

## Program Review 2008-2011

Physical Sciences, Mathematics and Engineering Division  
Meteorology Department

### I. Description and Mission of the Department

The Meteorology Program at DeAnza College provides students with an in-depth knowledge of our planet's atmosphere and the science of meteorology. The program enables students to gain an understanding of the scientific, societal and economic impacts of weather as they develop an academic background that prepares them for a variety of careers. The program addresses basic skills, transfer and career areas.

The Meteorology Program currently consists of a four unit lecture course: Meteorology 10: "Weather Processes" and a one-unit lab – Meteorology 10L: "Weather Laboratory". The lecture course and lab incorporate information accessed from DeAnza College's automated weather station located atop the ATC Building and current weather data downloaded from the American Meteorological Society's online database which was specifically designed to support our lab course.

The program has grown steadily. Enrollment has increased from one section of lecture for 40 students per quarter in academic year 2000-2001 to 6 sections of lecture and lab classes for approximately 250 students per quarter in academic year 2008-2009. The single greatest obstacle to growth of the program has been the extreme difficulty in locating qualified part-time instructors to teach classes.

The Meteorology Department at DeAnza College works in collaboration with the National Oceanographic and Atmospheric Administration's National Weather Service and with the meteorology departments of local universities, such as San Jose State University, to assure DeAnza College's Meteorology Department meets the highest possible educational standards.

### II. Retention and Growth

Enrollment in the Meteorology Program has grown from approximately 120 students in academic year 2000-2001 to 593 in academic year 2005-2006 - an almost 400% increase - and to 816 in academic year 2007-2008 – a 38% increase over the last 3 academic years.

Student retention in the program has remained a consistent 96% (2007-08) as compared with 84% (2007-08) for the PSME Division and 90% (2007-08) for the College as a whole.. Success rate for students in the meteorology program has grown steadily from 78% in 2005-2006 to 84% in 2007-2008. This compares with a 67% success rate in 2007-2008 for the PSME Division and a 79% success rate for the College as a whole.

\* African Ancestry, Latino/a and Filipino/a students.

With regard to the institutional goal of increased access, growth and retention of specifically identified target populations\* student enrollment in the meteorology program has grown from 154 in 2005-2006 to 161 in 2007-2008. During this period the retention rate increased from 92% to 94% compared with 78% (2007-08) for the PSME Division and 90% for the College (2007-08). Success rates during this three year period (2005-06 – 2007-08) indicate an increase from 69% to 78% for targeted populations. This compares with a success rate of 55% (2007-8) for the PSME Division and 75% (2007-08) for DeAnza College.

The meteorology program address the Basic Skills Initiative by incorporating elementary mathematics, focusing on specific science vocabulary and encouraging students to write research reports which are scored for extra credit.

The Meteorology Department in collaboration with the Environmental Sciences Department is planning on adding an additional laboratory class to its offering beginning hopefully in academic year 2009-10. The laboratory class entitled “Climate Studies” is currently being developed by the American Meteorology Society and will be piloted at colleges and universities across the country.

### III. Student Equity

The “percent success gap” between targeted and non-targeted students for the meteorology program has decreased 3% from 12% in 2005-06 to 9% in 2007-08. This is compared with an increase of 2% for the PSME Division and a decrease of 1% for the College as a whole. The decrease in the “percent success gap” has been achieved by aggressively matching targeted students in need of academic assistance with resources available at DeAnza College specifically the Math and Science Tutorial Center. Perhaps the single greatest limitation has been the difficulty locating meteorology tutors.

### IV. Budget Limitations

The Meteorology Department at DeAnza College has no identified materials budget and is taught fully as overload and part-time.

I have upgraded the audiovisual materials which are an essential part of the program out of my own personal funds. Perhaps the most significant classroom materials that have been added to the department’s collection are audiovisual presentations dealing with El Nino and Global Warming, two climate subjects with significant implication for the state of California as well as the world.

### V. Additional Comments

The Meteorology Program at DeAnza College is one of the largest and most successful such programs at a two-year college in the country. I see no reason why the program cannot continue to grow and become a model for departments at other institutions in the years ahead.