Syllabus

Course number MATH 6331 91L

Course modality Online Asynchronous Courses (OASYNC)

Instructor name Paul-Hermann Zieschang

Phone on request

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Office hours any time by zoom

Course modality This course will be delivered fully online. There will be no designated class meeting time for real-time instructor/student interaction, which gives you the flexibility to engage with the course materials as best fits your daily schedule. Your learning will be guided by the digital presentation of the course content (e.g., recorded lectures, presentations, outlines, notes) and scheduled assignments. Your instructors will provide you with feedback on assigned work, communicate with you electronically, and be available to meet as defined on this syllabus.

Course description Topics include abstract Galois correspondence, finite and integral ring extensions, the minimal polynomial, finite Galois correspondence, splitting fields, normality, separability, algebraic Galois correspondence.

COVID-19 resources Please visit the UTRGV COVID-19 Website via the following link for the most up-to-date information and resources

(https://www.utrgv.edu/coronavirus/index.htm).

This includes information on self-screening questions, links to forms for travel and contact, etc. Boilerplate language on self-screening and reporting is currently being developed.

Face covering protocol As part of the university's ongoing COVID-19 mitigation efforts to maintain a healthy environment for all members of our campus community, anyone entering a campus building must wear a face covering that covers the mouth and nose. The covering must be worn in all hallways, public spaces, research labs, teaching/computer labs, libraries, classrooms, automobiles with a passenger, stairwells, elevators and common areas, as well as office spaces. In office spaces, when social distancing of 6 feet is possible and maintained, face coverings may be removed. Face coverings also are required in outdoor settings when safe social distancing and gathering practices are not possible.

Learning objectives/outcomes Upon completion of this course the student will

be able to identify Galois elements for a given Galois pair and to work with order reversing maps from the poset of all submonoids of a given monoid to the poset of all subgroups of the automorphism group of that monoid;

recognize and identify finite and integral ring extensions, be able to determine the minimal polynominal of an element of a field F being algebraic over a subfield of F, and to work with the different properties of the minimal polynominal as far as ring homomorphism and subfields are concerned;

be able to identify finite Galois extensions among algebraic field extensions and to compute all dimensions as well as all subgroup indices arising in a finite Galois extension;

be able to identify splitting fields of polynomials, to identify algebraically closed fields among the class of all fields and to work with the images of splittingfields under homomorphisms;

be able to identify normal (separable, galois) field extensions among all algebraic field extensions and to work with normal (separable, galois) field extensions in relationship with field automorphisms;

Course schedule Each module note will be released on a Wednesday. (The first module note on the first Wednesday of the semester.) The module exercises must be submitted as a pdf (or word, jpeg, pages, ...) document to the email of the instructor by the following Monday 16:59 CTZ. The module test will be taken on the following Tuesday between 10:00 and 17:59 CTZ and must be submitted as a pdf (or word, jpeg, pages, ...) document to the email of the instructor before 17:59 CTZ. No late work will be accepted.

Grading policy In the module exercises, you may receive 174 points, in the module tests, you may receive 140 points. Module exercises: 60%, module tests 40%. Late work will be not considered. UTRGVs grading policy is to use straight letter grades (A, B, C, D, or F).

Textbook No textbook will be required, I will provide each student with a pdf file which contains the necessary content of this class. Recommended books are mentioned in the notes.

Blackboard support If you need assistance with course technology at any time, please contact the Center for Online Learning and Teaching Technology (COLTT).

Toll Free: 1-866-654-4555 Office Hours: Monday - Friday, 7:30 a.m. - 6:00 p.m.

Support Tickets Submit a Support Case via our Ask COLTT Portal 24/7 Blackboard Support Need Blackboard assistance after hours? You can call our main office numbers, 956-882-6792 or 956-665-5327, to speak with a support representative.

Absence/sick policy See recording of instruction option below or identify other means students can participate if unable to attend class at the designated time.

When setting your attendance policy for the fall semester, please consider COVID-19-related extenuating circumstances. For instance, you may encounter students who cannot attend class at the scheduled time of a face-to-face, hybrid or synchronous course because they answer Yes to any of the COVID screening questions, they need to self-isolate because of exposure, or they become sick with COVID and are unable to complete assignments or exams by the original due date. It will be important to consider how you will accommodate students in these and similar situations and share your approach with students in the syllabus. Based on the student reporting protocol (to be shared separately), the student will be able to provide you documentation from the UTRGV COVID-19 response team.

Academic integrity Members of the UTRGV community uphold the Vaquero Honor Codes shared values of honesty, integrity and mutual respect in our interactions and relationships. In this regard, academic integrity is fundamental in our actions, as any act of dishonesty conflicts as much with academic achievement as with the values of honesty and integrity. Violations of academic integrity include, but are not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts (Board of Regents Rules and Regulations, STU 02-100, and UTRGV Academic Integrity Guidelines). All violations of Academic Integrity will be reported to Student Rights and Responsibilities through Vaqueros Report It.

UTRGV Policy Statements The UTRGV disability accommodation, mandatory course evaluation statement and sexual misconduct statement are required on all syllabi. Additional policy statements are optional, such as those covering attendance, academic integrity, and course drop policies.

Students with disabilities Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive reasonable academic accommodations should contact Student Accessibility Services (SAS) for additional information. In order for accommodation requests to be considered for approval, the student must apply using

the mySAS portal located at www.utrgv.edu/mySAS and is responsible for providing sufficient documentation of the disability to SAS. Students are required to participate in an interactive discussion, or an intake appointment, with SAS staff. Accommodations may be requested at any time but are not retroactive, meaning they are valid once approved by SAS. Please contact SAS early in the semester/module for guidance. Students who experience a broken bone, severe injury, or undergo surgery may also be eligible for temporary accommodations. Pregnancy, Pregnancy-related, and Parenting Accommodations Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to apply to Student Accessibility Services using the following link: Pregnancy Accommodations Request Form https://www.utrgv.edu/pregnancy Student Accessibility Services:

Brownsville Campus: Student Accessibility Services is located in 1.107 in the Music and Learning Center building (BMSLC) and can be contacted by phone at (956) 882-7374 or via email at ability@utrgv.edu.

Edinburg Campus: Student Accessibility Services is located in 108 University Center (EUCTR) and can be contacted by phone at (956) 665-7005 or via email at ability@utrgv.edu.

Mandatory course evaluation period Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account

(http://my.utrgv.edu);

you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available at the end of the semester.

Sexual misconduct and mandatory reporting In accordance with UT System regulations, your instructor is a Responsible Employee for reporting purposes under Title IX regulations and so must report to the Office of Institutional Equity & Diversity (OIED@utrgv.edu) any instance, occurring during a students time in college, of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civil-

ity, and mutual respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at (956) 665-8287, (956) 882-8282, or OVAVP@utrgv.edu.

Course drops According to UTRGV policy, students may drop any class without penalty earning a grade of DR (drop) until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the 3-peat rule and the 6-drop rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

Student services Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Student Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructors office hours. University Resources include the Advising Center, Career Center, Counseling Center, Learning Center, and Writing Center. The centers provide services such as tutoring, writing help, counseling services, critical thinking, study skills, degree planning, and student employment. In addition, services such as the Food Pantry are also provided. Locations are listed below.

Calendar of activities Required on all syllabi. To be completed by the instructor. Include in this section a table or list that provides a general description of the subject matter of each lecture or discussion.

The UTRGV academic calendar can be found at https://my.utrgv.edu/home at the bottom of the screen, prior to login.