Syllabus: Physics of Clouds
ATM5200 (PH4999); Fall 2011
TR 10-11; Fisher 230
Textbook: Physics and Chemistry of Clouds, D. Lamb and J. Verlinde

Dr. Will Cantrell
Department of Physics
Fisher 112
Phone: 487 2356
email: cantrell@mtu.edu

Office hours by appointment.

Grading:
60% Final project – a proposal utilizing the multiphase cloud chamber
20% Homework
20% Your reviews of your classmates' cloud chamber proposals

Tentative outline of topics
Atmospheric thermodynamics, structure of the atmosphere
Equilibrium, Clausius-Clapeyron Equation, Raoult's Law, Köhler theory
Nucleation, homogeneous and heterogeneous, water and salts
Growth from the vapor, diffusive and kinetic corrections
Growth by collection
Evolution of supersaturation and stochastic collection
Cloud chemistry

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