CSU San Bernardino Course Catalog Quarter Bridge Courses

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Natural Sciences – Chemistry

CHEM 222AQBR(1.5 units)
Organic Chemistry I Lecture quarter bridge
Quarter bridge course. Covers the first half of CHEM 222A to prepare students for CHEM 2500 under the semester system. CHEM 222AQBR can be taken after CHEM 221A, and this combination is equivalent to the semester long CHEM 2400. Lecture only. Quarter Prerequisite: CHEM 221A with a grade of C or better.
Components: Lecture

CHEM 222BQBR(0.5 units)
Organic Chemistry I Laboratory quarter bridge
Quarter bridge course. Covers the first half of CHEM 222B laboratory to prepare students for CHEM 2500L under the semester system. CHEM 222BQBR can be taken after CHEM 221B, and this combination is equivalent to the semester long CHEM 2400L. Laboratory only (0.5 units). Department consent required. Materials fee required. Quarter Prerequisite: CHEM 221B with a grade of C or better.
Components: Laboratory

Natural Sciences - Mathematics

MATH 131QBR(4 units)
Modeling with Functions
This course is a quarter equivalent to the semester course MATH 1301. Algebraic and geometric concepts of functions of one variable, including linear, exponential, logarithmic, and power functions. Applications to business, government, science, and other fields. Use of spreadsheets and other technologies for visualization, experimentation, and problem solving. Placement determined by campus placement standards and advising. Previously offered as MATH 110, students may not receive credit for both. Graded A through C-/No Credit. Satisfies the General Education B4 category.
Components: Lecture

MATH 132QBR(4 units)
Stretch Modeling with Functions A
This course is a quarter equivalent to the semester course MATH 1302. Algebraic and geometric concepts of functions of one variable, including linear, exponential, logarithmic, and power functions. Applications to business, government, science, and other fields. Use of spreadsheets and other technologies for visualization, experimentation, and problem solving. First term of a two-term version of Math 1301. Successful completion of a two-term sequence Math 132QBR and 133QBR, or 132QBR and 1303, satisfies the General Education B4 category. Placement determined by campus placement standards and advising. Formerly offered as Math 111A. May not be taken for credit by students who have completed Math 110, Math 111A, Math 111B, Math 112B, or Math 112C. Graded A through C-/No Credit.
Components: Lecture

MATH 133QBR(4units)
Stretch Modeling with Functions B
This course is a quarter equivalent to the semester course MATH 1302. Algebraic and geometric concepts of functions of one variable, including linear, exponential, logarithmic, and power functions. Applications to business, government, science, and other fields. Use of spreadsheets and other technologies for visualization, experimentation, and problem solving. Second term of a two-term version of Math 1301. Successful completion of the two-term sequence Math 1302-1303 satisfies the General Education B4 category. Placement determined by campus placement standards and advising. Formerly offered as Math 111B. May not be taken for credit by students who have completed Math 1301, Math 110, Math 111B or Math 112C. Graded A through C-/No Credit. Semester Prerequisite: Math 1302. Prerequisite: MATH 132QBR.
Components: Lecture

MATH 212QBR(2 units)
Introduction to Integral Calculus
As a continuation of MATH 211, this bridge course will include content from the first half of MATH 212. Topics will include definite and indefinite integrals and basic techniques of integration with an emphasis on conceptual understanding, problem solving, multidisciplinary applications, and use of technology for numerical methods and graphical representation. The sequence MATH 211 and MATH 212QBR is equivalent to MATH 2210; students may not earn credit for both the quarter sequence and the semester course, MATH 2210. Students who have completed MATH 212 may not earn credit for MATH 212QBR. Quarter Prerequisite: MATH 211.
Components: Discussion

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MATH 231QBR(6 units)
Applied Linear Algebra
This course is a quarter equivalent to the semester course MATH 2310. Introduction to the algebra and geometry of vectors and matrices over the real numbers with an emphasis on conceptual understanding and applications. Topics will include solving systems of linear equations, linear transformations, eigenvalues and eigenvectors, vector products, orthogonal projections, and vector parametrizations of curves in two and three dimensions. Applications of these topics may include computer graphics, electrical networks, difference equations, dynamical systems, and economics. Students should expect to make appropriate use of technology for visualization and computation. Students who have completed MATH 251 and MATH 331 may not earn credit for MATH 231QBR. Quarter Prerequisite: MATH 212 with a grade of C or better.
Components: Discussion

MATH 301AQBR(4.5 units)
Mathematical Concepts and Problem Solving for Educators I Quarter Bridge
Pedagogical content knowledge, problem solving skills, and communication skills in mathematics related to the K-8 curriculum, at the conceptual depth required for high quality teaching. Mathematical reasoning behind the structure and arithmetic of the real number system. Connections between numbers, measurement, and geometry. A demonstration of mastery of fundamental skills as determined by the Department of Mathematics is required for credit. Four hours in-class and one half-hour online. May not be counted toward fulfilling requirements in the mathematics major. Formerly part of the Math 301ABC and Math 308 sequence. May not be taken for credit by students who have completed MATH 301A. Graded ABC/No Credit. Semester Prerequisite: MATH 1201 or equivalent, and the general education requirements in written communication, oral communication and critical thinking. Prerequisite: completion of MATH 115 and the general education requirements in written communication, oral communication, and critical thinking.
Components: Discussion, Seminar

MATH 301BQBR(4.5 units)
Mathematical Concepts and Problem Solving for Educators II Quarter Bridge
Pedagogical content knowledge, problem solving skills, and communication skills in mathematics related to the K-8 curriculum, at the conceptual depth required for high quality teaching. Development of algebraic thinking and multiplicative structures. Investigation of linear and proportional relationships through multiple representations. A demonstration of mastery of fundamental skills as determined by the Department of Mathematics is required for credit. Four hours in-class and one half-hour online. May not be counted toward fulfilling requirements in the mathematics major. Formerly part of the Math 301ABC and Math 308 sequence. May not be taken for credit by students who have completed MATH 301B. Graded ABC/No Credit. Semester Prerequisite: Math 3011. Prerequisite: Math 301A or Math 301AQBR.
Components: Discussion, Seminar

MATH 311QBR(3 units)
Mathematical Thinking: Communication and Proof I
This course is the first part to the semester course MATH 3100. Disciplinary ways of thinking in mathematics with emphasis on the construction of valid mathematical arguments, critiques of arguments, and structure of professional mathematical writing including typesetting. Content will include methods of proof related to fundamental concepts involving the integers, real numbers, and other sets. Department consent required. Graded ABC/NC. The sequence MATH 311QBR and MATH 312QBR is equivalent to MATH 3100 and satisfies the GE Writing Intensive (WI) designation. Students earning credit for MATH 311QBR but not the subsequent course, MATH 312QBR will not earn credit for MATH 3100. Students may not earn credit for both the MATH311QBR & MATH 312QBR sequence and MATH 3100.
Components: Discussion

MATH 312QBR(3 units)
Mathematical Thinking: Communication and Proof II
This course is a continuation of MATH 311QBR, the second part to the semester course MATH 3100. Continued development of disciplinary ways of thinking in mathematics with emphasis on the construction of valid mathematical arguments, critiques of arguments, and structure of professional mathematical writing including typesetting. Content will include topics from modular arithmetic, properties of real numbers, and properties of relations/functions with methods of proof. Graded ABC/NC. The sequence MATH 311QBR and MATH 312QBR is equivalent to MATH 3100 and satisfies the GE Writing Intensive (WI) designation. Students may not earn credit for both the MATH 311QBR & MATH 312QBR sequence and MATH 3100. Students who do not earn credit for MATH 312QBR will not earn credit for MATH 3100. Quarter Prerequisite: MATH 311QBR.
Components: Discussion

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Natural Sciences - Physics

PHYS 123QBR(2) Course ID:030872 01-JAN-2019
Basic Concepts of Physics Quarter Bridge
Equivalent to half of PHYS 123. Topics include mechanical oscillations, thermodynamics, and fluids. One and a half hours lecture and half hour laboratory. Students completing this course will be able to enroll in PHYS 2010 in the semester system. Materials fee required. Quarter Prerequisite: PHYS 121.
Components: Laboratory, Lecture

PHYS 223QBR(2.5) Course ID:030873 01-JAN-2019
General Physics Quarter Bridge
Equivalent to half of PHYS 223. Topics include mechanical oscillations and waves. Two hours lecture and half hour laboratory. Students completing this course will be able to enroll in PHYS 2510 in the semester system. Materials fee required. Semester Corequisite: MATH 213. Quarter Prerequisite: PHYS 221, MATH 212.
Components: Laboratory, Lecture
