**MATH 145A - SET THEORY I**
**TENTATIVE SCHEDULE**

| Day | Topic |
|---|---|
| T, Sep 3 | Introduction **HW1 out** |
| R, Sep 5 | Basics of class/set theory |
| T, Sep 10 | Partial orders, axiom of infinity, construction of Z, Q, R **HW1 due. HW2 out** |
| R, Sep 12 | Back and forth, characterization of Q and R |
| T, Sep 17 | Well-foundedness, ordinals **HW2 due. HW3 out** |
| R, Sep 19 | More on ordinals |
| T, Sep 24 | Axiom of choice, cardinals **HW3 due. HW4 out** |
| R, Sep 26 | Cardinal arithmetic |
| T, Oct 1 | Regular and singular cardinals, more cardinal arithmetic **HW4 due. HW5 out** |
| R, Oct 3 | Borel sets |
| T, Oct 8 | The continuum hypothesis for closed sets **HW5 due. HW6 out** |
| R, Oct 10 | Axiom of determinacy |
| T, Oct 15 | Some games **HW6 due. HW 7 out** |
| R, Oct 17 | **Midterm** |
| T, Oct 22 | Trees and projections **HW8 out** |
| R, Oct 24 | Filters and ultrafilters. Infinite Ramsey theorem **HW7 due** |
| T, Oct 29 | Clubs and stationary sets **HW8 due. Project proposal due. HW9 out** |
| R, Oct 31 | Splitting the stationary set |
| T, Nov 5 | Silver's theorem. **HW9 due. HW10 out** |
| R, Nov 7 | Axiom of foundation, the cumulative hierarchy |
| T, Nov 12 | The constructible universe **HW10 due. HW11 out** |
| R, Nov 14 | The continuum hypothesis in the constructible universe |
| T, Nov 19 | The measure problem **HW11 due. Project draft due. HW12 out** |
| R, Nov 21 | Introduction to large cardinals |
| T, Nov 26 | Selected topics **HW12 due. Project peer review due** |
| R, Nov 28 | **No class (Thanksgiving break)** |
| T, Dec 3 | Student project presentations, or selected topics **Final out** |
| R, Dec 5 | **No class. Final due. Final project due Friday** |

*Date*: August 20, 2019.