Sectioning fiber spaces and bundles
 - 55S45: Postnikov systems, k -invariants
 - 55S91: Equivariant operations and obstructions
 - 55S99: None of the above, but in this section
 - [55Txx](#): Spectral sequences
 - 55T05: General
 - 55T10: Serre spectral sequences
 - 55T15: Adams spectral sequences
 - 55T20: Eilenberg-Moore spectral sequences
 - 55T25: Generalized cohomology
 - 55T99: None of the above, but in this section
 - [55Uxx](#): Applied homological algebra and category theory
 - 55U05: Abstract complexes
 - 55U10: Simplicial sets and complexes
 - 55U15: Chain complexes
 - 55U20: Universal coefficient theorems, Bockstein operator
 - 55U25: Homology of a product, Künneth formula
 - 55U30: Duality
 - 55U35: Abstract and axiomatic homotopy theory
 - 55U40: Topological categories, foundations of homotopy theory
 - 55U99: None of the above, but in this section
- [57-xx](#): Manifolds and cell complexes
 - 57-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 57-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 57-02: Research exposition (monographs, survey articles)
 - 57-03: Historical (must also be assigned at least one classification number from Section 01)

- 57-04: Explicit machine computation and programs (not the theory of computation or programming)
- 57-06: Proceedings, conferences, collections, etc.
- [57Mxx](#): Low-dimensional topology
 - 57M05: Fundamental group, presentations, free differential calculus
 - 57M07: Topological methods in group theory
 - 57M10: Covering spaces
 - 57M12: Special coverings, e.g. branched
 - 57M15: Relations with graph theory
 - 57M20: Two-dimensional complexes
 - 57M25: Knots and links in S^3
 - 57M27: Invariants of knots and 3-manifolds
 - 57M30: Wild knots and surfaces, etc., wild embeddings
 - 57M35: Dehn's lemma, sphere theorem, loop theorem, asphericity
 - 57M40: Characterizations of E^3 and S^3 (Poincaré conjecture)
 - 57M50: Geometric structures on low-dimensional manifolds
 - 57M60: Group actions in low dimensions
 - 57M99: None of the above, but in this section
- [57Nxx](#): Topological manifolds
 - 57N05: Topology of E^2 , 2 -manifolds
 - 57N10: Topology of general 3 -manifolds
 - 57N12: Topology of E^3 and S^3
 - 57N13: Topology of E^4 , 4 -manifolds
 - 57N15: Topology of E^n , n -manifolds ($4 \leq n < \infty$)
 - 57N16: Geometric structures on manifolds
 - 57N17: Topology of topological vector spaces
 - 57N20: Topology of infinite-dimensional manifolds
 - 57N25: Shapes
 - 57N30: Engulfing
 - 57N35: Embeddings and immersions
 - 57N37: Isotopy and pseudo-isotopy
 - 57N40: Neighborhoods of submanifolds
 - 57N45: Flatness and tameness
 - 57N50: $S^{n-1} \subset E^n$, Schoenflies problem
 - 57N55: Microbundles and block bundles
 - 57N60: Cellularity
 - 57N65: Algebraic topology of manifolds
 - 57N70: Cobordism and concordance
 - 57N75: General position and transversality
 - 57N80: Stratifications
 - 57N99: None of the above, but in this section
- [57Pxx](#): Generalized manifolds
 - 57P05: Local properties of generalized manifolds
 - 57P10: Poincaré duality spaces
 - 57P99: None of the above, but in this section
- [57Qxx](#): PL-topology
 - 57Q05: General topology of complexes
 - 57Q10: Simple homotopy type, Whitehead torsion, Reidemeister-Franz torsion, etc.
 - 57Q12: Wall finiteness obstruction for CW-complexes
 - 57Q15: Triangulating manifolds
 - 57Q20: Cobordism
 - 57Q25: Comparison of PL-structures: classification, Hauptvermutung
 - 57Q30: Engulfing
 - 57Q35: Embeddings and immersions
 - 57Q37: Isotopy
 - 57Q40: Regular neighborhoods
 - 57Q45: Knots and links (in high dimensions)
 - 57Q50: Microbundles and block bundles

- 57Q55: Approximations
- 57Q60: Cobordism and concordance
- 57Q65: General position and transversality
- 57Q91: Equivariant PL-topology
- 57Q99: None of the above, but in this section
- [57Rxx](#): Differential topology
 - 57R05: Triangulating
 - 57R10: Smoothing
 - 57R12: Smooth approximations
 - 57R15: Specialized structures on manifolds (spin manifolds, framed manifolds, etc.)
 - 57R17: Symplectic and contact topology
 - 57R19: Algebraic topology on manifolds
 - 57R20: Characteristic classes and numbers
 - 57R22: Topology of vector bundles and fiber bundles
 - 57R25: Vector fields, frame fields
 - 57R27: Controllability of vector fields on C^∞ and real-analytic manifolds
 - 57R30: Foliations; geometric theory
 - 57R32: Classifying spaces for foliations; Gelfand-Fuks cohomology
 - 57R35: Differentiable mappings
 - 57R40: Embeddings
 - 57R42: Immersions
 - 57R45: Singularities of differentiable mappings
 - 57R50: Diffeomorphisms
 - 57R52: Isotopy
 - 57R55: Differentiable structures
 - 57R56: Topological quantum field theories
 - 57R57: Applications of global analysis to structures on manifolds, Donaldson and Seiberg-Witten invariants
 - 57R58: Floer homology
 - 57R60: Homotopy spheres, Poincaré conjecture
 - 57R65: Surgery and handlebodies
 - 57R67: Surgery obstructions, Wall groups
 - 57R70: Critical points and critical submanifolds
 - 57R75: O- and SO-cobordism
 - 57R77: Complex cobordism (U- and SU-cobordism)
 - 57R80: h - and s -cobordism
 - 57R85: Equivariant cobordism
 - 57R90: Other types of cobordism
 - 57R91: Equivariant algebraic topology of manifolds
 - 57R95: Realizing cycles by submanifolds
 - 57R99: None of the above, but in this section
- [57Sxx](#): Topological transformation groups
 - 57S05: Topological properties of groups of homeomorphisms or diffeomorphisms
 - 57S10: Compact groups of homeomorphisms
 - 57S15: Compact Lie groups of differentiable transformations
 - 57S17: Finite transformation groups
 - 57S20: Noncompact Lie groups of transformations
 - 57S25: Groups acting on specific manifolds
 - 57S30: Discontinuous groups of transformations
 - 57S99: None of the above, but in this section
- [57Txx](#): Homology and homotopy of topological groups and related structures
 - 57T05: Hopf algebras
 - 57T10: Homology and cohomology of Lie groups
 - 57T15: Homology and cohomology of homogeneous spaces of Lie groups
 - 57T20: Homotopy groups of topological groups and homogeneous spaces
 - 57T25: Homology and cohomology of H -spaces
 - 57T30: Bar and cobar constructions
 - 57T35: Applications of Eilenberg-Moore spectral sequences

- 57T99: None of the above, but in this section
- [58-xx](#): Global analysis, analysis on manifolds
 - 58-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 58-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 58-02: Research exposition (monographs, survey articles)
 - 58-03: Historical (must also be assigned at least one classification number from Section 01)
 - 58-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 58-06: Proceedings, conferences, collections, etc.
 - [58Axx](#): General theory of differentiable manifolds
 - 58A03: Topos-theoretic approach to differentiable manifolds
 - 58A05: Differentiable manifolds, foundations
 - 58A07: Real-analytic and Nash manifolds
 - 58A10: Differential forms
 - 58A12: de Rham theory
 - 58A14: Hodge theory
 - 58A15: Exterior differential systems (Cartan theory)
 - 58A17: Pfaffian systems
 - 58A20: Jets
 - 58A25: Currents
 - 58A30: Vector distributions (subbundles of the tangent bundles)
 - 58A32: Natural bundles
 - 58A35: Stratified sets
 - 58A40: Differential spaces
 - 58A50: Supermanifolds and graded manifolds
 - 58A99: None of the above, but in this section
 - [58Bxx](#): Infinite-dimensional manifolds
 - 58B05: Homotopy and topological questions
 - 58B10: Differentiability questions
 - 58B12: Questions of holomorphy
 - 58B15: Fredholm structures
 - 58B20: Riemannian, Finsler and other geometric structures
 - 58B25: Group structures and generalizations on infinite-dimensional manifolds
 - 58B32: Geometry of quantum groups
 - 58B34: Noncommutative geometry (à la Connes)
 - 58B99: None of the above, but in this section
 - [58Cxx](#): Calculus on manifolds; nonlinear operators
 - 58C05: Real-valued functions
 - 58C06: Set valued and function-space valued mappings
 - 58C07: Continuity properties of mappings
 - 58C10: Holomorphic maps
 - 58C15: Implicit function theorems; global Newton methods
 - 58C20: Differentiation theory (Gateaux, Fréchet, etc.)
 - 58C25: Differentiable maps
 - 58C30: Fixed point theorems on manifolds
 - 58C35: Integration on manifolds; measures on manifolds
 - 58C40: Spectral theory; eigenvalue problems
 - 58C50: Analysis on supermanifolds or graded manifolds
 - 58C99: None of the above, but in this section
 - [58Dxx](#): Spaces and manifolds of mappings (including nonlinear versions of 46Exx)
 - 58D05: Groups of diffeomorphisms and homeomorphisms as manifolds
 - 58D07: Groups and semigroups of nonlinear operators
 - 58D10: Spaces of imbeddings and immersions
 - 58D15: Manifolds of mappings
 - 58D17: Manifolds of metrics (esp. Riemannian)
 - 58D19: Group actions and symmetry properties
 - 58D20: Measures (Gaussian, cylindrical, etc.) on manifolds of maps
 - 58D25: Equations in function spaces; evolution equations

- 58D27: Moduli problems for differential geometric structures
- 58D29: Moduli problems for topological structures
- 58D30: Applications (in quantum mechanics (Feynman path integrals), relativity, fluid dynamics, etc.)
- 58D99: None of the above, but in this section
- [58Exx](#): Variational problems in infinite-dimensional spaces
 - 58E05: Abstract critical point theory (Morse theory, Ljusternik-Schnirelman (Lyusternik-Shnirelman) theory, etc.)
 - 58E07: Abstract bifurcation theory
 - 58E09: Group-invariant bifurcation theory
 - 58E10: Applications to the theory of geodesics (problems in one independent variable)
 - 58E11: Critical metrics
 - 58E12: Applications to minimal surfaces (problems in two independent variables)
 - 58E15: Application to extremal problems in several variables; Yang-Mills functionals, etc.
 - 58E17: Pareto optimality, etc., applications to economics
 - 58E20: Harmonic maps, etc.
 - 58E25: Applications to control theory
 - 58E30: Variational principles
 - 58E35: Variational inequalities (global problems)
 - 58E40: Group actions
 - 58E50: Applications
 - 58E99: None of the above, but in this section
- [58Hxx](#): Pseudogroups, differentiable groupoids and general structures on manifolds
 - 58H05: Pseudogroups and differentiable groupoids
 - 58H10: Cohomology of classifying spaces for pseudogroup structures (Spencer, Gelfand-Fuks, etc.)
 - 58H15: Deformations of structures
 - 58H99: None of the above, but in this section
- [58Jxx](#): Partial differential equations on manifolds; differential operators
 - 58J05: Elliptic equations on manifolds, general theory
 - 58J10: Differential complexes; elliptic complexes
 - 58J15: Relations with hyperfunctions
 - 58J20: Index theory and related fixed point theorems
 - 58J22: Exotic index theories
 - 58J26: Elliptic genera
 - 58J28: Eta-invariants, Chern-Simons invariants
 - 58J30: Spectral flows
 - 58J32: Boundary value problems on manifolds
 - 58J35: Heat and other parabolic equation methods
 - 58J37: Perturbations; asymptotics
 - 58J40: Pseudodifferential and Fourier integral operators on manifolds
 - 58J42: Noncommutative global analysis, noncommutative residues
 - 58J45: Hyperbolic equations
 - 58J47: Propagation of singularities; initial value problems
 - 58J50: Spectral problems; spectral geometry; scattering theory
 - 58J52: Determinants and determinant bundles, analytic torsion
 - 58J53: Isospectrality
 - 58J55: Bifurcation
 - 58J60: Relations with special manifold structures (Riemannian, Finsler, etc.)
 - 58J65: Diffusion processes and stochastic analysis on manifolds
 - 58J70: Invariance and symmetry properties
 - 58J72: Correspondences and other transformation methods (e.g. Lie-Bäcklund)
 - 58J90: Applications
 - 58J99: None of the above, but in this section
- [58Kxx](#): Theory of singularities and catastrophe theory
 - 58K05: Critical points of functions and mappings
 - 58K10: Monodromy
 - 58K15: Topological properties of mappings

- 58K20: Algebraic and analytic properties of mappings
 - 58K25: Stability
 - 58K30: Global theory
 - 58K35: Catastrophe theory
 - 58K40: Classification; finite determinacy of map germs
 - 58K45: Singularities of vector fields, topological aspects
 - 58K50: Normal forms
 - 58K55: Asymptotic behavior
 - 58K60: Deformation of singularities
 - 58K65: Topological invariants
 - 58K70: Symmetries, equivariance
 - 58K99: None of the above, but in this section
 - 58Z05: Applications to physics
- [60-xx](#): Probability theory and stochastic processes
 - 60-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 60-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 60-02: Research exposition (monographs, survey articles)
 - 60-03: Historical (must also be assigned at least one classification number from Section 01)
 - 60-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 60-06: Proceedings, conferences, collections, etc.
 - 60-08: Computational methods (not classified at a more specific level)
 - [60Axx](#): Foundations of probability theory
 - 60A05: Axioms; other general questions
 - 60A10: Probabilistic measure theory
 - 60A99: None of the above, but in this section
 - [60Bxx](#): Probability theory on algebraic and topological structures
 - 60B05: Probability measures on topological spaces
 - 60B10: Convergence of probability measures
 - 60B11: Probability theory on linear topological spaces
 - 60B12: Limit theorems for vector-valued random variables (infinite-dimensional case)
 - 60B15: Probability measures on groups, Fourier transforms, factorization
 - 60B99: None of the above, but in this section
 - 60C05: Combinatorial probability
 - 60D05: Geometric probability, stochastic geometry, random sets
 - [60Exx](#): Distribution theory
 - 60E05: Distributions: general theory
 - 60E07: Infinitely divisible distributions; stable distributions
 - 60E10: Characteristic functions; other transforms
 - 60E15: Inequalities; stochastic orderings
 - 60E99: None of the above, but in this section
 - [60Fxx](#): Limit theorems
 - 60F05: Central limit and other weak theorems
 - 60F10: Large deviations
 - 60F15: Strong theorems
 - 60F17: Functional limit theorems; invariance principles
 - 60F20: Zero-one laws
 - 60F25: L^p -limit theorems
 - 60F99: None of the above, but in this section
 - [60Gxx](#): Stochastic processes
 - 60G05: Foundations of stochastic processes
 - 60G07: General theory of processes
 - 60G09: Exchangeability
 - 60G10: Stationary processes
 - 60G12: General second-order processes
 - 60G15: Gaussian processes
 - 60G17: Sample path properties
 - 60G18: Self-similar processes

- 60G20: Generalized stochastic processes
- 60G25: Prediction theory
- 60G30: Continuity and singularity of induced measures
- 60G35: Applications (signal detection, filtering, etc.)
- 60G40: Stopping times; optimal stopping problems; gambling theory
- 60G42: Martingales with discrete parameter
- 60G44: Martingales with continuous parameter
- 60G46: Martingales and classical analysis
- 60G48: Generalizations of martingales
- 60G50: Sums of independent random variables; random walks
- 60G51: Processes with independent increments
- 60G52: Stable processes
- 60G55: Point processes
- 60G57: Random measures
- 60G60: Random fields
- 60G70: Extreme value theory; extremal processes
- 60G99: None of the above, but in this section
- [60Hxx](#): Stochastic analysis
 - 60H05: Stochastic integrals
 - 60H07: Stochastic calculus of variations and the Malliavin calculus
 - 60H10: Stochastic ordinary differential equations
 - 60H15: Stochastic partial differential equations
 - 60H20: Stochastic integral equations
 - 60H25: Random operators and equations
 - 60H30: Applications of stochastic analysis (to PDE, etc.)
 - 60H35: Computational methods for stochastic equations
 - 60H40: White noise theory
 - 60H99: None of the above, but in this section
- [60Jxx](#): Markov processes
 - 60J05: Markov processes with discrete parameter
 - 60J10: Markov chains with discrete parameter
 - 60J20: Applications of discrete Markov processes (social mobility, learning theory, industrial processes, etc.)
 - 60J22: Computational methods in Markov chains
 - 60J25: Markov processes with continuous parameter
 - 60J27: Markov chains with continuous parameter
 - 60J35: Transition functions, generators and resolvents
 - 60J40: Right processes
 - 60J45: Probabilistic potential theory
 - 60J50: Boundary theory
 - 60J55: Local time and additive functionals
 - 60J57: Multiplicative functionals
 - 60J60: Diffusion processes
 - 60J65: Brownian motion
 - 60J70: Applications of diffusion theory (population genetics, absorption problems, etc.)
 - 60J75: Jump processes
 - 60J80: Branching processes (Galton-Watson, birth-and-death, etc.)
 - 60J85: Applications of branching processes
 - 60J99: None of the above, but in this section
- [60Kxx](#): Special processes
 - 60K05: Renewal theory
 - 60K10: Applications (reliability, demand theory, etc.)
 - 60K15: Markov renewal processes, semi-Markov processes
 - 60K20: Applications of Markov renewal processes (reliability, queueing networks, etc.)
 - 60K25: Queueing theory
 - 60K30: Applications (congestion, allocation, storage, traffic, etc.)
 - 60K35: Interacting random processes; statistical mechanics type models; percolation theory

- 60K37: Processes in random environments
 - 60K40: Other physical applications of random processes
 - 60K99: None of the above, but in this section
- [62-xx](#): Statistics
 - 62-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 62-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 62-02: Research exposition (monographs, survey articles)
 - 62-03: Historical (must also be assigned at least one classification number from Section 01)
 - 62-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 62-06: Proceedings, conferences, collections, etc.
 - 62-07: Data analysis
 - 62-09: Graphical methods
 - 62A01: Foundational and philosophical topics
 - [62Bxx](#): Sufficiency and information
 - 62B05: Sufficient statistics and fields
 - 62B10: Information-theoretic topics
 - 62B15: Theory of statistical experiments
 - 62B99: None of the above, but in this section
 - [62Cxx](#): Decision theory
 - 62C05: General considerations
 - 62C07: Complete class results
 - 62C10: Bayesian problems; characterization of Bayes procedures
 - 62C12: Empirical decision procedures; empirical Bayes procedures
 - 62C15: Admissibility
 - 62C20: Minimax procedures
 - 62C25: Compound decision problems
 - 62C99: None of the above, but in this section
 - 62D05: Sampling theory, sample surveys
 - [62Exx](#): Distribution theory
 - 62E10: Characterization and structure theory
 - 62E15: Exact distribution theory
 - 62E17: Approximations to distributions (nonasymptotic)
 - 62E20: Asymptotic distribution theory
 - 62E99: None of the above, but in this section
 - [62Fxx](#): Parametric inference
 - 62F03: Hypothesis testing
 - 62F05: Asymptotic properties of tests
 - 62F07: Ranking and selection
 - 62F10: Point estimation
 - 62F12: Asymptotic properties of estimators
 - 62F15: Bayesian inference
 - 62F25: Tolerance and confidence regions
 - 62F30: Inference under constraints
 - 62F35: Robustness and adaptive procedures
 - 62F40: Bootstrap, jackknife and other resampling methods
 - 62F99: None of the above, but in this section
 - [62Gxx](#): Nonparametric inference
 - 62G05: Estimation
 - 62G07: Density estimation
 - 62G08: Nonparametric regression
 - 62G09: Resampling methods
 - 62G10: Hypothesis testing
 - 62G15: Tolerance and confidence regions
 - 62G20: Asymptotic properties
 - 62G30: Order statistics; empirical distribution functions
 - 62G32: Statistics of extreme values; tail inference
 - 62G35: Robustness

- 62G99: None of the above, but in this section
- [62Hxx](#): Multivariate analysis
 - 62H05: Characterization and structure theory
 - 62H10: Distribution of statistics
 - 62H11: Directional data; spatial statistics
 - 62H12: Estimation
 - 62H15: Hypothesis testing
 - 62H17: Contingency tables
 - 62H20: Measures of association (correlation, canonical correlation, etc.)
 - 62H25: Factor analysis and principal components; correspondence analysis
 - 62H30: Classification and discrimination; cluster analysis
 - 62H35: Image analysis
 - 62H99: None of the above, but in this section
- [62Jxx](#): Linear inference, regression
 - 62J02: General nonlinear regression
 - 62J05: Linear regression
 - 62J07: Ridge regression; shrinkage estimators
 - 62J10: Analysis of variance and covariance
 - 62J12: Generalized linear models
 - 62J15: Paired and multiple comparisons
 - 62J20: Diagnostics
 - 62J99: None of the above, but in this section
- [62Kxx](#): Design of experiments
 - 62K05: Optimal designs
 - 62K10: Block designs
 - 62K15: Factorial designs
 - 62K20: Response surface designs
 - 62K25: Robust parameter designs
 - 62K99: None of the above, but in this section
- [62Lxx](#): Sequential methods
 - 62L05: Sequential design
 - 62L10: Sequential analysis
 - 62L12: Sequential estimation
 - 62L15: Optimal stopping
 - 62L20: Stochastic approximation
 - 62L99: None of the above, but in this section
- [62Mxx](#): Inference from stochastic processes
 - 62M02: Markov processes: hypothesis testing
 - 62M05: Markov processes: estimation
 - 62M07: Non-Markovian processes: hypothesis testing
 - 62M09: Non-Markovian processes: estimation
 - 62M10: Time series, auto-correlation, regression, etc.
 - 62M15: Spectral analysis
 - 62M20: Prediction; filtering
 - 62M30: Spatial processes
 - 62M40: Random fields; image analysis
 - 62M45: Neural nets and related approaches
 - 62M99: None of the above, but in this section
- [62Nxx](#): Survival analysis and censored data
 - 62N01: Censored data models
 - 62N02: Estimation
 - 62N03: Testing
 - 62N05: Reliability and life testing
 - 62N99: None of the above, but in this section
- [62Pxx](#): Applications
 - 62P05: Applications to actuarial sciences and financial mathematics
 - 62P10: Applications to biology and medical sciences
 - 62P12: Applications to environmental and related topics

- 62P15: Applications to psychology
- 62P20: Applications to economics
- 62P25: Applications to social sciences
- 62P30: Applications in engineering and industry
- 62P35: Applications to physics
- 62P99: None of the above, but in this section
- 62Q05: Statistical tables
- [65-xx](#): Numerical analysis
 - 65-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 65-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 65-02: Research exposition (monographs, survey articles)
 - 65-03: Historical (must also be assigned at least one classification number from Section 01)
 - 65-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 65-05: Experimental papers
 - 65-06: Proceedings, conferences, collections, etc.
 - 65A05: Tables
 - [65Bxx](#): Acceleration of convergence
 - 65B05: Extrapolation to the limit, deferred corrections
 - 65B10: Summation of series
 - 65B15: Euler-Maclaurin formula
 - 65B99: None of the above, but in this section
 - [65Cxx](#): Probabilistic methods, simulation and stochastic differential equations
 - 65C05: Monte Carlo methods
 - 65C10: Random number generation
 - 65C20: Models, numerical methods
 - 65C30: Stochastic differential and integral equations
 - 65C35: Stochastic particle methods
 - 65C40: Computational Markov chains
 - 65C50: Other computational problems in probability
 - 65C60: Computational problems in statistics
 - 65C99: None of the above, but in this section
 - [65Dxx](#): Numerical approximation and computational geometry {Primarily algorithms; for theory, see 41-XX and 68Uxx]
 - 65D05: Interpolation
 - 65D07: Splines
 - 65D10: Smoothing, curve fitting
 - 65D15: Algorithms for functional approximation
 - 65D17: Computer aided design (modeling of curves and surfaces)
 - 65D18: Computer graphics and computational geometry
 - 65D20: Computation of special functions, construction of tables
 - 65D25: Numerical differentiation
 - 65D30: Numerical integration
 - 65D32: Quadrature and cubature formulas
 - 65D99: None of the above, but in this section
 - 65E05: Numerical methods in complex analysis (potential theory, etc.)
 - [65Fxx](#): Numerical linear algebra
 - 65F05: Direct methods for linear systems and matrix inversion
 - 65F10: Iterative methods for linear systems
 - 65F15: Eigenvalues, eigenvectors
 - 65F18: Inverse eigenvalue problems
 - 65F20: Overdetermined systems, pseudoinverses
 - 65F22: Ill-posedness, regularization
 - 65F25: Orthogonalization
 - 65F30: Other matrix algorithms
 - 65F35: Matrix norms, conditioning, scaling
 - 65F40: Determinants
 - 65F50: Sparse matrices

- 65F99: None of the above, but in this section
- [65Gxx](#): Error analysis and interval analysis
 - 65G20: Algorithms with automatic result verification
 - 65G30: Interval and finite arithmetic
 - 65G40: General methods in interval analysis
 - 65G50: Roundoff error
 - 65G99: None of the above, but in this section
- [65Hxx](#): Nonlinear algebraic or transcendental equations
 - 65H05: Single equations
 - 65H10: Systems of equations
 - 65H17: Eigenvalues, eigenvectors
 - 65H20: Global methods, including homotopy approaches
 - 65H99: None of the above, but in this section
- [65Jxx](#): Numerical analysis in abstract spaces
 - 65J05: General theory
 - 65J10: Equations with linear operators (do not use 65Fxx)
 - 65J15: Equations with nonlinear operators (do not use 65Hxx)
 - 65J20: Improperly posed problems; regularization
 - 65J22: Inverse problems
 - 65J99: None of the above, but in this section
- [65Kxx](#): Mathematical programming, optimization and variational techniques
 - 65K05: Mathematical programming {Algorithms; for theory see 90Cxx}
 - 65K10: Optimization and variational techniques
 - 65K99: None of the above, but in this section
- [65Lxx](#): Ordinary differential equations
 - 65L05: Initial value problems
 - 65L06: Multistep, Runge-Kutta and extrapolation methods
 - 65L07: Numerical investigation of stability of solutions
 - 65L08: Improperly posed problems
 - 65L09: Inverse problems
 - 65L10: Boundary value problems
 - 65L12: Finite difference methods
 - 65L15: Eigenvalue problems
 - 65L20: Stability and convergence of numerical methods
 - 65L50: Mesh generation and refinement
 - 65L60: Finite elements, Rayleigh-Ritz, Galerkin and collocation methods
 - 65L70: Error bounds
 - 65L80: Methods for differential-algebraic equations
 - 65L99: None of the above, but in this section
- [65Mxx](#): Partial differential equations, initial value and time-dependent initial-boundary value problems
 - 65M06: Finite difference methods
 - 65M12: Stability and convergence of numerical methods
 - 65M15: Error bounds
 - 65M20: Method of lines
 - 65M25: Method of characteristics
 - 65M30: Improperly posed problems
 - 65M32: Inverse problems
 - 65M50: Mesh generation and refinement
 - 65M55: Multigrid methods; domain decomposition
 - 65M60: Finite elements, Rayleigh-Ritz and Galerkin methods, finite methods
 - 65M70: Spectral, collocation and related methods
 - 65M99: None of the above, but in this section
- [65Nxx](#): Partial differential equations, boundary value problems
 - 65N06: Finite difference methods
 - 65N12: Stability and convergence of numerical methods
 - 65N15: Error bounds
 - 65N21: Inverse problems

- 65N22: Solution of discretized equations
 - 65N25: Eigenvalue problems
 - 65N30: Finite elements, Rayleigh-Ritz and Galerkin methods, finite methods
 - 65N35: Spectral, collocation and related methods
 - 65N38: Boundary element methods
 - 65N40: Method of lines
 - 65N45: Method of contraction of the boundary
 - 65N50: Mesh generation and refinement
 - 65N55: Multigrid methods; domain decomposition
 - 65N99: None of the above, but in this section
- [65Pxx](#): Numerical problems in dynamical systems
 - 65P10: Hamiltonian systems including symplectic integrators
 - 65P20: Numerical chaos
 - 65P30: Bifurcation problems
 - 65P40: Nonlinear stabilities
 - 65P99: None of the above, but in this section
 - 65Q05: Difference and functional equations, recurrence relations
- [65Rxx](#): Integral equations, integral transforms
 - 65R10: Integral transforms
 - 65R20: Integral equations
 - 65R30: Improperly posed problems
 - 65R32: Inverse problems
 - 65R99: None of the above, but in this section
 - 65S05: Graphical methods
- [65Txx](#): Numerical methods in Fourier analysis
 - 65T40: Trigonometric approximation and interpolation
 - 65T50: Discrete and fast Fourier transforms
 - 65T60: Wavelets
 - 65T99: None of the above, but in this section
- [65Yxx](#): Computer aspects of numerical algorithms
 - 65Y05: Parallel computation
 - 65Y10: Algorithms for specific classes of architectures
 - 65Y15: Packaged methods
 - 65Y20: Complexity and performance of numerical algorithms
 - 65Y99: None of the above, but in this section
 - 65Z05: Applications to physics
- [68-xx](#): Computer science
 - 68-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 68-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 68-02: Research exposition (monographs, survey articles)
 - 68-03: Historical (must also be assigned at least one classification number from Section 01)
 - 68-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 68-06: Proceedings, conferences, collections, etc.
 - [68Mxx](#): Computer system organization
 - 68M01: General
 - 68M07: Mathematical problems of computer architecture
 - 68M10: Network design and communication
 - 68M12: Network protocols
 - 68M14: Distributed systems
 - 68M15: Reliability, testing and fault tolerance
 - 68M20: Performance evaluation; queueing; scheduling
 - 68M99: None of the above, but in this section
 - [68Nxx](#): Software
 - 68N01: General
 - 68N15: Programming languages
 - 68N17: Logic programming
 - 68N18: Functional programming and lambda calculus

- 68N19: Other programming techniques (object-oriented, sequential, concurrent, automatic, etc.)
- 68N20: Compilers and interpreters
- 68N25: Operating systems
- 68N30: Mathematical aspects of software engineering (specification, verification, metrics, requirements, etc.)
- 68N99: None of the above, but in this section
- [68Pxx](#): Theory of data
 - 68P01: General
 - 68P05: Data structures
 - 68P10: Searching and sorting
 - 68P15: Database theory
 - 68P20: Information storage and retrieval
 - 68P25: Data encryption
 - 68P30: Coding and information theory (compaction, compression, models of communication, encoding schemes, etc.)
 - 68P99: None of the above, but in this section
- [68Qxx](#): Theory of computing
 - 68Q01: General
 - 68Q05: Models of computation (Turing machines, etc.)
 - 68Q10: Modes of computation (nondeterministic, parallel, interactive, probabilistic, etc.)
 - 68Q15: Complexity classes (hierarchies, relations among complexity classes, etc.)
 - 68Q17: Computational difficulty of problems (lower bounds, completeness, difficulty of approximation, etc.)
 - 68Q19: Descriptive complexity and finite models
 - 68Q25: Analysis of algorithms and problem complexity
 - 68Q30: Algorithmic information theory (Kolmogorov complexity, etc.)
 - 68Q32: Computational learning theory
 - 68Q42: Grammars and rewriting systems
 - 68Q45: Formal languages and automata
 - 68Q55: Semantics
 - 68Q60: Specification and verification (program logics, model checking, etc.)
 - 68Q65: Abstract data types; algebraic specification
 - 68Q70: Algebraic theory of languages and automata
 - 68Q80: Cellular automata
 - 68Q85: Models and methods for concurrent and distributed computing (process algebras, bisimulation, transition nets, etc.)
 - 68Q99: None of the above, but in this section
- [68Rxx](#): Discrete mathematics in relation to computer science
 - 68R01: General
 - 68R05: Combinatorics
 - 68R10: Graph theory
 - 68R15: Combinatorics on words
 - 68R99: None of the above, but in this section
- [68Txx](#): Artificial intelligence
 - 68T01: General
 - 68T05: Learning and adaptive systems
 - 68T10: Pattern recognition, speech recognition
 - 68T15: Theorem proving (deduction, resolution, etc.)
 - 68T20: Problem solving (heuristics, search strategies, etc.)
 - 68T27: Logic in artificial intelligence
 - 68T30: Knowledge representation
 - 68T35: Languages and software systems (knowledge-based systems, expert systems, etc.)
 - 68T37: Reasoning under uncertainty
 - 68T40: Robotics
 - 68T45: Machine vision and scene understanding
 - 68T50: Natural language processing
 - 68T99: None of the above, but in this section

- [68Uxx](#): Computing methodologies and applications
 - 68U01: General
 - 68U05: Computer graphics; computational geometry
 - 68U07: Computer-aided design
 - 68U10: Image processing
 - 68U15: Text processing; mathematical typography
 - 68U20: Simulation
 - 68U35: Information systems (hypertext navigation, interfaces, decision support, etc.)
 - 68U99: None of the above, but in this section
- [68Wxx](#): Algorithms
 - 68W01: General
 - 68W05: Nonnumerical algorithms
 - 68W10: Parallel algorithms
 - 68W15: Distributed algorithms
 - 68W20: Randomized algorithms
 - 68W25: Approximation algorithms
 - 68W30: Symbolic computation and algebraic computation
 - 68W35: VLSI algorithms
 - 68W40: Analysis of algorithms
 - 68W99: None of the above, but in this section
- [70-xx](#): Mechanics of particles and systems
 - 70-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 70-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 70-02: Research exposition (monographs, survey articles)
 - 70-03: Historical (must also be assigned at least one classification number from Section 01)
 - 70-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 70-05: Experimental work
 - 70-06: Proceedings, conferences, collections, etc.
 - 70-08: Computational methods
 - 70A05: Axiomatics, foundations
 - [70Bxx](#): Kinematics
 - 70B05: Kinematics of a particle
 - 70B10: Kinematics of a rigid body
 - 70B15: Mechanisms, robots
 - 70B99: None of the above, but in this section
 - 70C20: Statics
 - [70Exx](#): Dynamics of a rigid body and of multibody systems
 - 70E05: Motion of the gyroscope
 - 70E15: Free motion of a rigid body
 - 70E17: Motion of a rigid body with a fixed point
 - 70E18: Motion of a rigid body in contact with a solid surface
 - 70E20: Perturbation methods for rigid body dynamics
 - 70E40: Integrable cases of motion
 - 70E45: Higher-dimensional generalizations
 - 70E50: Stability problems
 - 70E55: Dynamics of multibody systems
 - 70E60: Robot dynamics and control
 - 70E99: None of the above, but in this section
 - [70Fxx](#): Dynamics of a system of particles, including celestial mechanics
 - 70F05: Two-body problems
 - 70F07: Three-body problems
 - 70F10: n -body problems
 - 70F15: Celestial mechanics
 - 70F16: Collisions in celestial mechanics, regularization
 - 70F17: Inverse problems
 - 70F20: Holonomic systems
 - 70F25: Nonholonomic systems

- 70F35: Collision of rigid or pseudo-rigid bodies
- 70F40: Problems with friction
- 70F45: Infinite particle systems
- 70F99: None of the above, but in this section
- [70Gxx](#): General models, approaches, and methods
 - 70G10: Generalized coordinates; event, impulse-energy, configuration, state, or phase space
 - 70G40: Topological and differential-topological methods
 - 70G45: Differential-geometric methods (tensors, connections, symplectic, Poisson, contact, Riemannian, nonholonomic, etc.)
 - 70G55: Algebraic geometry methods
 - 70G60: Dynamical systems methods
 - 70G65: Symmetries, Lie-group and Lie-algebra methods
 - 70G70: Functional-analytic methods
 - 70G75: Variational methods
 - 70G99: None of the above, but in this section
- [70Hxx](#): Hamiltonian and Lagrangian mechanics
 - 70H03: Lagrange's equations
 - 70H05: Hamilton's equations
 - 70H06: Completely integrable systems and methods of integration
 - 70H07: Nonintegrable systems
 - 70H08: Nearly integrable Hamiltonian systems, KAM theory
 - 70H09: Perturbation theories
 - 70H11: Adiabatic invariants
 - 70H12: Periodic and almost periodic solutions
 - 70H14: Stability problems
 - 70H15: Canonical and symplectic transformations
 - 70H20: Hamilton-Jacobi equations
 - 70H25: Hamilton's principle
 - 70H30: Other variational principles
 - 70H33: Symmetries and conservation laws, reverse symmetries, invariant manifolds and their bifurcations, reduction
 - 70H40: Relativistic dynamics
 - 70H45: Constrained dynamics, Dirac's theory of constraints
 - 70H50: Higher-order theories
 - 70H99: None of the above, but in this section
- [70Jxx](#): Linear vibration theory
 - 70J10: Modal analysis
 - 70J25: Stability
 - 70J30: Free motions
 - 70J35: Forced motions
 - 70J40: Parametric resonances
 - 70J50: Systems arising from the discretization of structural vibration problems
 - 70J99: None of the above, but in this section
- [70Kxx](#): Nonlinear dynamics
 - 70K05: Phase plane analysis, limit cycles
 - 70K20: Stability
 - 70K25: Free motions
 - 70K28: Parametric resonances
 - 70K30: Nonlinear resonances
 - 70K40: Forced motions
 - 70K42: Equilibria and periodic trajectories
 - 70K43: Quasi-periodic motions and invariant tori
 - 70K44: Homoclinic and heteroclinic trajectories
 - 70K45: Normal forms
 - 70K50: Bifurcations and instability
 - 70K55: Transition to stochasticity (chaotic behavior)
 - 70K60: General perturbation schemes

- 70K65: Averaging of perturbations
 - 70K70: Systems with slow and fast motions
 - 70K75: Nonlinear modes
 - 70K99: None of the above, but in this section
 - 70L05: Random vibrations
 - 70M20: Orbital mechanics
 - 70P05: Variable mass, rockets
 - 70Q05: Control of mechanical systems
- [70Sxx](#): Classical field theories
 - 70S05: Lagrangian formalism and Hamiltonian formalism
 - 70S10: Symmetries and conservation laws
 - 70S15: Yang-Mills and other gauge theories
 - 70S20: More general nonquantum field theories
 - 70S99: None of the above, but in this section
- [74-xx](#): Mechanics of deformable solids
 - 74-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 74-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 74-02: Research exposition (monographs, survey articles)
 - 74-03: Historical (must also be assigned at least one classification number from Section 01)
 - 74-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 74-05: Experimental work
 - 74-06: Proceedings, conferences, collections, etc.
 - [74Axx](#): Generalities, axiomatics, foundations of continuum mechanics of solids
 - 74A05: Kinematics of deformation
 - 74A10: Stress
 - 74A15: Thermodynamics
 - 74A20: Theory of constitutive functions
 - 74A25: Molecular, statistical, and kinetic theories
 - 74A30: Nonsimple materials
 - 74A35: Polar materials
 - 74A40: Random materials and composite materials
 - 74A45: Theories of fracture and damage
 - 74A50: Structured surfaces and interfaces, coexistent phases
 - 74A55: Theories of friction (tribology)
 - 74A60: Micromechanical theories
 - 74A65: Reactive materials
 - 74A99: None of the above, but in this section
 - [74Bxx](#): Elastic materials
 - 74B05: Classical linear elasticity
 - 74B10: Linear elasticity with initial stresses
 - 74B15: Equations linearized about a deformed state (small deformations superposed on large)
 - 74B20: Nonlinear elasticity
 - 74B99: None of the above, but in this section
 - [74Cxx](#): Plastic materials, materials of stress-rate and internal-variable type
 - 74C05: Small-strain, rate-independent theories (including rigid-plastic and elasto-plastic materials)
 - 74C10: Small-strain, rate-dependent theories (including theories of viscoplasticity)
 - 74C15: Large-strain, rate-independent theories (including nonlinear plasticity)
 - 74C20: Large-strain, rate-dependent theories
 - 74C99: None of the above, but in this section
 - [74Dxx](#): Materials of strain-rate type and history type, other materials with memory (including elastic materials with viscous damping, various viscoelastic materials)
 - 74D05: Linear constitutive equations
 - 74D10: Nonlinear constitutive equations
 - 74D99: None of the above, but in this section
 - [74Exx](#): Material properties given special treatment

- 74E05: Inhomogeneity
- 74E10: Anisotropy
- 74E15: Crystalline structure
- 74E20: Granularity
- 74E25: Texture
- 74E30: Composite and mixture properties
- 74E35: Random structure
- 74E40: Chemical structure
- 74E99: None of the above, but in this section
- [74Fxx](#): Coupling of solid mechanics with other effects
 - 74F05: Thermal effects
 - 74F10: Fluid-solid interactions (including aero- and hydro-elasticity, porosity, etc.)
 - 74F15: Electromagnetic effects
 - 74F20: Mixture effects
 - 74F25: Chemical and reactive effects
 - 74F99: None of the above, but in this section
- [74Gxx](#): Equilibrium (steady-state) problems
 - 74G05: Explicit solutions
 - 74G10: Analytic approximation of solutions (perturbation methods, asymptotic methods, series, etc.)
 - 74G15: Numerical approximation of solutions
 - 74G20: Local existence of solutions (near a given solution)
 - 74G25: Global existence of solutions
 - 74G30: Uniqueness of solutions
 - 74G35: Multiplicity of solutions
 - 74G40: Regularity of solutions
 - 74G45: Bounds for solutions
 - 74G50: Saint-Venant's principle
 - 74G55: Qualitative behavior of solutions
 - 74G60: Bifurcation and buckling
 - 74G65: Energy minimization
 - 74G70: Stress concentrations, singularities
 - 74G75: Inverse problems
 - 74G99: None of the above, but in this section
- [74Hxx](#): Dynamical problems
 - 74H05: Explicit solutions
 - 74H10: Analytic approximation of solutions (perturbation methods, asymptotic methods, series, etc.)
 - 74H15: Numerical approximation of solutions
 - 74H20: Existence of solutions
 - 74H25: Uniqueness of solutions
 - 74H30: Regularity of solutions
 - 74H35: Singularities, blowup, stress concentrations
 - 74H40: Long-time behavior of solutions
 - 74H45: Vibrations
 - 74H50: Random vibrations
 - 74H55: Stability
 - 74H60: Dynamical bifurcation
 - 74H65: Chaotic behavior
 - 74H99: None of the above, but in this section
- [74Jxx](#): Waves
 - 74J05: Linear waves
 - 74J10: Bulk waves
 - 74J15: Surface waves
 - 74J20: Wave scattering
 - 74J25: Inverse problems
 - 74J30: Nonlinear waves
 - 74J35: Solitary waves

- 74J40: Shocks and related discontinuities
 - 74J99: None of the above, but in this section
- [74Kxx](#): Thin bodies, structures
 - 74K05: Strings
 - 74K10: Rods (beams, columns, shafts, arches, rings, etc.)
 - 74K15: Membranes
 - 74K20: Plates
 - 74K25: Shells
 - 74K30: Junctions
 - 74K35: Thin films
 - 74K99: None of the above, but in this section
- [74Lxx](#): Special subfields of solid mechanics
 - 74L05: Geophysical solid mechanics
 - 74L10: Soil and rock mechanics
 - 74L15: Biomechanical solid mechanics
 - 74L99: None of the above, but in this section
- [74Mxx](#): Special kinds of problems
 - 74M05: Control, switches and devices ("smart materials")
 - 74M10: Friction
 - 74M15: Contact
 - 74M20: Impact
 - 74M25: Micromechanics
 - 74M99: None of the above, but in this section
- [74Nxx](#): Phase transformations in solids
 - 74N05: Crystals
 - 74N10: Displacive transformations
 - 74N15: Analysis of microstructure
 - 74N20: Dynamics of phase boundaries
 - 74N25: Transformations involving diffusion
 - 74N30: Problems involving hysteresis
 - 74N99: None of the above, but in this section
- [74Pxx](#): Optimization
 - 74P05: Compliance or weight optimization
 - 74P10: Optimization of other properties
 - 74P15: Topological methods
 - 74P20: Geometrical methods
 - 74P99: None of the above, but in this section
- [74Qxx](#): Homogenization, determination of effective properties
 - 74Q05: Homogenization in equilibrium problems
 - 74Q10: Homogenization and oscillations in dynamical problems
 - 74Q15: Effective constitutive equations
 - 74Q20: Bounds on effective properties
 - 74Q99: None of the above, but in this section
- [74Rxx](#): Fracture and damage
 - 74R05: Brittle damage
 - 74R10: Brittle fracture
 - 74R15: High-velocity fracture
 - 74R20: Anelastic fracture and damage
 - 74R99: None of the above, but in this section
- [74Sxx](#): Numerical methods
 - 74S05: Finite element methods
 - 74S10: Finite volume methods
 - 74S15: Boundary element methods
 - 74S20: Finite difference methods
 - 74S25: Spectral and related methods
 - 74S30: Other numerical methods
 - 74S99: None of the above, but in this section
- [76-xx](#): Fluid mechanics

- 76-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
- 76-01: Instructional exposition (textbooks, tutorial papers, etc.)
- 76-02: Research exposition (monographs, survey articles)
- 76-03: Historical (must also be assigned at least one classification number from Section 01)
- 76-04: Explicit machine computation and programs (not the theory of computation or programming)
- 76-05: Experimental work
- 76-06: Proceedings, conferences, collections, etc.
- [76Axx](#): Foundations, constitutive equations, rheology
 - 76A02: Foundations of fluid mechanics
 - 76A05: Non-Newtonian fluids
 - 76A10: Viscoelastic fluids
 - 76A15: Liquid crystals
 - 76A20: Thin fluid films
 - 76A25: Superfluids (classical aspects)
 - 76A99: None of the above, but in this section
- [76Bxx](#): Incompressible inviscid fluids
 - 76B03: Existence, uniqueness, and regularity theory
 - 76B07: Free-surface potential flows
 - 76B10: Jets and cavities, cavitation, free-streamline theory, water-entry problems, airfoil and hydrofoil theory, sloshing
 - 76B15: Water waves, gravity waves; dispersion and scattering, nonlinear interaction
 - 76B20: Ship waves
 - 76B25: Solitary waves
 - 76B45: Capillarity (surface tension)
 - 76B47: Vortex flows
 - 76B55: Internal waves
 - 76B60: Atmospheric waves
 - 76B65: Rossby waves
 - 76B70: Stratification effects in inviscid fluids
 - 76B75: Flow control and optimization
 - 76B99: None of the above, but in this section
- [76Dxx](#): Incompressible viscous fluids
 - 76D03: Existence, uniqueness, and regularity theory
 - 76D05: Navier-Stokes equations
 - 76D06: Statistical solutions of Navier-Stokes and related equations
 - 76D07: Stokes and related (Oseen, etc.) flows
 - 76D08: Lubrication theory
 - 76D09: Viscous-inviscid interaction
 - 76D10: Boundary-layer theory, separation and reattachment, higher-order effects
 - 76D17: Viscous vortex flows
 - 76D25: Wakes and jets
 - 76D27: Other free-boundary flows; Hele-Shaw flows
 - 76D33: Waves
 - 76D45: Capillarity (surface tension)
 - 76D50: Stratification effects in viscous fluids
 - 76D55: Flow control and optimization
 - 76D99: None of the above, but in this section
- [76Exx](#): Hydrodynamic stability
 - 76E05: Parallel shear flows
 - 76E06: Convection
 - 76E07: Rotation
 - 76E09: Stability and instability of nonparallel flows
 - 76E15: Absolute and convective instability and stability
 - 76E17: Interfacial stability and instability
 - 76E19: Compressibility effects
 - 76E20: Stability and instability of geophysical and astrophysical flows
 - 76E25: Stability and instability of magnetohydrodynamic and electrohydrodynamic flows

- 76E30: Nonlinear effects
 - 76E99: None of the above, but in this section
- [76Fxx](#): Turbulence
 - 76F02: Fundamentals
 - 76F05: Isotropic turbulence; homogeneous turbulence
 - 76F06: Transition to turbulence
 - 76F10: Shear flows
 - 76F20: Dynamical systems approach to turbulence
 - 76F25: Turbulent transport, mixing
 - 76F30: Renormalization and other field-theoretical methods
 - 76F35: Convective turbulence
 - 76F40: Turbulent boundary layers
 - 76F45: Stratification effects
 - 76F50: Compressibility effects
 - 76F55: Statistical turbulence modeling
 - 76F60: ϵ modeling
 - 76F65: Direct numerical and large eddy simulation of turbulence
 - 76F70: Control of turbulent flows
 - 76F99: None of the above, but in this section
 - 76G25: General aerodynamics and subsonic flows
 - 76H05: Transonic flows
 - 76J20: Supersonic flows
 - 76K05: Hypersonic flows
 - 76L05: Shock waves and blast waves
- [76Mxx](#): Basic methods in fluid mechanics
 - 76M10: Finite element methods
 - 76M12: Finite volume methods
 - 76M15: Boundary element methods
 - 76M20: Finite difference methods
 - 76M22: Spectral methods
 - 76M23: Vortex methods
 - 76M25: Other numerical methods
 - 76M27: Visualization algorithms
 - 76M28: Particle methods and lattice-gas methods
 - 76M30: Variational methods
 - 76M35: Stochastic analysis
 - 76M40: Complex-variables methods
 - 76M45: Asymptotic methods, singular perturbations
 - 76M50: Homogenization
 - 76M55: Dimensional analysis and similarity
 - 76M60: Symmetry analysis, Lie group and algebra methods
 - 76M99: None of the above, but in this section
- [76Nxx](#): Compressible fluids and gas dynamics, general
 - 76N10: Existence, uniqueness, and regularity theory
 - 76N15: Gas dynamics, general
 - 76N17: Viscous-inviscid interaction
 - 76N20: Boundary-layer theory
 - 76N25: Flow control and optimization
 - 76N99: None of the above, but in this section
 - 76P05: Rarefied gas flows, Boltzmann equation
 - 76Q05: Hydro- and aero-acoustics
- [76Rxx](#): Diffusion and convection
 - 76R05: Forced convection
 - 76R10: Free convection
 - 76R50: Diffusion
 - 76R99: None of the above, but in this section
 - 76S05: Flows in porous media; filtration; seepage
- [76Txx](#): Two-phase and multiphase flows

- 76T10: Liquid-gas two-phase flows, bubbly flows
 - 76T15: Dusty-gas two-phase flows
 - 76T20: Suspensions
 - 76T25: Granular flows
 - 76T30: Three or more component flows
 - 76T99: None of the above, but in this section
 - 76U05: Rotating fluids
 - 76V05: Reaction effects in flows
 - 76W05: Magnetohydrodynamics and electrohydrodynamics
 - 76X05: Ionized gas flow in electromagnetic fields; plasmic flow
 - 76Y05: Quantum hydrodynamics and relativistic hydrodynamics
- [76Zxx](#): Biological fluid mechanics
 - 76Z05: Physiological flows
 - 76Z10: Biopropulsion in water and in air
 - 76Z99: None of the above, but in this section
- [78-xx](#): Optics, electromagnetic theory
 - 78-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 78-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 78-02: Research exposition (monographs, survey articles)
 - 78-03: Historical (must also be assigned at least one classification number from Section 01)
 - 78-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 78-05: Experimental work
 - 78-06: Proceedings, conferences, collections, etc.
 - [78Axx](#): General
 - 78A02: Foundations
 - 78A05: Geometric optics
 - 78A10: Physical optics
 - 78A15: Electron optics
 - 78A20: Space charge waves
 - 78A25: Electromagnetic theory, general
 - 78A30: Electro- and magnetostatics
 - 78A35: Motion of charged particles
 - 78A40: Waves and radiation
 - 78A45: Diffraction, scattering
 - 78A46: Inverse scattering problems
 - 78A48: Composite media; random media
 - 78A50: Antennas, wave-guides
 - 78A55: Technical applications
 - 78A60: Lasers, masers, optical bistability, nonlinear optics
 - 78A70: Biological applications
 - 78A97: Mathematically heuristic optics and electromagnetic theory (must also be assigned at least one other classification number in this section)
 - 78A99: Miscellaneous topics
 - [78Mxx](#): Basic methods
 - 78M05: Method of moments
 - 78M10: Finite element methods
 - 78M15: Boundary element methods
 - 78M20: Finite difference methods
 - 78M25: Other numerical methods
 - 78M30: Variational methods
 - 78M35: Asymptotic analysis
 - 78M40: Homogenization
 - 78M50: Optimization
 - 78M99: None of the above, but in this section
- [80-xx](#): Classical thermodynamics, heat transfer
 - 80-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 80-01: Instructional exposition (textbooks, tutorial papers, etc.)

- 80-02: Research exposition (monographs, survey articles)
- 80-03: Historical (must also be assigned at least one classification number from Section 01)
- 80-04: Explicit machine computation and programs (not the theory of computation or programming)
- 80-05: Experimental work
- 80-06: Proceedings, conferences, collections, etc.
- [80Axx](#): Thermodynamics and heat transfer
 - 80A05: Foundations
 - 80A10: Classical thermodynamics, including relativistic
 - 80A17: Thermodynamics of continua
 - 80A20: Heat and mass transfer, heat flow
 - 80A22: Stefan problems, phase changes, etc.
 - 80A23: Inverse problems
 - 80A25: Combustion
 - 80A30: Chemical kinetics
 - 80A32: Chemically reacting flows
 - 80A50: Chemistry (general)
 - 80A99: None of the above, but in this section
- [80Mxx](#): Basic methods
 - 80M10: Finite element methods
 - 80M15: Boundary element methods
 - 80M20: Finite difference methods
 - 80M25: Other numerical methods
 - 80M30: Variational methods
 - 80M35: Asymptotic analysis
 - 80M40: Homogenization
 - 80M50: Optimization
 - 80M99: None of the above, but in this section
- [81-xx](#): Quantum theory
 - 81-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 81-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 81-02: Research exposition (monographs, survey articles)
 - 81-03: Historical (must also be assigned at least one classification number from Section 01)
 - 81-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 81-05: Experimental papers
 - 81-06: Proceedings, conferences, collections, etc.
 - 81-08: Computational methods
 - [81Pxx](#): Axiomatics, foundations, philosophy
 - 81P05: General and philosophical
 - 81P10: Logical foundations of quantum mechanics; quantum logic
 - 81P15: Quantum measurement theory
 - 81P20: Stochastic mechanics (including stochastic electrodynamics)
 - 81P68: Quantum computation and quantum cryptography
 - 81P99: None of the above, but in this section
 - [81Qxx](#): General mathematical topics and methods in quantum theory
 - 81Q05: Closed and approximate solutions to the Schrödinger, Dirac, Klein-Gordon and other quantum-mechanical equations
 - 81Q10: Selfadjoint operator theory in quantum theory, including spectral analysis
 - 81Q15: Perturbation theories for operators and differential equations
 - 81Q20: Semiclassical techniques including WKB and Maslov methods
 - 81Q30: Feynman integrals and graphs; applications of algebraic topology and algebraic geometry
 - 81Q40: Bethe-Salpeter and other integral equations
 - 81Q50: Quantum chaos
 - 81Q60: Supersymmetric quantum mechanics
 - 81Q70: Differential-geometric methods, including holonomy, Berry and Hannay phases, etc.

- 81Q99: None of the above, but in this section
- [81Rxx](#): Groups and algebras in quantum theory
 - 81R05: Finite-dimensional groups and algebras motivated by physics and their representations
 - 81R10: Infinite-dimensional groups and algebras motivated by physics, including Virasoro, Kac-Moody, W -algebras and other current algebras and their representations
 - 81R12: Relations with integrable systems
 - 81R15: Operator algebra methods
 - 81R20: Covariant wave equations
 - 81R25: Spinor and twistor methods
 - 81R30: Coherent states; squeezed states
 - 81R40: Symmetry breaking
 - 81R50: Quantum groups and related algebraic methods
 - 81R60: Noncommutative geometry
 - 81R99: None of the above, but in this section
- [81Sxx](#): General quantum mechanics and problems of quantization
 - 81S05: Commutation relations and statistics
 - 81S10: Geometry and quantization, symplectic methods
 - 81S20: Stochastic quantization
 - 81S25: Quantum stochastic calculus
 - 81S30: Phase space methods including Wigner distributions, etc.
 - 81S40: Path integrals
 - 81S99: None of the above, but in this section
- [81Txx](#): Quantum field theory; related classical field theories
 - 81T05: Axiomatic quantum field theory; operator algebras
 - 81T08: Constructive quantum field theory
 - 81T10: Model quantum field theories
 - 81T13: Yang-Mills and other gauge theories
 - 81T15: Perturbative methods of renormalization
 - 81T16: Nonperturbative methods of renormalization
 - 81T17: Renormalization group methods
 - 81T18: Feynman diagrams
 - 81T20: Quantum field theory on curved space backgrounds
 - 81T25: Quantum field theory on lattices
 - 81T27: Continuum limits
 - 81T30: String and superstring theories; other extended objects (e.g., branes)
 - 81T40: Two-dimensional field theories, conformal field theories, etc.
 - 81T45: Topological field theories
 - 81T50: Anomalies
 - 81T60: Supersymmetric field theories
 - 81T70: Quantization in field theory; cohomological methods
 - 81T75: Noncommutative geometry methods
 - 81T80: Simulation and numerical modeling
 - 81T99: None of the above, but in this section
- [81Uxx](#): Scattering theory
 - 81U05: 2 -body potential scattering theory
 - 81U10: n -body potential scattering theory
 - 81U15: Exactly and quasi-solvable systems
 - 81U20: S -matrix theory, etc.
 - 81U30: Dispersion theory, dispersion relations
 - 81U40: Inverse scattering problems
 - 81U99: None of the above, but in this section
- [81Vxx](#): Applications to specific physical systems
 - 81V05: Strong interaction, including quantum chromodynamics
 - 81V10: Electromagnetic interaction; quantum electrodynamics
 - 81V15: Weak interaction
 - 81V17: Gravitational interaction
 - 81V19: Other fundamental interactions

- 81V22: Unified theories
 - 81V25: Other elementary particle theory
 - 81V35: Nuclear physics
 - 81V45: Atomic physics
 - 81V55: Molecular physics
 - 81V70: Many-body theory; quantum Hall effect
 - 81V80: Quantum optics
 - 81V99: None of the above, but in this section
- [82-xx](#): Statistical mechanics, structure of matter
 - 82-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 82-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 82-02: Research exposition (monographs, survey articles)
 - 82-03: Historical (must also be assigned at least one classification number from Section 01)
 - 82-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 82-05: Experimental papers
 - 82-06: Proceedings, conferences, collections, etc.
 - 82-08: Computational methods
 - [82Bxx](#): Equilibrium statistical mechanics
 - 82B03: Foundations
 - 82B05: Classical equilibrium statistical mechanics (general)
 - 82B10: Quantum equilibrium statistical mechanics (general)
 - 82B20: Lattice systems (Ising, dimer, Potts, etc.) and systems on graphs
 - 82B21: Continuum models (systems of particles, etc.)
 - 82B23: Exactly solvable models; Bethe ansatz
 - 82B24: Interface problems; diffusion-limited aggregation
 - 82B26: Phase transitions (general)
 - 82B27: Critical phenomena
 - 82B28: Renormalization group methods
 - 82B30: Statistical thermodynamics
 - 82B31: Stochastic methods
 - 82B35: Irreversible thermodynamics, including Onsager-Machlup theory
 - 82B40: Kinetic theory of gases
 - 82B41: Random walks, random surfaces, lattice animals, etc.
 - 82B43: Percolation
 - 82B44: Disordered systems (random Ising models, random Schrödinger operators, etc.)
 - 82B80: Numerical methods (Monte Carlo, series resummation, etc.)
 - 82B99: None of the above, but in this section
 - [82Cxx](#): Time-dependent statistical mechanics (dynamic and nonequilibrium)
 - 82C03: Foundations
 - 82C05: Classical dynamic and nonequilibrium statistical mechanics (general)
 - 82C10: Quantum dynamics and nonequilibrium statistical mechanics (general)
 - 82C20: Dynamic lattice systems (kinetic Ising, etc.) and systems on graphs
 - 82C21: Dynamic continuum models (systems of particles, etc.)
 - 82C22: Interacting particle systems
 - 82C23: Exactly solvable dynamic models
 - 82C24: Interface problems; diffusion-limited aggregation
 - 82C26: Dynamic and nonequilibrium phase transitions (general)
 - 82C27: Dynamic critical phenomena
 - 82C28: Dynamic renormalization group methods
 - 82C31: Stochastic methods (Fokker-Planck, Langevin, etc.)
 - 82C32: Neural nets
 - 82C35: Irreversible thermodynamics, including Onsager-Machlup theory
 - 82C40: Kinetic theory of gases
 - 82C41: Dynamics of random walks, random surfaces, lattice animals, etc.
 - 82C43: Time-dependent percolation
 - 82C44: Dynamics of disordered systems (random Ising systems, etc.)
 - 82C70: Transport processes

- 82C80: Numerical methods (Monte Carlo, series resummation, etc.)
 - 82C99: None of the above, but in this section
 - [82Dxx](#): Applications to specific types of physical systems
 - 82D05: Gases
 - 82D10: Plasmas
 - 82D15: Liquids
 - 82D20: Solids
 - 82D25: Crystals
 - 82D30: Random media, disordered materials (including liquid crystals and spin glasses)
 - 82D35: Metals
 - 82D37: Semiconductors
 - 82D40: Magnetic materials
 - 82D45: Ferroelectrics
 - 82D50: Superfluids
 - 82D55: Superconductors
 - 82D60: Polymers
 - 82D75: Nuclear reactor theory; neutron transport
 - 82D99: None of the above, but in this section
- [83-xx](#): Relativity and gravitational theory
 - 83-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 83-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 83-02: Research exposition (monographs, survey articles)
 - 83-03: Historical (must also be assigned at least one classification number from Section 01)
 - 83-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 83-05: Experimental work
 - 83-06: Proceedings, conferences, collections, etc.
 - 83-08: Computational methods
 - 83A05: Special relativity
 - 83B05: Observational and experimental questions
 - [83Cxx](#): General relativity
 - 83C05: Einstein's equations (general structure, canonical formalism, Cauchy problems)
 - 83C10: Equations of motion
 - 83C15: Exact solutions
 - 83C20: Classes of solutions; algebraically special solutions, metrics with symmetries
 - 83C22: Einstein-Maxwell equations
 - 83C25: Approximation procedures, weak fields
 - 83C27: Lattice gravity, Regge calculus and other discrete methods
 - 83C30: Asymptotic procedures (radiation, news functions, $\{\text{scr H}\}$ -spaces, etc.)
 - 83C35: Gravitational waves
 - 83C40: Gravitational energy and conservation laws; groups of motions
 - 83C45: Quantization of the gravitational field
 - 83C47: Methods of quantum field theory
 - 83C50: Electromagnetic fields
 - 83C55: Macroscopic interaction of the gravitational field with matter (hydrodynamics, etc.)
 - 83C57: Black holes
 - 83C60: Spinor and twistor methods; Newman-Penrose formalism
 - 83C65: Methods of noncommutative geometry
 - 83C75: Space-time singularities, cosmic censorship, etc.
 - 83C80: Analogues in lower dimensions
 - 83C99: None of the above, but in this section
 - 83D05: Relativistic gravitational theories other than Einstein's, including asymmetric field theories
 - [83Exx](#): Unified, higher-dimensional and super field theories
 - 83E05: Geometrodynamics
 - 83E15: Kaluza-Klein and other higher-dimensional theories
 - 83E30: String and superstring theories

- 83E50: Supergravity
 - 83E99: None of the above, but in this section
 - 83F05: Cosmology
- [85-xx](#): Astronomy and astrophysics
 - 85-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 85-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 85-02: Research exposition (monographs, survey articles)
 - 85-03: Historical (must also be assigned at least one classification number from Section 01)
 - 85-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 85-05: Experimental work
 - 85-06: Proceedings, conferences, collections, etc.
 - 85-08: Computational methods
 - 85A04: General
 - 85A05: Galactic and stellar dynamics
 - 85A15: Galactic and stellar structure
 - 85A20: Planetary atmospheres
 - 85A25: Radiative transfer
 - 85A30: Hydrodynamic and hydromagnetic problems
 - 85A35: Statistical astronomy
 - 85A40: Cosmology
 - 85A99: Miscellaneous topics
- [86-xx](#): Geophysics
 - 86-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 86-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 86-02: Research exposition (monographs, survey articles)
 - 86-03: Historical (must also be assigned at least one classification number from Section 01)
 - 86-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 86-05: Experimental work
 - 86-06: Proceedings, conferences, collections, etc.
 - 86-08: Computational methods
 - 86A04: General
 - 86A05: Hydrology, hydrography, oceanography
 - 86A10: Meteorology and atmospheric physics
 - 86A15: Seismology
 - 86A17: Global dynamics, earthquake problems
 - 86A20: Potentials, prospecting
 - 86A22: Inverse problems
 - 86A25: Geo-electricity and geomagnetism
 - 86A30: Geodesy, mapping problems
 - 86A32: Geostatistics
 - 86A40: Glaciology
 - 86A60: Geological problems
 - 86A99: Miscellaneous topics
- [90-xx](#): Operations research, mathematical programming
 - 90-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 90-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 90-02: Research exposition (monographs, survey articles)
 - 90-03: Historical (must also be assigned at least one classification number from Section 01)
 - 90-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 90-06: Proceedings, conferences, collections, etc.
 - 90-08: Computational methods
 - [90Bxx](#): Operations research and management science
 - 90B05: Inventory, storage, reservoirs
 - 90B06: Transportation, logistics
 - 90B10: Network models, deterministic

- 90B15: Network models, stochastic
- 90B18: Communication networks
- 90B20: Traffic problems
- 90B22: Queues and service
- 90B25: Reliability, availability, maintenance, inspection
- 90B30: Production models
- 90B35: Scheduling theory, deterministic
- 90B36: Scheduling theory, stochastic
- 90B40: Search theory
- 90B50: Management decision making, including multiple objectives
- 90B60: Marketing, advertising
- 90B70: Theory of organizations, manpower planning
- 90B80: Discrete location and assignment
- 90B85: Continuous location
- 90B90: Case-oriented studies
- 90B99: None of the above, but in this section
- [90Cxx](#): Mathematical programming
 - 90C05: Linear programming
 - 90C06: Large-scale problems
 - 90C08: Special problems of linear programming (transportation, multi-index, etc.)
 - 90C09: Boolean programming
 - 90C10: Integer programming
 - 90C11: Mixed integer programming
 - 90C15: Stochastic programming
 - 90C20: Quadratic programming
 - 90C22: Semidefinite programming
 - 90C25: Convex programming
 - 90C26: Nonconvex programming
 - 90C27: Combinatorial optimization
 - 90C29: Multi-objective and goal programming
 - 90C30: Nonlinear programming
 - 90C31: Sensitivity, stability, parametric optimization
 - 90C32: Fractional programming
 - 90C33: Complementarity problems
 - 90C34: Semi-infinite programming
 - 90C35: Programming involving graphs or networks
 - 90C39: Dynamic programming
 - 90C40: Markov and semi-Markov decision processes
 - 90C46: Optimality conditions, duality
 - 90C47: Minimax problems
 - 90C48: Programming in abstract spaces
 - 90C49: Extreme-point and pivoting methods
 - 90C51: Interior-point methods
 - 90C52: Methods of reduced gradient type
 - 90C53: Methods of quasi-Newton type
 - 90C55: Methods of successive quadratic programming type
 - 90C56: Derivative-free methods
 - 90C57: Polyhedral combinatorics, branch-and-bound, branch-and-cut
 - 90C59: Approximation methods and heuristics
 - 90C60: Abstract computational complexity for mathematical programming problems
 - 90C70: Fuzzy programming
 - 90C90: Applications of mathematical programming
 - 90C99: None of the above, but in this section
- [91-xx](#): Game theory, economics, social and behavioral sciences
 - 91-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 91-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 91-02: Research exposition (monographs, survey articles)
 - 91-03: Historical (must also be assigned at least one classification number from section 01)

- 91-04: Explicit machine computation and programs (not the theory of computation or programming)
- 91-06: Proceedings, conferences, collections, etc.
- 91-08: Computational methods
- [91Axx](#): Game theory
 - 91A05: 2-person games
 - 91A06: n -person games, $n \geq 2$
 - 91A10: Noncooperative games
 - 91A12: Cooperative games
 - 91A13: Games with infinitely many players
 - 91A15: Stochastic games
 - 91A18: Games in extensive form
 - 91A20: Multistage and repeated games
 - 91A22: Evolutionary games
 - 91A23: Differential games
 - 91A24: Positional games (pursuit and evasion, etc.)
 - 91A25: Dynamic games
 - 91A26: Rationality, learning
 - 91A28: Signaling, communication
 - 91A30: Utility theory for games
 - 91A35: Decision theory for games
 - 91A40: Game-theoretic models
 - 91A43: Games involving graphs
 - 91A44: Games involving topology or set theory
 - 91A46: Combinatorial games
 - 91A50: Discrete-time games
 - 91A55: Games of timing
 - 91A60: Probabilistic games; gambling
 - 91A65: Hierarchical games
 - 91A70: Spaces of games
 - 91A80: Applications of game theory
 - 91A90: Experimental studies
 - 91A99: None of the above, but in this section
- [91Bxx](#): Mathematical economics
 - 91B02: Fundamental topics (basic mathematics, methodology; applicable to economics in general)
 - 91B06: Decision theory
 - 91B08: Individual preferences
 - 91B10: Group preferences
 - 91B12: Voting theory
 - 91B14: Social choice
 - 91B16: Utility theory
 - 91B18: Public goods
 - 91B24: Price theory and market structure
 - 91B26: Market models (auctions, bargaining, bidding, selling, etc.)
 - 91B28: Finance, portfolios, investment
 - 91B30: Risk theory, insurance
 - 91B32: Resource and cost allocation
 - 91B38: Production theory, theory of the firm
 - 91B40: Labor market, contracts
 - 91B42: Consumer behavior, demand theory
 - 91B44: Informational economics
 - 91B50: Equilibrium: general theory
 - 91B52: Special types of equilibria
 - 91B54: Special types of economies
 - 91B60: General economic models, trade models
 - 91B62: Dynamic economic models, growth models
 - 91B64: Macro-economic models (monetary models, models of taxation)

- 91B66: Multisectoral models
 - 91B68: Matching models
 - 91B70: Stochastic models
 - 91B72: Spatial models
 - 91B74: Models of real-world systems
 - 91B76: Environmental economics (natural resource models, harvesting, pollution, etc.)
 - 91B82: Statistical methods; economic indices and measures
 - 91B84: Economic time series analysis
 - 91B99: None of the above, but in this section
- [91Cxx](#): Social and behavioral sciences: general topics
 - 91C05: Measurement theory
 - 91C15: One- and multidimensional scaling
 - 91C20: Clustering
 - 91C99: None of the above, but in this section
- [91Dxx](#): Mathematical sociology (including anthropology)
 - 91D10: Models of societies, social and urban evolution
 - 91D20: Mathematical geography and demography
 - 91D25: Spatial models
 - 91D30: Social networks
 - 91D35: Manpower systems
 - 91D99: None of the above, but in this section
- [91Exx](#): Mathematical psychology
 - 91E10: Cognitive psychology
 - 91E30: Psychophysics and psychophysiology; perception
 - 91E40: Memory and learning
 - 91E45: Measurement and performance
 - 91E99: None of the above, but in this section
- [91Fxx](#): Other social and behavioral sciences (mathematical treatment)
 - 91F10: History, political science
 - 91F20: Linguistics
 - 91F99: None of the above, but in this section
- [92-xx](#): Biology and other natural sciences
 - 92-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 92-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 92-02: Research exposition (monographs, survey articles)
 - 92-03: Historical (must also be assigned at least one classification number from Section 01)
 - 92-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 92-06: Proceedings, conferences, collections, etc.
 - 92-08: Computational methods
 - [92Bxx](#): Mathematical biology in general
 - 92B05: General biology and biomathematics
 - 92B10: Taxonomy, statistics
 - 92B15: General biostatistics
 - 92B20: Neural networks, artificial life and related topics
 - 92B99: None of the above, but in this section
 - [92Cxx](#): Physiological, cellular and medical topics
 - 92C05: Biophysics
 - 92C10: Biomechanics
 - 92C15: Developmental biology, pattern formation
 - 92C17: Cell movement (chemotaxis, etc.)
 - 92C20: Neural biology
 - 92C30: Physiology (general)
 - 92C35: Physiological flow
 - 92C37: Cell biology
 - 92C40: Biochemistry, molecular biology
 - 92C45: Kinetics in biochemical problems (pharmacokinetics, enzyme kinetics, etc.)
 - 92C50: Medical applications (general)

- 92C55: Biomedical imaging and signal processing
 - 92C60: Medical epidemiology
 - 92C80: Plant biology
 - 92C99: None of the above, but in this section
- [92Dxx](#): Genetics and population dynamics
 - 92D10: Genetics
 - 92D15: Problems related to evolution
 - 92D20: Protein sequences, DNA sequences
 - 92D25: Population dynamics (general)
 - 92D30: Epidemiology
 - 92D40: Ecology
 - 92D50: Animal behavior
 - 92D99: None of the above, but in this section
- [92Exx](#): Chemistry
 - 92E10: Molecular structure (graph-theoretic methods, methods of differential topology, etc.)
 - 92E20: Classical flows, reactions, etc.
 - 92E99: None of the above, but in this section
 - 92F05: Other natural sciences
- [93-xx](#): Systems theory; control
 - 93-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 93-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 93-02: Research exposition (monographs, survey articles)
 - 93-03: Historical (must also be assigned at least one classification number from Section 01)
 - 93-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 93-06: Proceedings, conferences, collections, etc.
 - [93Axx](#): General
 - 93A05: Axiomatic system theory
 - 93A10: General systems
 - 93A13: Hierarchical systems
 - 93A14: Decentralized systems
 - 93A15: Large scale systems
 - 93A30: Mathematical modeling (models of systems, model-matching, etc.)
 - 93A99: None of the above, but in this section
 - [93Bxx](#): Controllability, observability, and system structure
 - 93B03: Attainable sets
 - 93B05: Controllability
 - 93B07: Observability
 - 93B10: Canonical structure
 - 93B11: System structure simplification
 - 93B12: Variable structure systems
 - 93B15: Realizations from input-output data
 - 93B17: Transformations
 - 93B18: Linearizations
 - 93B20: Minimal systems representations
 - 93B25: Algebraic methods
 - 93B27: Geometric methods (including algebro-geometric)
 - 93B28: Operator-theoretic methods
 - 93B29: Differential-geometric methods
 - 93B30: System identification
 - 93B35: Sensitivity (robustness)
 - 93B36: $\{H\}^{\infty}$ -control
 - 93B40: Computational methods
 - 93B50: Synthesis problems
 - 93B51: Design techniques (robust design, computer-aided design, etc.)
 - 93B52: Feedback control
 - 93B55: Pole and zero placement problems

- 93B60: Eigenvalue problems
 - 93B99: None of the above, but in this section
 - [93Cxx](#): Control systems, guided systems
 - 93C05: Linear systems
 - 93C10: Nonlinear systems
 - 93C15: Systems governed by ordinary differential equations
 - 93C20: Systems governed by partial differential equations
 - 93C23: Systems governed by functional-differential equations
 - 93C25: Systems in abstract spaces
 - 93C30: Systems governed by functional relations other than differential equations
 - 93C35: Multivariable systems
 - 93C40: Adaptive control
 - 93C41: Problems with incomplete information
 - 93C42: Fuzzy control
 - 93C55: Discrete-time systems
 - 93C57: Sampled-data systems
 - 93C62: Digital systems
 - 93C65: Discrete event systems
 - 93C70: Time-scale analysis and singular perturbations
 - 93C73: Perturbations
 - 93C80: Frequency-response methods
 - 93C83: Control problems involving computers (process control, etc.)
 - 93C85: Automated systems (robots, etc.)
 - 93C95: Applications
 - 93C99: None of the above, but in this section
 - [93Dxx](#): Stability
 - 93D05: Lyapunov and other classical stabilities (Lagrange, Poisson, L^p , l^p , etc.)
 - 93D09: Robust stability
 - 93D10: Popov-type stability of feedback systems
 - 93D15: Stabilization of systems by feedback
 - 93D20: Asymptotic stability
 - 93D21: Adaptive or robust stabilization
 - 93D25: Input-output approaches
 - 93D30: Scalar and vector Lyapunov functions
 - 93D99: None of the above, but in this section
 - [93Exx](#): Stochastic systems and control
 - 93E03: Stochastic systems, general
 - 93E10: Estimation and detection
 - 93E11: Filtering
 - 93E12: System identification
 - 93E14: Data smoothing
 - 93E15: Stochastic stability
 - 93E20: Optimal stochastic control
 - 93E24: Least squares and related methods
 - 93E25: Other computational methods
 - 93E35: Stochastic learning and adaptive control
 - 93E99: None of the above, but in this section
- [94-xx](#): Information and communication, circuits
 - 94-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 94-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 94-02: Research exposition (monographs, survey articles)
 - 94-03: Historical (must also be assigned at least one classification number from Section 01)
 - 94-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 94-06: Proceedings, conferences, collections, etc.
 - [94Axx](#): Communication, information
 - 94A05: Communication theory
 - 94A08: Image processing (compression, reconstruction, etc.)

- 94A11: Application of orthogonal functions in communication
- 94A12: Signal theory (characterization, reconstruction, etc.)
- 94A13: Detection theory
- 94A14: Modulation and demodulation
- 94A15: Information theory, general
- 94A17: Measures of information, entropy
- 94A20: Sampling theory
- 94A24: Coding theorems (Shannon theory)
- 94A29: Source coding
- 94A34: Rate-distortion theory
- 94A40: Channel models
- 94A45: Prefix, length-variable, comma-free codes
- 94A50: Theory of questionnaires
- 94A55: Shift register sequences and sequences over finite alphabets
- 94A60: Cryptography
- 94A62: Authentication and secret sharing
- 94A99: None of the above, but in this section
- [94Bxx](#): Theory of error-correcting codes and error-detecting codes
 - 94B05: Linear codes, general
 - 94B10: Convolutional codes
 - 94B12: Combined modulation schemes (including trellis codes)
 - 94B15: Cyclic codes
 - 94B20: Burst-correcting codes
 - 94B25: Combinatorial codes
 - 94B27: Geometric methods (including applications of algebraic geometry)
 - 94B30: Majority codes
 - 94B35: Decoding
 - 94B40: Arithmetic codes
 - 94B50: Synchronization error-correcting codes
 - 94B60: Other types of codes
 - 94B65: Bounds on codes
 - 94B70: Error probability
 - 94B75: Applications of the theory of convex sets and geometry of numbers (covering radius, etc.)
 - 94B99: None of the above, but in this section
- [94Cxx](#): Circuits, networks
 - 94C05: Analytic circuit theory
 - 94C10: Switching theory, application of Boolean algebra; Boolean functions
 - 94C12: Fault detection; testing
 - 94C15: Applications of graph theory
 - 94C30: Applications of design theory
 - 94C99: None of the above, but in this section
 - 94D05: Fuzzy sets and logic (in connection with questions of Section 94)
- [97-xx](#): Mathematics education
 - 97-00: General reference works (handbooks, dictionaries, bibliographies, etc.)
 - 97-01: Instructional exposition (textbooks, tutorial papers, etc.)
 - 97-02: Research exposition (monographs, survey articles)
 - 97-03: Historical (must also be assigned at least one classification number from Section 01)
 - 97-04: Explicit machine computation and programs (not the theory of computation or programming)
 - 97-06: Proceedings, conferences, collections, etc.
 - [97Axx](#): General
 - 97A20: Recreational mathematics
 - 97A40: Sociological issues
 - 97A80: Standards
 - 97A90: Fiction and games
 - [97Bxx](#): Educational policy and educational systems
 - 97B10: Educational research and planning

- 97B20: General education
- 97B30: Vocational education
- 97B40: Higher education
- 97B50: Teacher education
- 97B60: Out-of-school education. Adult and further education
- 97B70: Syllabuses. Curriculum guides, official documents
- 97B99: None of the above, but in this section
- [97Cxx](#): Psychology of and research in mathematics education
 - 97C20: Affective aspects (motivation, anxiety, persistence, etc.)
 - 97C30: Student learning and thinking (misconceptions, cognitive development, problem solving, etc.)
 - 97C40: Assessment (large scale assessment, validity, reliability, etc.)
 - 97C50: Theoretical perspectives (learning theories, epistemology, philosophies of teaching and learning, etc.)
 - 97C60: Sociological aspects of learning (culture, group interactions, equity issues, etc.)
 - 97C70: Teachers, and research on teacher education (teacher development, etc.)
 - 97C80: Technological tools and other materials in teaching and learning (research on innovations, role in student learning, use of tools by teachers, etc.)
 - 97C90: Teaching and curriculum (innovations, teaching practices, studies of curriculum materials, effective teaching, etc.)
 - 97C99: None of the above, but in this section
- [97Dxx](#): Education and instruction in mathematics
 - 97D10: Comparative studies on mathematics education
 - 97D20: Philosophical and theoretical contributions to mathematical education
 - 97D30: Goals of mathematics teaching. Curriculum development
 - 97D40: Teaching methods and classroom techniques. Lesson preparation. Educational principles
 - 97D50: Teaching problem solving and heuristic strategies
 - 97D60: Achievement control and rating
 - 97D70: Diagnosis, analysis and remediation of learning difficulties and student errors
 - 97D80: Teaching units, draft lessons and master lessons
 - 97D99: None of the above, but in this section
- [97Uxx](#): Educational material and media. Educational technology
 - 97U20: Analysis of textbooks, development and evaluation of textbooks. Textbook use in the classroom
 - 97U30: Teacher manuals and planning aids
 - 97U40: Problem books; student competitions, examination questions
 - 97U50: Computer assisted instruction and programmed instruction
 - 97U60: Manipulative materials and their use in the classroom
 - 97U70: Technological tools (computers, calculators, software, etc.) and their use in the classroom
 - 97U80: Audiovisual media and their use in instruction
 - 97U99: None of the above, but in this section