

**External Program Review  
Department of Mathematics and Statistics  
California State University, Long Beach  
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**Review Team:**

- 1 ) Dr. Ömer Benli, College of Business
- 20) Dr. Marquita Grenot-Scheyer, College of Education
- 21) University Program Review Committee
- 22)

2008 schedule included 80 sections of these GE (8 of which are large lecture classes) and served approximately 3500 students. For most of these courses the Department has developed a course coordinator who oversees the various tenured, tenure-track and mostly part-time faculty who teach these many sections. These course coordinators are quite effective, and the Department benefits from a large cadre of effective and loyal lecturers who are generally assigned to teach these courses.

#### **D. The Graduate Program**

The Department has established a successful and high quality graduate program which allows students to earn Masters of Science degrees with options in pure mathematics, applied mathematics, mathematics education and sta







working with local middle school and high school teachers and their students. This grant activity has resulted in the creation of a liaison with the local schools.

#### **N. Interactions with other Departments**

A course in mathematics is required for nearly every student at CSULB, and in some disciplines multiple courses in mathematics are needed for their majors to be successful in their fields. Consequently, the Department of Mathematics has a vast service role, and there is every indication that the Department is successful in that role. Our discussions with faculty members and administrators from the College of Engineering, College of Education and College of Business Administration, three of the principal constituencies whose students rely on courses from the Department of Mathematics, indicate that the Department has a good working relationship and ongoing positive collaborations across the CSULB campus. The representatives from the College of Education were especially laudatory of the Department as they characterized the Department as responsive, supportive, and flexible. They have successfully collaborated to produce a high level flow of credentialed teachers. The College of Business Administration also views the Department as a cooperative service unit as they are currently undertaking deliberations to settle on the appropriate mathematics requirements for CBA students.





schedule includes two large lectures for Math 103 (Mathematical Ideas), one for Math 108 (Statistics for Everyday Life), two for Math 114 (Finite Math), and three for Math 115 (Business Calculus). The Department is well aware of the challenges of course delivery in a large lecture setting and has implemented two important mitigation measures. First, there is a recognition that faculty members vary in their suitability for teaching in large lectures, and so the most able large lecture faculty members have been identified and considered for these teaching assignments. Also, the Department has allocated resources for teams of graders for each of these courses so that regular homework assignments, quizzes and exams can be built into the structure of these courses. Other departments at CSULB have expanded their basic courses to large lectures in order to partially deal with their inevitable financial stress. The Math Department has resisted this pressure until recently, as small cla

that results on these embeddings were informally discussed among instructors teaching different sections of the same course but that no systematic tracking scheme of this data is in place. As the Department develops its assessment plan, it also has the advantage that there are natural groupings in the infrastructure of the department for developing learning goals and assessing their attainment for the multi-

mathematics for development within the department will be an important task that should involve the entire department with a long term view of the department's composition, how best to meet the needs of constituents served, and the resources available for faculty to meet the requirements for tenure and promotion.



testing unit. The Department would need to monitor

want to get deeply involved and then carefully allocate time between them and their outside projects.

The second concern involves the Mathematics Education lecturers. The Department has a high mathematics education teaching load, with a very high percentage carried by lecturers. Several of these are highly trained mathematically, and every indication is that

internships for students, provide projects for graduate students, provide leads for statistical consulting projects, and provide information about employment opportunities for math and statistics students. This is especially important as the Department continues to hire more applied mathematicians and statisticians. Moreover, math students have requested information about careers in math and statistics, and this Board could play an important role in motivating current math students and in recruiting math majors by providing a conduit to employment in industry.

**Summary:** This is one happy department. Faculty, staff, and students are working hard but are considerate of one another. They cooperate with one another for the good of the department, and they feel looked after. Considerable credit for this goes to the Chairperson, Dr. Robert Mena. He is a very considerate individual who exudes competence, caring, and openness. The spin-off to the department is that the four groups of faculty (applied math, math ed, statistics, and theoretical math) cooperate among themselves and between the groups. We heard several times that it is like one big happy family there. The several departments whom they serve had similar positive feelings about the department. Their programs have professional integrity, their teaching is effective, the Department faculty is professionally active and productive, and their stud-7.65011(a)3.1578 (t)-