Assessment: Course Four Column

Courses (MATH) - Integrative Studies

INT 359:Integrative Math Seminar

Course Outcomes	*Assessment Measures*	*Results*	*Actions*
Communication Skills - Communication Skills : Communicate Mathematical concepts clearly and effectively through handing well written homework assignments. **Course Outcome Status:** Active **Next Assessment:** 2020-2021 **Start Date:** 09/26/2016	**Assignment - Written -** Week 2 assignment: Taking photos that include certain geometri shapes and describing what they found. Week 7 assignment: Taking photos of things around town that contain the golden ratios. The goal of these asssignments is for students to learn to be able to write mathematical or geometric concepts imbedded in building structures, company logos, or anything around the real world. This assignment is also for student to think about why we build structures in a certain way and how such structures make people safe and beautiful. **Criterion:** Assignment average of 70% or higher	**Reporting Period:** 2015-2016 **Criterion Met:** Yes Most students demonstrated required level of communication skills. Overall performance was satisfactory. Assignment averages for week 2, and 7 were 95 and 80% respectively (09/27/2016)	**Action:** In week 2 and 7 assignments, mathematical computation or demonstration needs to be added while describing about their photos in the rubric criteria. In addition, I need to review of the rubric for better assessment on the assignments. (09/27/2016)
Quantitative ability - Quantitative ability **Course Outcome Status:** Active **Next Assessment:** 2020-2021 **Start Date:** 09/26/2016	**Exam -** Quiz 1: Basic College Geometry I, Quiz 2: Bassic College Geometry II , Quiz 5: Graphs and Functions I, Quiz 6: Graphs and Functions II, Quiz 11: Probability. **Criterion:** Quiz average of 70% or	**Reporting Period:** 2015-2016 **Criterion Met:** Yes In order to measure students' quantative ability, the quizzes were designed in the areas of geometry, graphs, functions and probability. Students' performance was satisfactory. Quiz averages for 1, 2, 5, 6, and 11. were 90, 90.9, 87.5, 77.8, and 100. (09/27/2016)	**Action:** Overall achievement on this part is satisfactory, however, In order to be able to better assess students' quantative ability for upcoming semester, quiz assignments will be designed to cover topics in logarithmic functions, exponential

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	higher		functions, trigonometric functions, sequences, and advanced crop circle topic. (09/27/2016)
Critical Thinking: Reasoning and Independent Thought - Critical Thinking: Reasoning and Independent Thought **Course Outcome Status:** Active **Next Assessment:** 2020-2021 **Start Date:** 09/26/2016	**Assignment - Project -** Final project: Presenting mathematical or geometric analsysis on chosen crop circle formation and giving interpretation of encoded messages with scientific reasonings. **Criterion:** The average score of the final project of 70% or higher	**Reporting Period:** 2015-2016 **Criterion Met:** Yes Students did well on their final project. The performance was satisfactory. The average score of the final project was 73.5 % (09/27/2016)	**Action:** Although students' overall achievement was satisfactory, I feel that more detailed rublic criteria need to be developed for upcoming semesters. (09/27/2016)
Personal and cultural awareness-some degree - Personal and cultural awareness- some degree: Develop understanding on how mathematical concepts contribute and help to solve current mysteries in crop circles and other current phenomena. **Course Outcome Status:** Active **Next Assessment:** 2020-2021 **Start Date:** 09/26/2016	**Assignment - Written -** Week 3 assignment: Describing controversy about crop circles after watching the YouTube video. Week 11 assignment: Writing movie review after watching the movie "Signs". The purpose of the assignments is for students to develop the sense of logic and how real world problems can be solved using math and science. **Criterion:** Homework average of 70% or higher	**Reporting Period:** 2015-2016 **Criterion Met:** Yes Students' overall achievement was satisfactory. The average scores of the week 3 and 11 assignment was 95, and 80% respectively. (09/27/2016)	**Action:** The movie "Signs" is from the year 2000. More current movie should be used in the future class. (09/27/2016)
Technological Understanding - Technological Understanding-moderate: Develop ability to utilize the sketch pad software. Be proficient on using scientific calculator. Understanding Binary ASCII code conversion. **Course Outcome Status:** Active **Next Assessment:** 2020-2021 **Start Date:** 09/26/2016	**Assignment - Written -** Week 4 assignment: Drawing two crop circle designs using the Geometer Sketchpad software. This assignment will let student learn the basic functions of the software and study certain aspects of geometry shown in the crop circle. **Criterion:** Homework average of 70% or higher	**Reporting Period:** 2015-2016 **Criterion Met:** Yes Students' performance was satisfactory. The average score of the assignment was 74%. (09/27/2016)	**Action:** A general action plan for upcoming semesters is to re-organize the entire INT course in order to better achieve the goals of the general education outcomes especially in the areas of communication skills, critical thinking, and technological understanding. I also found many missing details on each component of the INT course throughout the first semester of teaching the course. The

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main focus of the first half of the semester should be to introduce basic mathematical concepts, and the second half of the semester is to emphasize mathematical analysis on crop circle formations. Four areas to re-organize the course ; quizzes, weekly assignments, the final project, and examples for mathematical investigations, need to be focused on for the action plan.

a) Quiz: Quizzes are mainly to assess students' quantitative ability for their critical thinking. Additional quizzes need to be written to cover the additional topics. Additional quizzes for upcoming semesters will be written in the areas of logarithmic, exponential, trigonometric functions, and sequences. It will assess students' quantative ability more thoroughly. Current quizzes would need to be reviewed and re-written for better assessment.

b) Weekly assignments: most assignments this semester included exploring geometric analyses, movie reviews, and sketching geometry of crop circles using the geometer sketchpad software. In addition, more in-depth mathematical concepts need to be imbeded. For instance, the Week 7 assignment was to find and take photos of golden ratios from building structures. If students can present how the ratio is found mathematically on their paper, it would be better achieve the goal of the assignment.

c) The final project needs to

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			be approached by students with better understanding on what they need to achieve. Some students didn't start their research project until a few weeks before the deadline. The progress needs to be checked during the semester and it needs to be scheduled in the syllabus. I will need to remind them that it will take some time and effort to achieve the goal of the final project. The current rubric criteria of the final project needs to be reviewed. d) Develop and demonstrate better examples of crop circles for mathematical presentations to show students how various mathematical investigation methods can be used to discover hidden messages in crop circles. (09/27/2016)