

## Math 434, Representation Theory Spring 2019

(Tentative) Timetable

	Monday	Tuesday	Wednesday	Friday	Topics
2/4-2/8	NO	CLASS			introduction, linear algebra review §2
2/11 – 2/15			HW1		reps, subreps; irred., decomp., unitary; Maschke's §3.1-2
2/18 - 2/22			HW2		Theorem; morphisms, Schur's Lemma; group algebra, Schur orth §3.2, 4.1-2
2/25 – 3/1			HW3		ogonality relations; characters, class fns; first ortho §4.2-3
3/4-3/8			HW4		gonality relation; consequences for reps; regular rep; character §4.3-4
3/11 – 3/15	Diagnostic Test		HW5		tables; second orth. relation; lots of examples §4.4
3/18 - 3/22			HW6		Case Study: finite ab. grps Fourier analysis on finite groups §4.5, 5.1-3
3/25 – 3/29	SPRING	BREAK	GO	WILD !!	
4/1 – 4/5			Midterm 7-9pm Location: TBA		Fourier analysis cont'd; Dimension Theorem; §5.2-3, §6.1-2
4/8 – 4/12			HW7		group actions; permutation reps §7.1-2
4/15 – 4/19	Project Submission (tentative)		HW8		partitions, Young things, tabloids, Sprecht reps Subrepresentation §10.1-2
4/22 – 4/26			HW9		Theorem; additional topics TBD §10.2
4/29 – 5/3			HW10	NO CLASS	additional topics TBD
5/6-5/10					additional topics TBD

## **Notes:**

- 1. § Y.a refers to Ch.Y, Section a in Representation Theory of Finite Groups, by B. Steinberg.
- 2. Topics may not be covered precisely as timetabled. This schedule is subject to change: we may require some further introductory lectures on advanced topics in linear algebra, real analysis.