Quantitative Reasoning Assessment Meeting
May 27, 2016

Participants: Jennifer Shanoski (chemistry), Tom Renbarger (astronomy/physics), Fereshteh Mofidi (business), Heather Casale (nutrition), Jennifer Yates (radiological sciences)

Present: Tom Rossi, Ann Elliott, Dan Lawson, Mario Rivas, Susan Andrien

Summary of Strengths:
- Systematic approach to problem solving
- Unit conversions
- Correct application of complex mathematical equations
- Ability to keep big picture in mind
- Using graphs/creating graphs
- Making tables of data
- Discussion of consequences of wrong numbers

Summary of Weaknesses:
- Analysis of reasonability of results
- Grammar/writing
- Attention to detail – recognizing missing steps in calc. sequence
- Insufficient math skills
- Incomplete research
- Details of graphs: titles, axis labels, data distribution
- Scientific interpretation of data & error analysis

Proposed Actions:
- Inform students of available facilities – computer labs for graphing
- Require students to check-in to ensure that those needing help get it and that time is being managed properly
- Provide additional opportunities to practice computations – do the computations need to be incorporated more into the course
- Development of a math course for LANHT & NUTR
    - Could student groups be conducted with the opportunity to earn extra credit?

Issues That Need to be Addressed and Possible Actions:
- There is no math requirement for LANHT courses
    - Could a 0.5 unit course be developed and added to the certificate requirements?
- Could we develop math modules?
    - There is a grant that we have to develop an allied health math course – Dan Lawson is part of the committee charged with this and will ensure that biology, chemistry, nutrition, radiology, etc. faculty are included

    - Could we use OER funds to support module development? Mario will determine if this is an appropriate use of funds.
    - Do we have the capacity to develop modules? Tom will ask Courtney about building these.
    - Jennifer Yates will organize a work group to see what math concepts are common to many disciplines so that we can start with a general module for use in many different disciplines. Could the module branch off into different examples depending on which subject the student plans to study?
- We need a way to incorporate math into courses better
    - How do we incorporate number literacy into non-math courses?
        - Dan Lawson heard speakers from OUSD on this – can we invite them to our professional development days in August? Dan will send contact information to Jennifer and Jennifer will contact the PD committee to discuss possibilities for spring

Merritt College Institutional Outcome Assessment Spring 2016

Quantitative Reasoning: Apply college-level mathematical reasoning to analyze and explain real world issues and to interpret and construct graphs, charts, and tables.

Course name and number:	
Name of instructor(s): *	
Number of students assessed:	

*If you teach a multi-section course, please submit one rubric for all sections that participates (aggregate data) and list all instructors who participated in the data collection and reflection.

In the table below, indicate the number of students at each benchmark for each category listed:

	Excellent	Good	Average	Below Average	Incomplete
Interpretation: Provides accurate explanations of information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, etc.)					
Representation: Converts relevant information into quantitative forms, appropriate for the task at hand.					
Calculations: Attempts and successfully completes all appropriate calculations for the task at hand.					
Application/Analysis/Assumptions: Demonstrates an ability to draw appropriate conclusions while making and evaluating important assumptions in estimation, modeling, and data analysis.					
Communication Expresses quantiative logical and statistical evidence in support of the argument or purpose of the work.					

Reflection Questions:

1. Identify three strengths that you found in your students' work.

2. Identify three areas where improvement is needed.

3. What is one action that you (or the college) could take to improve an area that you've identified as a weakness?

4. Are there any specific resources that are required to improve students' ability in quantitative reasoning?

Turn in your rubric with three samples of student work for inclusion in a college-wide portfolio. A permission form signed by the student must accompany each sample.

ILO Assessment Participants:

1. Angela Khoo (COUN)
2. Laura Forlin (LANHT)
3. Jennifer Yates (RADSC)
4. Heather Casale (NUTR)
5. Tom Renbarger (PHYS)
6. Mario Rivas (PSYCH)
7. Mia Kelly (NURS)
8. Tae-Soon Park (MATH)
9. Gisele Giorgi (BIOSC)
10. Evangeline Augustine (NURS)
11. Dan Lawson (MATH)
12. Shahbaz Shahbazi (BUS)
13. Simon Chan (BUS)
14. Guy Forkner (RLEST)
15. Tom Rossi (BIOL)
16. Clytia Curley (BIOL)
17. Fereshteh Mofidi (BUS)
18. Jennifer Shanoski (CHEM)

Also present: Ann Elliott, Marty Zielke, Rosemary Delia, Clifton Coleman and Susan Andrien

Tuesday, March 15, 2016 - 12:30-2:00

I. (20 min.) Lunch

II. (10 min.) How do ILOs fit into the college assessment?
   a. Hierarchy of outcomes
   b. Mapping of outcomes
   c. Merritt College ILOs:
      i. Communication
      ii. Quantitative Reasoning
      iii. Information & Computer Literacy
      iv. Critical Thinking
      v. Cultural Awareness
      vi. Civic Engagement & Ethics

III. (40 min.) Assessment of Quantitative Reasoning ILO
   a. How are we going to do this?
   b. Use of a common rubric to analyze an assignment
   c. Reflection questions

IV. (5 min.) Date for Final Meeting

V. Questions (15 min.)

Communication ILO Assessment

Hierarchy of Outcomes

Institutional Outcomes (ILOs)

Program Outcomes (PLOs)

Course Outcomes (SLOs)

Mapping of Outcomes

The table below shows each of your courses and their mapping to Merritt College's Institutional Learning Outcomes (ILOs). The shaded boxes represent the ILOs that are mapped to course SLOs (the ILOs are listed below). An "X" represents an ILO that has *not* been mapped to. (Mapping data is from Taskstream.) If all six boxes have an "X" in them, the course has no mapping in Taskstream and that needs to be corrected.

For each course, please indicate if students are at the Beginning (B), Developing (D), or Advancing (A) level with each ILO in the course.

The first line shows an example course with completed mapping for a dummy course.

	ILOs					
	1	2	3	4	5	6
***EXAMPLE**: MERRITT 1A*	*B*	*A*	*D*	X	X	*A*
CHEM 001A GENERAL CHEMISTRY	A	A	A	X	X	D
CHEM 001B GENERAL CHEMISTRY	A	A	A	X	X	D
CHEM 012A ORGANIC CHEMISTRY	A	A	A	X	X	A
CHEM 012B ORGANIC CHEMISTRY	A	A	A	X	X	A
CHEM 030A INTRODUCTORY INORGANIC CHEMISTRY	D	A	A	X	X	D

Merritt College Institutional Learning Outcomes (ILOs)

- Communication:

  Communicate with clarity and precision using oral, nonverbal, and/or written language, expressing an awareness of audience, situation, and purpose.

- Quantitative Reasoning:

  Apply college-level mathematical reasoning to analyze and explain real world issues and to interpret and construct graphs, charts, and tables.

- Information and Computer Literacy:

  Use appropriate technology to identify, locate, evaluate and present information for personal, educational and workplace goals.

- Critical Thinking:

  Think critically using appropriate methods of reasoning to evaluate ideas and identify and investigate problems and to develop creative and practical solutions to issues that arise in workplaces, institutions, and local and global communities.

- Cultural Awareness:

  Through a knowledge of history and cultural diversity, recognize and value perspectives and contributions that persons of diverse backgrounds bring to multicultural settings and respond constructively to issues that arise out of human diversity on both the local and the global level.

- Civic Engagement and Ethics:

  Internalize and exhibit ethical values and behaviors that address self- respect and respect for others with integrity and honesty that will enable success and participation in the larger society.

Friday, Nov. 13, 2015, 12:00-2:00

ILO Assessment Participants:

1. Jenny Briffa (CHDEV)
2. Lawrence Lee (LANHT)
3. Hilary Altman (COMM)
4. Heather Casale (NUTR)
5. Christine Olsen (CHDEV)
6. Jennifer Yates (RADSC)
7. Jennifer Shanoski (CHEM)
8. Jayi Thompson (COMM)
9. Guy Forkner (REAL)
10. Isela Santana (ENGL)
11. Steve Pantell (COUN)
12. Jason Seals (AFRAM)
13. Elaine Wallace (ADJUS)
14. Thomas Hart (ENGL)
15. Susan Andrien (ENGL)
16. Todd Johnson (ENGL)
17. Mary-Louise Zernicke (NUTR)
18. Sheila Metcalf-Tobin (ART)
19. Nicole Buyagawan (ANTHR)
20. Ann Elliott (ENGL)
21. Marty Zielke (COUN)
22. Tom Renbarger (PHYS)
23. Arja McCray (BIOL)

Things to remember: Sign-in sheets, rubrics, sample assignments

COMMUNICATION Assessment Luncheon

Friday, Nov. 13, 2015, 12:00-2:00

I. Lunch (15 min.)

II. How do ILOs fit into the college assessment? (15 min.)
   a. Hierarchy of outcomes
   b. Mapping of outcomes
   c. Merritt College ILOs:
      i. Communication
      ii. Quantitative Reasoning
      iii. Information & Computer Literacy
      iv. Critical Thinking
      v. Cultural Awareness
      vi. Civic Engagement & Ethics

III. Assessment of Communication ILO (30 min.)
   a. How are we going to do this?
   b. Use of a common rubric to analyze an assignment
   c. Reflection questions
   d. December 14 wrap-up and January Flex Presentation

IV. Analysis of Assignments (45 min.)
   a. In groups of 3-4 consider the assignment that you've selected:
      i. Is it appropriate for measuring the ILO?
         1. If not, is there another assignment that you can use or a way to alter the assignment?
      ii. Can you use the common rubric to analyze your results?
      iii. How will you use the rubric to gather data?

V. Questions (15 min.)

Merritt College Institutional Outcome Assessment Fall 2015 – Oral Communication

Communication: Communicate with clarity and precision using oral, nonverbal, and/or written language, expressing an awareness of audience, situation, and purpose.

Course name and number:	
Name of instructor(s): *	
Number of students assessed:	

*If you teach a multi-section course, please submit one rubric for all sections that participates (aggregate data) and list all instructors who participated in the data collection and reflection.

In the table below, indicate the number of students at each benchmark for each of the categories listed:

	Excellent	Good	Average	Below Average	Incomplete
Content/Message Main message is clear, well-stated, appropriately repeated, and strongly supported with a variety of examples, illustrations, quotations, statistics, etc. Verbally cites research sources if appropriate.					
Organization Presentation is well-organized with appropriate introduction, body, and conclusion. Good transitions make the whole presentation cohesive.					
Delivery Posture, gestures, eye contact, vocal clarity and expressiveness all make the speaker appear polished and confident. Speaker is engaging throughout the presentation.					

Reflection Questions:

1. Identify three strengths that you found in your students' work.

2. Identify three areas where improvement is needed.

3. What is one action that you (or the college) could take to improve an area that you've identified as a weakness?

4. Are there any specific resources that are required to improve students' ability to communicate in your class or at the college?

Turn in your rubric with three samples of student work for inclusion in a college-wide portfolio. A permission form signed by the student must accompany each sample.

Merritt College Institutional Outcome Assessment Fall 2015 – Written Communication

Communication: Communicate with clarity and precision using oral, nonverbal, and/or written language, expressing an awareness of audience, situation, and purpose.

Course name and number:	
Name of instructor(s): *	
Number of students assessed:	

*If you teach a multi-section course, please submit one rubric for all sections that participates (aggregate data) and list all instructors who participated in the data collection and reflection.

In the table below, indicate the number of students at each benchmark for each of the categories listed:

	Excellent	Good	Average	Below Average	Incomplete
Understanding of Assignment Writing shows clear understanding of related reading material. Addresses prompt, question, and/or assignment properly.					
Content/Support Support is well-developed, detailed, and demonstrates evidence of critical thinking.					
Structural Organization Thesis and main points are stated clearly and effectively. Ideas are organized logically and coherently.					
Mechanics Sentence structure, grammar, punctuation, and citations are error-free and indicate thorough proofreading.					

Reflection Questions:

1. Identify three strengths that you found in your students' work.

2. Identify three areas where improvement is needed.

3. What is one action that you (or the college) could take to improve an area that you've identified as a weakness?

4. Are there any specific resources that are required to improve students' ability to communicate in your class or at the college?

Turn in your rubric with three samples of student work for inclusion in a college-wide portfolio. A permission form signed by the student must accompany each sample.