

This course is not a purely representation-theoretic one. Its main purpose is to present the theory of Deligne/Lusztig, which gives a construction of irreducible representations of any finite group of Lie type over an algebraically closed field of characteristic zero. The main tool in this theory is the  $\ell$ -adic cohomology of algebraic varieties in characteristic  $p$ . Hence, besides representation theory, the other main focus of the course is the mechanism of  $\ell$ -adic cohomology and how to apply it.

Prerequisites are some algebraic geometry and some basic knowledge of the theory of linear algebraic groups.

#### REFERENCES

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- [L] Lusztig, George, Representations of finite Chevalley groups. Expository lectures from the CBMS Regional Conference held at Madison, Wis., August 8–12, 1977. CBMS Regional Conference Series in Mathematics, 39. American Mathematical Society, Providence, R.I., 1978. v+48 pp.
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