Galois Theory 1st Edition Reprint

This Lecture Notes volume is the fruit of two research-level summer schools jointly organized by the GTEM node at Lille University and the team of Galatasaray University (Istanbul): "Geometry and Arithmetic of Moduli Spaces of Coverings (2008)" and "Geometry and Arithmetic around Galois Theory (2009)". The volume focuses on geometric methods in Galois theory. The choice of the editors is to provide a complete and comprehensive account of modern points of view on Galois theory and related moduli problems, using stacks, gerbes and groupoids. It contains lecture notes on étale fundamental group and fundamental group scheme, and moduli stacks of curves and covers. Research articles complete the collection.

This collection consists of original work on Galois theory, rings and algebras, algebraic geometry, group representations, algebraic K—theory and some of their applications.

This is the first of two books on methods and techniques in the calculus of variations. Contemporary arguments are used throughout the text to streamline and present in a unified way classical results, and to provide novel contributions at the forefront of the theory. This book addresses fundamental questions related to lower semicontinuity and relaxation of functionals within the unconstrained setting, mainly in L^p spaces. It prepares the ground for the second volume where the variational treatment of functionals involving fields and their derivatives will be undertaken within the framework of Sobolev spaces. This book is self-contained. All the statements are fully justified and proved, with the exception of basic results in measure theory, which may be found in any good textbook on the subject. It also contains several exercises. Therefore,it may be used both as a graduate textbook as well as a reference text for researchers in the field. Irene Fonseca is the Mellon College of Science Professor of Mathematics and is currently the Director of the Center for Nonlinear Analysis in the Department of Mathematical Sciences at Carnegie Mellon University. Her research interests lie in the areas of continuum mechanics, calculus of variations, geometric measure theory and partial differential equations. Giovanni Leoni is also a professor in the Department of Mathematical Sciences at Carnegie Mellon University. He focuses his research on calculus of variations, partial differential equations and geometric measure theory with special emphasis on applications to problems in continuum mechanics and in materials science.

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Following Quillen's approach to complex cobordism, the authors introduce the notion of oriented cohomology theory on the category of smooth varieties over a fixed field. They prove the existence of a universal such theory (in characteristic 0) called Algebraic Cobordism. The book also contains some examples of computations and applications.

Proceedings of a Workshop Held March 23–27, 1987
A Transition to Advanced Mathematics
Field Extensions and Galois Theory
Galois Theory of p-Extensions
Galois Theory and Modular Forms
Galois Theory of Linear Differential Equations

Differential Galois theory is an important, fast developing area which appears more and more in graduate courses since it mixes fundamental objects from many different areas of mathematics in a stimulating context. For a long time, the dominant approach, usually called Picard-Vessiot Theory, was purely algebraic. This approach has been extensively developed and is well covered in the literature. An alternative approach consists in tagging algebraic objects with transcendental information which enriches the understanding and brings not only new points of view but also new solutions. It is very powerful and can be applied in situations where the Picard-Vessiot approach is not easily extended. This book offers a hands-on transcendental approach to differential Galois theory, based on the Riemann-Hilbert correspondence. Along the way, it provides a smooth, down-to-earth introduction to algebraic geometry, category theory and tannakian duality. Since the book studies only complex analytic linear differential equations, the main prerequisites are complex function theory, linear algebra, and an elementary knowledge of groups and of polynomials in many variables. A large variety of examples, exercises, and theoretical constructions, often via explicit computations, offers first-year graduate students an accessible entry into this exciting area.

Develops Galois theory in a more general context, emphasizing category theory.

Galois theory is the culmination of a centuries-long search for a solution to the classical problem of solving algebraic equations by radicals. In this book, Bewersdorff follows the historical development of the theory, emphasizing concrete examples along the way. As a result, many mathematical abstractions are now seen as the natural consequence of particular investigations. Few prerequisites are needed beyond general college mathematics, since the necessary ideas and properties of groups and fields are provided as needed. Results in Galois theory are formulated first in a concrete, elementary way, then in the modern form. Each chapter begins with a simple question that gives the reader an idea of the nature and difficulty of what lies ahead. The applications of the theory to geometric constructions, including the ancient problems of squaring the circle, duplicating the cube, and trisecting the angle, and the construction of regular n n-gons are also presented. This new edition contains an additional chapter as well as twenty facsimiles of milestones of classical algebra. It is suitable for undergraduates and graduate students, as well as teachers and mathematicians seeking a historical and stimulating perspective on the field.

This monograph is devoted to a completely new approach to geometric problems arising in the study of random fields. The groundbreaking material in Part III, for which the background is carefully prepared in Parts I and II, is of both theoretical and practical importance, and striking in the way in which problems arising in geometry and probability are beautifully intertwined. "Random Fields and Geometry" will be useful for probabilists and statisticians, and for theoretical and applied mathematicians who wish to learn about new relationships between geometry and probability. It will be helpful for graduate students in a classroom setting, or for self-study. Finally, this text will serve as a basic reference for all those interested in the companion volume of the applications of the theory.

Over the years, this book has become a standard reference and guide in the set theory community. It provides a comprehensive account of the theory of large cardinals from its beginnings and some of the direct outgrowths leading to the frontiers of contemporary research, with open questions and speculations throughout.

The Higher Infinite
Differential Galois Theory and Non-Integrability of Hamiltonian Systems
L^p Spaces
Field and Galois Theory
Class Field Theory
Blocks of Finite Groups

Global class field theory is a major achievement of algebraic number theory based on the functorial properties of the reciprocity map and the existence theorem. This book explores the consequences and the practical use of these results in detailed studies and illustrations of classical subjects. In the corrected second printing 2005, the author improves many details all through the book.

From the reviews: "This is a great book, which will hopefully become a classic in the subject of differential Galois theory. [...] the specialist, as well as the novice, have long been missing an introductory book covering also specific and advanced research topics. This gap is filled by the volume under review, and more than satisfactorily." Mathematical Reviews

In this volume we present a survey of the theory of Galois module structure for rings of algebraic integers. This theory has experienced a rapid growth in the last ten to twelve years, acquiring mathematical depth and significance and leading to new insights also in other branches of algebraic number theory. The decisive take-off point was the discovery of its connection with Artin L-functions. We shall concentrate on the topic which has been at the centre of this development, namely the global module structure for tame Galois extensions of numberfields -in other words of extensions with trivial local module structure. The basic problem can be stated in down to earth terms: the nature of the obstruction to the existence of a free basis over the integral group ring ("normal integral basis"). Here a definitive pattern of a theory has emerged, central problems have been solved, and a stage has clearly been reached when a systematic account has become both possible and desirable. Of course, the solution of one set of problems has led to new questions and it will be our aim also to discuss some of these. We hope to help the reader early on to an understanding of the basic structure of our theory and of its central theme, and to motivate at each successive stage the introduction of new concepts and new tools.

This volume is an outgrowth of the research project "The Inverse Ga lois Problem and its Application to Number Theory" which was carried out in three academic years from 1999 to 2001 with the support of the Grant-in-Aid for Scientific Research (B) (1) No. 11440013. In September, 2001, an international conference "Galois Theory and Modular Forms" was held at Tokyo Metropolitan University after some preparatory work shops and symposia in previous years. The title of this book came from that of the conference, and the authors were participants of those meet All of the articles here were critically refereed by experts. Some of ings. these articles give well prepared surveys on branches of research areas, and many articles aim to bear the latest research results accompanied with carefully written expository introductions. When we started our re~earch project, we picked up three areas to investigate under the key word "Galois groups"; namely, "generic poly nomials" to be applied to number theory, "Galois coverings of algebraic curves" to study new type of representations of absolute Galois groups, and explicitly described "Shimura varieties" to understand well the Ga lois structures of some interesting polynomials including Brumer's sextic for the alternating group of degree 5. The topics of the articles in this volume are widely spread as a result. At a first glance, some readers may think this book somewhat unfocussed.

This book offers a systematic presentation of up-to-date material scattered throughout the literature from the methodology point of view. It reviews the basic theories and methods, with many interesting problems in partial and ordinary differential equations, differential geometry and mathematical physics as applications, and provides the necessary preparation for almost all important aspects in contemporary studies. All methods are illustrated by carefully chosen examples from mechanics, physics, engineering and geometry.

Galois Theory, Third Edition
With Examples
III. Theory of Fields and Galois Theory
Basic Concepts
Methods in Nonlinear Analysis
Galois Theory

About 60 years ago, R. Brauer introduced "block theory"; his purpose was to study the group algebra kG of a finite group G over a field k of nonzero characteristic p: any indecomposable two-sided ideal that also is a direct summand of kG determines a G-block. But the main discovery of Brauer is perhaps the existence of families of infinitely many nonisomorphic groups having a "common block"; i.e., blocks having mutually isomorphic "source algebras". In this book, based on a course given by the author at Wuhan University in 1999, all the concepts mentioned are introduced, and all the proofs are developed completely. Its main purpose is the proof of the existence and the uniqueness of the "hyperfocal subalgebra" in the source algebra. This result seems fundamental in block theory; for instance, the structure of the source algebra of a nilpotent block, an important fact in block theory, can be obtained as a corollary. The exceptional layout of this bilingual edition featuring 2 columns per page (one English, one Chinese) sharing the displayed mathematical formulas is the joint achievement of the author and A. Arabia.

Differential Galois theory studies solutions of differential equations over a differential base field. In much the same way that ordinary Galois theory is the theory of field extensions generated by solutions of (one variable) polynomial equations, differential Galois theory looks at the nature of the differential field extension generated by the solutions of differential equations. An additional feature is that the corresponding differential Galois groups (of automorphisms of the extension fixing the base and commuting with the derivation) are algebraic groups. This book deals with the differential Galois theory of linear homogeneous differential equations, whose differential Galois groups are algebraic matrix groups.In addition to providing a convenient path to Galois theory, this approach also leads to the constructive solution of the inverse problem of differential Galois theory for various classes of algebraic groups. Providing a self-contained development and many explicit examples, this book provides a unique approach to differential Galois theory and is suitable as a textbook at the advanced graduate level.

Rudyak's groundbreaking monograph is the first guide on the subject of cobordism since Stong's influential notes of a generation ago. It concentrates on Thom spaces (spectra), orientability theory and (co)bordism theory (including (co)bordism with singularities and, in particular, Morava K-theories). These are all framed by (co)homology theories and spectra. The author has also performed a service to the history of science in this book, giving detailed attributions.

Since 1973, Galois theory has been educating undergraduate students on Galois groups and classical Galois theory. In Galois Theory, Fifth Edition, mathematician and popular science author Ian Stewart updates this well-established textbook for today's algebra students. New to the Fifth Edition Reorganised and revised Chapters 7 and 13 New exercises and examples Expanded, updated references Further historical material on figures besides Galois: Omar Khayyam, Vandermonde, Ruffini, and Abel A new final chapter discussing other directions in which Galois theory has developed: the inverse Galois problem, differential Galois theory, and a (very) brief introduction to p-adic Galois representations This bestseller continues to deliver a rigorous, yet engaging, treatment of the subject while keeping pace with current educational requirements. More than 200 exercises and a wealth of historical notes augment the proofs, formulas, and theorems.

This 1984 book aims to make the general theory of field extensions accessible to any reader with a modest background in groups, rings and vector spaces. Galois theory is regarded amongst the central and most beautiful parts of algebra and its creation marked the culmination of generations of investigation.

Galois' Theory of Algebraic Equations
From Euler to Eisenstein
Classical Galois Theory
Lectures on Differential Galois Theory
Introduction to Singularities and Deformations
Reciprocity Laws

Praise for the First Edition ". . .will certainly fascinate anyone interested in abstractalgebra: a remarkable book!" —Monatshefte fur Mathematik Galois theory is one of the most established topics inmathematics, with historical roots that led to the development ofmany central concepts in modern algebra, including groups andfields. Covering classic applications of the theory, such assolvability by radicals, geometric constructions, and finitefields, Galois Theory, Second Edition delves into noveltopics like Abel's theory of Abelian equations, casusirreducibili, and the Galois theory of origami. In addition, this book features detailed treatments of severaltopics not covered in standard texts on Galois theory,including: The contributions of Lagrange, Galois, and Kronecker How to compute Galois groups Galois's results about irreducible polynomials of primeor prime-squared degree Abel's theorem about geometric constructions on thelemniscates Galois groups of quartic polynomials in allcharacteristics Throughout the book, intriguing Mathematical Notes andHistorical Notes sections clarify the discussed ideas andthe historical context; numerous exercises and examples use Mapleand Mathematica to showcase the computations related to Galoistheory; and extensive references have been added to provide readerswith additional resources for further study. Galois Theory, Second Edition is an excellent book forcourses on abstract algebra at the upper-undergraduate and graduatelevels. The book also serves as an interesting reference for anyonewith a general interest in Galois theory and its contributions tothe field of mathematics.

This book covers the development of reciprocity laws, starting from conjectures of Euler and discussing the contributions of Legendre, Gauss, Dirichlet, Jacobi, and Eisenstein. Readers knowledgeable in basic algebraic number theory and Galois theory will find detailed discussions of the reciprocity laws for quadratic, cubic, quartic, sextic and octic residues, rational reciprocity laws, and Eisensteins reciprocity law. An extensive bibliography will be of interest to readers interested in the history of reciprocity laws or in the current research in this area.

Foundations of Galois Theory is an introduction to group theory, field theory, and the basic concepts of abstract algebra. The text is divided into two parts. Part I presents the elements of Galois Theory, in which chapters are devoted to the presentation of the elements of field theory, facts from the theory of groups, and the applications of Galois Theory. Part II focuses on the development of general Galois Theory and its use in the solution of equations by radicals. Equations that are solvable by radicals; the construction of equations solvable by radicals; and the unsolvability by radicals of the general equation of degree n ? 5 are discussed as well. Mathematicians, physicists, researchers, and students of mathematics will find this book highly useful.

Function Algebras on Finite Sets gives a broad introduction to the subject, leading up to the cutting edge of research. The general concepts of the Universal Algebra are given in the first part of the book, to familiarize the reader from the very beginning on with the algebraic side of function algebras. The second part covers the following topics: Galois-connection between function algebras and relation algebras, completeness criterions, and clone theory.

This comprehensive history traces the development of mathematical ideas and the careers of the men responsible for them. Volume 1 looks at the disciplines origins in Babylon and Egypt, the creation of geometry and trigonometry by the Greeks, and the role of mathematics in the medieval and early modern periods. Volume 2 focuses on calculus, the rise of analysis in the 19th century, and the number theories of Dedekind and Dirichlet. The concluding volume covers the revival of projective geometry, the emergence of abstract algebra, the beginnings of topology, and the influence of Godel on recent mathematical study.

Modern Methods in the Calculus of Variations
Foundations of Galois Theory
From Theory to Practice
Serre's Problem on Projective Modules
Second Edition
Collection of Papers

An invaluable summary of research work done in the period from 1978 to the present

The present volume completes the series of texts on algebra which the author began more than ten years ago. The account of field theory and Galois theory which we give here is based on the notions and results of general algebra which appear in our first volume and on the more elementary parts of the second volume, dealing with linear algebra. The level of the present work is roughly the same as that of Volume II. In preparing this book we have had a number of objectives in mind. First and foremost has been that of presenting the basic field theory which is essential for an understanding of modern algebraic number theory, ring theory, and algebraic geometry. The parts of the book concerned with this aspect of the subject are Chapters I, IV, and V dealing respectively with finite dimen sional field extensions and Galois theory, general structure theory of fields, and valuation theory. Also the results of Chapter IlIon abelian extensions, although of a somewhat specialized nature, are of interest in number theory. A second objective of our ac count has been to indicate the links between the present theory of fields and the classical problems which led to its development.

This volume is the offspring of a week-long workshop on "Galois groups over Q and related topics," which was held at the Mathematical Sciences Research Institute during the week March 23-27, 1987. The organizing committee consisted of Kenneth Ribet (chairman), Yasutaka Ihara, and Jean-Pierre Serre. The conference focused on three principal themes: 1. Extensions of Q with finite simple Galois groups. 2. Galois actions on fundamental groups, nilpotent extensions of Q arising from Fermat curves, and the interplay between Gauss sums and cyclotomic units. 3. Representations of Gal(Q/Q) with values in GL(2)j deformations and connections with modular forms. Here is a summary of the conference program: • G. Anderson: "Gauss sums, circular units and the simplex" • G. Anderson and Y. Ihara: "Galois actions on 11"1 (• • •) and higher circular units" • D. Blasius: "Maass forms and Galois representations" • P. Deligne: "Galois action on 1I"1(P-{0, 1, oo}) and Hodge analogue" • W. Feit: "Some Galois groups over number fields" • Y. Ihara: "Arithmetic aspect of Galois actions on 1I"1(P - {O, 1, oo})" - survey talk • U. Jannsen: "Galois cohomology of i-adic representations" • B. Matzat: - "Rationality criteria for Galois extensions" - "How to construct polynomials with Galois group Mll over Q" • B. Mazur: "Deforming GL(2) Galois representations" • K. Ribet: "Lowering the level of modular representations of Gal(Q/ Q)" • J-P. Serre: - Introductory Lecture - "Degree 2 modular representations of Gal(Q/Q)" • J.

This book offers the fundamentals of Galois Theory, including a set of copious, well-chosen exercises that form an important part of the presentation. The pace is gentle and incorporates interesting historical material, including aspects on the life of Galois. Computed examples, recent developments, and extensions of results into other related areas round out the presentation.

The present volume is the first of three that will be published under the general title Lectures in Abstract Algebra. These vol umes are based on lectures which the author has given during the past ten years at the University of North Carolina, at The Johns Hopkins University, and at Yale "University. The general plan of the work IS as follows: The present first volume gives an introduction to abstract algebra and gives an account of most of the important algebraIc concepts. In a treatment of this type it is impossible to give a comprehensive account of the topics which are introduced. Nevertheless we have tried to go beyond the foundations and elementary properties of the algebraic sys tems. This has necessitated a certain amount of selection and omission. We feel that even at the present stage a deeper under standing of a few topics is to be preferred to a superficial under standing of many. The second and third volumes of this work will be more special ized in nature and will attempt to give comprehensive accounts of the topics which they treat. Volume II will bear the title Linear Algebra and will deal with the theorv of vectQ!_]lP. -a. ces. . . . . Volume III, The Theory of Fields and Galois Theory, will be con cerned with the algebraic structure offieras and with valuations of fields. All three volumes have been planned as texts for courses.

Cyclotomic Fields and Zeta Values

Algebra f ü r Einsteiger

A Survey Course

Function Algebras on Finite Sets

Galois Theory, Rings, Algebraic Groups and Their Applications

Large Cardinals in Set Theory from Their Beginnings

This book is devoted to the relation between two different concepts of integrability: the complete integrability of complex analytical Hamiltonian systems and the integrability of complex analytical linear differential equations. For linear differential equations, integrability is made precise within the framework of differential Galois theory. The connection of these two integrability notions is given by the variational equation (i.e. linearized equation) along a particular integral curve of the Hamiltonian system. The underlying heuristic idea, which motivated the main results presented in this monograph, is that a necessary condition for the integrability of a Hamiltonian system is the integrability of the variational equation along any of its particular integral curves. This idea led to the algebraic non-integrability criteria for Hamiltonian systems. These criteria can be considered as generalizations of classical non-integrability results by Poincaré and Lyapunov, as well as more recent results by Ziglin and Yoshida. Thus, by means of the differential Galois theory it is not only possible to understand all these approaches in a unified way but also to improve them. Several important applications are also included: homogeneous potentials, Bianchi IX cosmological model, three-body problem, Hénon-Heiles system, etc. The book is based on the original joint research of the author with J.M. Peris, J.P. Ramis and C. Simó, but an effort was made to present these achievements in their logical order rather than their historical one. The necessary background on differential Galois theory and Hamiltonian systems is included, and several new problems and conjectures which open new lines of research are proposed. - - - The book is an excellent introduction to non-integrability methods in Hamiltonian mechanics and brings the reader to the forefront of research in the area. The inclusion of a large number of worked-out examples, many of wide applied interest, is commendable. There are many historical references, and an extensive bibliography. (Mathematical Reviews) For readers already prepared in the two prerequisite subjects [differential Galois theory and Hamiltonian dynamical systems], the author has provided a logically accessible account of a remarkable interaction between differential algebra and dynamics. (Zentralblatt MATH)

Helmut Koch's classic is now available in English. Competently translated by Franz Lemmermeyer, it introduces the theory of pro-p groups and their cohomology. The book contains a postscript on the recent development of the field written by H. Koch and F. Lemmermeyer, along with many additional recent references.

In the fall of 1990, I taught Math 581 at New Mexico State University for the first time. This course on field theory is the first semester of the year-long graduate algebra course here at NMSU. In the back of my mind, I thought it would be nice someday to write a book on field theory, one of my favorite mathematical subjects, and I wrote a crude form of lecture notes that semester. Those notes sat undisturbed for three years until late in 1993 when I finally made the decision to turn the notes into a book. The notes were greatly expanded and rewritten, and they were in a form sufficient to be used as the text for Math 581 when I taught it again in the fall of 1994. Part of my desire to write a textbook was due to the nonstandard format of our graduate algebra sequence. The first semester of our sequence is field theory. Our graduate students generally pick up group and ring theory in a senior-level course prior to taking field theory. Since we start with field theory, we would have to jump into the middle of most graduate algebra textbooks. This can make reading the text difficult by not knowing what the author did before the field theory chapters. Therefore, a book devoted to field theory is desirable for us as a text. While there are a number of field theory books around, most of these were less complete than I wanted.

Galois theory is the culmination of a centuries-long search for a solution to the classical problem of solving algebraic equations by radicals. In this book, Bewersdorff follows the historical development of the theory, emphasizing concrete examples along the way. As a result, many mathematical abstractions are now seen as the natural consequence of particular investigations. Few prerequisites are needed beyond general college mathematics, since the necessary ideas and properties of groups and fields are provided as needed.Results in Galois theory are formulated first in a concrete, elementary way, then in the modern form. Each chapter begins with a simple question that gives the reader an idea of the nature and difficulty of what lies ahead. The applications of the theory to geometric constructions, including the ancient problems of squaring the circle, duplicating the cube, and trisecting an angle, and the construction of regular n-gons are also presented. This book is suitable for undergraduates and beginning graduate students.

Singularity theory is a young, rapidly-growing topic with connections to algebraic geometry, complex analysis, commutative algebra, representations theory, Lie groups theory and topology, and many applications in the natural and technical sciences. This book presents the basic singularity theory of analytic spaces, including local deformation theory and the theory of plane curve singularities. It includes complete proofs.

Arithmetic and Geometry Around Galois Theory

Galois Groups over ?

Random Fields and Geometry

Galois Module Structure of Algebraic Integers

Basic Course on Many-Valued Logic and Clone Theory

Preface 1. Mathematical Logic 2. Abstract Algebra 3. Number Theory 4. Real Analysis 5. Probability and Statistics 6. Graph Theory 7. Complex Analysis Answers to Questions Answers to Odd Numbered Questions Index of Online Resources Bibliography Index.

Galois theory is considered one of the most beautiful subjects in mathematics, but it is hard to appreciate this fact fully without seeing specific examples. Numerous examples are therefore included throughout this text, in the hope that they will lead to a deeper understanding and genuine appreciation of the more abstract and advanced literature on Galois theory.

Written by two leading workers in the field, this brief but elegant book presents in full detail the simplest proof of the "main conjecture" for cyclotomic fields. Its motivation stems not only from the inherent beauty of the subject, but also from the wider arithmetic interest of these questions. From the reviews: "The text is written in a clear and attractive style, with enough explanation helping the reader orientate in the midst of technical details." --ZENTRALBLATT MATH

The book gives a detailed account of the development of the theory of algebraic equations, from its origins in ancient times to its completion by Galois in the nineteenth century. The appropriate parts of works by Cardano, Lagrange, Vandermonde, Gauss, Abel, and Galois are reviewed and placed in their historical perspective, with the aim of conveying to the reader a sense of the way in which the theory of algebraic equations has evolved and has led to such basic mathematical notions as "group" and "field". A brief discussion of the fundamental theorems of modern Galois theory and complete proofs of the quoted results are provided, and the material is organized in such a way that the more technical details can be skipped by readers who are interested primarily in a broad survey of the theory. In this second edition, the exposition has been improved throughout and the chapter on Galois has been entirely rewritten to better reflect Galois' highly innovative contributions. The text now follows more closely Galois' memoir, resorting as sparsely as possible to anachronistic modern notions such as field extensions. The emerging picture is a surprisingly elementary approach to the solvability of equations by radicals, and yet is unexpectedly close to some of the most recent methods of Galois theory.

Ian Stewart's Galois Theory has been in print for 30 years. Resoundingly popular, it still serves its purpose exceedingly well. Yet mathematics education has changed considerably since 1973, when theory took precedence over examples, and the time has come to bring this presentation in line with more modern approaches. To this end, the story now begins with polynomials over the complex numbers, and the central quest is to understand when such polynomials have solutions that can be expressed by radicals. Reorganization of the material places the concrete before the abstract, thus motivating the general theory, but the substance of the book remains the same.

Galois Theory for Beginners: A Historical Perspective, Second Edition

Differential Galois Theory through Riemann-Hilbert Correspondence

On Thom Spectra, Orientability, and Cobordism

Algebraic Cobordism

Certain Number-Theoretic Episodes In Algebra, Second Edition

Lectures in Abstract Algebra

The book attempts to point out the interconnections between number theory and algebra with a view to making a student understand certain basic concepts in the two areas forming the subject-matter of the book.

Mathematical Thought From Ancient to Modern Times

The Hyperfocal Subalgebra of a Block

Lectures in Abstract Algebra I

Galois Theories