INTRODUCTION TO THE CLIMATE SYSTEM
EOS 795/895

Required Text:

Other References:

ASSIGNED READINGS

Grading:

Quizzes and formal oral presentations (70%)

class participation (15%)

one paper (15%)

Class Schedule:

Introduction to class structure, goals, expectations

I. BASIC WEATHER

Atmospheric structure and composition

Atmospheric moisture and pressure

General Circulation

QUIZ (30 min) and Applied Climatology

II. ZONAL CLIMATE

Tropical

Polar

Mid-Latitude

SPECIAL SEMINAR

III. TELE CONNECTIONS

El Niño Southern Oscillation (ENSO)
North Atlantic Oscillation (NAO)

QUIZ and class discussion

IV. SYNOPOTIC CLIMATOLOGY AND FORECASTING

Intro to forecasting
Forecasting Models (Eta, NGM, ECMWF, MRF)
Weather Map exercise
Weather forecasting exercise at Plymouth State College

V. DATA ACQUISITION AND MANIPULATION

Paleoclimate and other data
Meteorological Data
Intro to Matlab
Matlab exercises
Matlab exercises and student presentation

VI. CLIMATE VARIABILITY

Natural climate variability and forcings
Natural climate variability and forcings
Anthropogenic perturbations — acid rain, urban smog and ozone holes
Greenhouse gases, aerosols
Debate on "global warming"

VII. CLIMATE MODELING

Atmosphere and ocean models
Terrestrial models
Earth System models
Student oral presentations