# Assessment of Course Student Learning Outcomes

**COURSE ALPHA/NUMBER:** MET 101  
**Semester/Year:** Spring 2008  
**Instructor:** Toshi Ikagawa  
**Date Submitted to Department Chair:**

## Identify the Course Student Learning Outcomes assessed this semester.

1. **Describe** the components, processes and resulting weather patterns in the atmosphere.  
   (Understand facts; assessed by pre/post surveys)

2. **Interpret** the components of weather maps, and **forecast** weather. (Use learned skills to interpret facts; assessed by pre/post surveys)

3. **Apply** the scientific method and theories and concepts of meteorology (atmospheric physics) to **explain** major weather systems. (Use learned skills to interpret facts; assessed by pre/post surveys)

4. **Explain** critically the relationship between humans and the atmospheric environment. (Evaluate a total system; assessed by pre/post surveys)

## How do the above course SLOs align with the Associate of Arts or certificate program-level outcomes?

SLO 1 is strongly tied to the AA2, and also tied to AA1.
SLOs 2 and 3 are strongly tied to AA3 and 4, and also tied to AA7 and 8.
SLO 4 is strongly tied to AA3, 4 and 10.

- **AA1**: Draw on knowledge from the liberal arts to succeed in upper division courses.
- **AA2**: Recognize and respond to the wonders and challenges of the natural environment, both biological and physical.
- **AA3**: Use research and technology skills to access information from multiple sources; use critical thinking and problem-solving skills to evaluate and synthesize information to form conclusions, ideas, and opinions.
- **AA4**: Express ideas clearly and creatively in diverse ways through the fine and performing arts, speech and writing.
- **AA7**: Enter and perform effectively in the work force.
- **AA8**: Develop skills that improve personal well-being and enhance professional potential.
- **AA10**: Pursue lifelong learning.

*Bold indicates the strong tie with MET 101 SLOs.*

## What skills or competencies are necessary for the student to perform the selected SLOs?

College level reading and writing, and elementary math.

## What instructional methods or materials are used to prepare the students?

This course is totally online via WebCT.
Teaching materials include:
- Textbook: *Weather Studies*, 3rd Ed. By Moran
- Investigation Manual (15 lab exercises)
- Current Weather Studies (online via the American Meteorological Society)
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- Textbook: *Weather Studies*, 3rd Ed. By Moran
- Investigation Manual (15 lab exercises)
- Current Weather Studies (online via the American Meteorological Society)
- Review questions for exams
- Homework assignments emphasizing the Hawaiian weather

What assessment task(s) or tools are being used to assess the outcomes? What are the criteria for success?

![Graph showing pre and post survey results]

**Fig. 1. Pre and post survey results**

Overall improvement was 12%.

**Fig. 2. Improvement in %**

How will you use the results? What changes do you propose to improve student learning? When?

According to the results of the surveys, factual knowledge was not well achieved (SLO #1), while interpretation of weather maps reached reasonable level (SLO #2). This is probably because the Investigation Manual and Current Weather Studies are mainly focused on the interpretation of weather maps and weather forecasting. Next semester, I will emphasize more on the facts via homework assignments. A goal is set to achieve 15% overall improvement.

IEC, March 2006
Revised April 7, 2006
Revised April 12, 2005