Geometric Measure Theory - Math 583A

INSTRUCTOR INFORMATION:

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Office hours: Wednesday 1:00-2:30 or by appointment.

RESERVE LIST:

- Lectures on Geometric Measure Theory, Leon Simon

- Geometric Measure Theory, An Introduction, Fanghua Lin & Xiaoping Yang

- Measure theory and fine properties of functions Lawrence C. Evans & Ronald F Gariepy

SYLLABUS:

- Preliminaries from analysis:

    - Densities & Radon measures
    - Lipschitz functions
    - BV functions
    - Area and Co-area formulae
    - First and Second Variation formulae

- Rectifiable sets (sets of locally finite perimeter)

- Theory of rectifiable varifolds - Monotonicity formulae & Applications

- Allard regularity theorem

REMARKS: Each student will be asked to be a scribe for about a week. The goal is to produce class notes.