## PRACTICAL INFORMATION

Class hours:	MWF 3–3:50 pm
Class room:	MATH 010
Instructor:	Lars Winther Christensen
Office:	Weeks Hall 347
Office hours: TBD	
E-mail:	lars.w.christensen@ttu.edu
Course homepage:	www.math.ttu.edu/~lchriste/teaching.html
course nonicpage.	

## **COURSE DESCRIPTION**

The main topic of this class is linear representations of finite groups. The idea is very simple: by realizing a finite group as a subgroup the general linear group  $GL_n(F)$  ideas and invariants from linear algebra can be brought to baer on the study of, say, symmetric groups, and *p*-groups.

Main text: A course in Finite Group Representation Theory by Peter Webb, Cambridge studies in advanced mathematics 161.

Prerequisites: Ideally, and possibly concurrent, Math 5326.

**Student learning outcomes:** After completion of the course, the students will be familiar with a host of invariants from commutative algebra and algebraic geometry, and they will know how to compute them using the computer algebra system MACAULAY 2. The focus of the class is on computations ranter than proofs. Topics covered include:

- Group rings
- Maschke's Theorem
- Semi-simple rings
- Characters and character tables
- Induction and restriction
- Representations of *p*-groups

## LEARNING ASSESSMENT

Graded assessment is done through homework and presentations.

Fall 2021