

## **Cuyamaca College Math Department Philosophy**

“Mathematics – the unshaken Foundation of Sciences, and the plentiful Fountain of advantage to human affairs.” – Isaac Barrow

Seeking to excellent teaching and learning practices in the study of mathematics at Cuyamaca College, the members of the Mathematics Department has created a philosophy to guide us in developing curriculum and implementing effective teaching and learning methodologies. The Mathematics Department Philosophy is an infusion of our individual values and beliefs about our students and the nature and purpose of mathematics education.

We understand that our students are multifaceted and approach the study of mathematics from a broad spectrum of emotions, attitudes, backgrounds, experience and needs. However, we believe that sound mathematics curriculum coupled with consistent and effective teaching and learning methodologies will enable every student to: apply critical thinking skills in solving problems of everyday life; participate intelligently in civic affairs; compete in the high-performance workplace; develop connections among topics both within mathematics and between disciplines; and acquire an appreciation for the beauty and intrinsic order of mathematics. Specifically we believe that each student can be successful in learning to: value mathematics; become confident in his or her own ability; become a mathematical problem solver; communicate mathematically; and reason mathematically. By offering a broad range and consistent continuum of courses from basic mathematics to differential equations, we believe that students are afforded better opportunities to experience success in learning mathematics.

The emphasis of the Mathematics program is to prepare students for transfer to a four-year institution and/or for career preparation in a vocational or professional field. In order to provide the best program for our students and to meet the needs of our rapidly changing technological society, we believe it is important to continually evaluate and if

necessary revise our curriculum and teaching methodologies. Additionally, we recognize that mathematics provides fundamental problem solving skills applicable to liberal arts, the sciences, engineering, and vocational programs, and we believe that incorporating technology into the mathematics curriculum allows students to study useful and relevant applications of mathematics from a broad range of disciplines.

As mathematics teachers, we understand the importance and relevance of our responsibilities regarding student success and recognize that those responsibilities extend beyond the classroom. We believe that our excitement and passion for mathematics and mathematics education should be imparted to our students in the classroom as well as the one-on-one learning environment during office hours. Furthermore, we believe that we have the added responsibility of inspiring all students to continue their mathematics education and to seriously consider choosing a career involving math, science, or engineering. Finally, we believe that excellent pedagogical practice acknowledges the math anxiety that creates barriers to students success in concept attainment and skill mastery. By creating a positive learning environment, building good rapport with students, exercising patience when teaching, and employing multiple teaching strategies, we believe we can alleviate our students' fear of mathematics and promote student success.