MAT 551: Real Analysis III

TEXTBOOK:

OTHER REFERENCES:

SCHEDULE:
MWF 11:45-12:40 PM, Harriman Hall 115.

INSTRUCTOR:
Marcus Khuri, Math Tower 4-119, khuri@math.sunysb.edu

TOPICS COVERED:
1) Review of Banach, Hilbert, and locally convex vector spaces.
2) Bounded compact operators, the spectral theorem.
3) Unbounded operators, symmetric and self adjoint operators, general spectral theorem.
4) Applications to linear partial differential equations.
5) Some techniques for nonlinear equations: calculus of variations, fixed point theorems, sub and super solutions, soft and hard implicit functions theorems (if time allows).

GRADE:
The grade will be based on homeworks and class participation.