Information about Calculus for Science and Engineering Majors

Calculus Placement Exam (CPE)

Nearly all students who wish to enroll in Math 30 Calculus I, Math 30P Calculus I with Precalculus, Math 60 Calculus for Biological Sciences are required to take the Calculus Placement Examination (CPE). The CPE covers material from four years of college prep math, and it has two parts, part 1 is an exam which covers College Algebra (32 questions), and part 2 is a Calculus Readiness Exam (25 questions) which covers College Algebra, Trigonometry, and Properties of Elementary Functions. Students who want to take Math 30, 30P, or Math 60 are required to take both parts of the CPE, and if they do not pass the exam they will be required to start in Math 19 Precalculus. Click the following link for Practice Tests for Algebra, Precalculus and Calculus. Students should contact the Math Department office MH 308, (408) 924-5100 in advance to register for the CPE. Sometimes we cannot accept reservations on the day of the exam if there is not enough room. Call the math office (408) 924-5100 or send an email to math-info@sjsu.edu to make a reservation if you can't come in to the math office. There is a $20 fee charged to students who need to take the CPE to cover the cost of administering the exam.

For more information please visit the Department of Mathematics website.

Math Department Workshops

The Math Department at San Jose State now offers a series of workshops designed to help students succeed and excel in their lower division math courses. Students in Math 19, Math 30, Math 30P, Math 31, and Math 71 are required to sign up for the corresponding workshop (Math 19W, Math 30PW, Math 30 W, Math 31W and Math 71 W, respectively) when they sign up for their lecture course. The lecture course and the workshop must both be in your shopping cart at the same time when you are checking out. Voluntary workshops are offered for Math 8, Math 32, and Math 42. In the workshops students work together in small groups on challenging problems to help them understand Precalculus and Calculus concepts more deeply and lay the groundwork for success in Calculus and in other future math courses. Students are strongly encouraged to participate in the workshops, and students in Precalculus and Calculus workshops are encouraged to form student study groups and continue working on their homework together outside of class. Students who participate in Math Department workshops end up with an average grade of about 0.5 to 1.0 grade points higher than those who do not participate in workshops.

Math 19 Precalculus (5 units)

Description: Preparation for calculus, polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic geometry.

Prerequisite: Students who want to take Math 19 should make sure that they satisfy the ELM requirement (Math 19 students are no longer required to take a placement exam). The usual ways to satisfy the ELM requirement are 1) pass the ELM exam, 2) get an exemption from the ELM exam by getting a score of 550 or higher on the SAT Math Exam or a score of 23 or higher on the ACT Math Exam,

or 3) pass the appropriate Developmental Math courses (contact Susan McClory MH 311 susan.mcclory@math.sjsu.edu for more information about developmental math at SJSU).

Math 19 students are required to register for a Math 19W Precalculus workshop at the same time as they register for their Math 19 lecture course (both have to be in your shopping cart at the same time when you check out). Students can opt out of the Precalculus workshop at a later time if they contact the Math Department office and fill out the appropriate form. If you have trouble registering for Math 19 and Math 19W contact the math office MH 308 (408) 924-5100. All Math 19 students are strongly encouraged to take the Precalculus workshop Math 19W. In Math 19W students work in groups on challenging problems to help them understand Precalculus concepts more deeply and lay the groundwork for success in Precalculus and in other future math courses.

Math 30 Calculus I (3 units)

Description: Introduction to calculus including limits, continuity, differentiation, applications, and introduction to integration. Graphical, algebraic and numerical methods of solving problems.

Prerequisite: To be eligible for Math 30 Calculus I you must 1) pass the Algebra portion (25/32 or higher) and the Calculus Readiness portion (20/25 or higher) of the Calculus Placement Exam, or 2) receive a grade of B or higher in Math 19 or an equivalent community college Precalculus course or 3) receive a score of 3 or higher on the AB Calculus AP Test. If you passed Math 19 (B or higher) or took the CPE at San Jose State you should be able to register immediately for Math 30 and Math 30W as soon as your scores are posted in Peoplesoft. If you have any difficulties in registering for Math 30 and Math 30W you should contact the Math Department office MH 308, (408) 924-5100.

Math 30P Calculus I with Precalculus (5 units)

Description: Selected topics in precalculus. Introduction to calculus including limits, continuity, differentiation, applications, and introduction to integration. Graphical, algebraic and numerical methods of solving problems.

Prerequisite: To be eligible for Math 30P Calculus I with Precalculus (5 units) you must 1) pass the Algebra portion (20/32 or higher) and the Calculus Readiness portion (15/25 or higher) of the Calculus Placement Exam, or 2) receive a grade of C or higher in Math 19 or an equivalent community college Precalculus course or 3) receive a score of 3 or higher on the AB Calculus AP Test. If you passed Math 19 (C or higher) or took the CPE at San Jose State you should be able to register immediately for Math 30P and Math 30W as soon as your scores are posted in Peoplesoft. If you have any difficulties in registering for Math 30P and Math 30W you should contact the Math Department office MH 308, (408) 924-5100.

Math 31 Calculus II (4 units)

Description: Definite and indefinite integration with applications. Sequences and series. Graphical, algebraic and numerical methods of solving problems.

Prerequisite: To be eligible for Calculus II Math 31 (4 units) you must 1) receive a grade of C- or higher in Math 30P or Math 30 or 2) pass the AP Calculus AB Exam with a score of 3 or higher. With a score of 3

you are eligible for Math 30P, Math 30 or Math 31, though we recommend that you start with Math 30. With a score of 4 or higher Math 31 is recommended.

Math 60 Calculus for Biological Sciences (5 units)

Description: Selected topics in precalculus and an introduction to calculus for students of the biological sciences. Functions and graphs, differentiation, optimization, exponential and logarithmic functions, and integration. Emphasis on applications in the life sciences.

Prerequisite: Same as the prerequisite for Math 30P. There is no workshop for Math 60.

Math 32 Calculus III (3 units)

Description: Functions of more than one variable, partial derivatives, multiple integrals and vector calculus. Graphical, algebraic and numerical methods of solving problems.

Prerequisite: To be eligible for Calculus III Math 32 (3 units) you must 1) receive a grade of C- or higher in Math 31 or 2) pass the AP Calculus BC Exam with a score of 3 or higher.

Students who register for Math 32 Calculus III are strongly encouraged (but not required) to register for Math 32W Calculus III workshop at the same time. In the past students who have participated regularly in Precalculus and Calculus workshops have received any average grade of .50 to 1.0 grade points higher than those students who have not participated in workshops. In the Calculus III workshops, students work in small groups solving Calculus problems, to help build their skill and confidence in problem solving.