

**Curriculum Instructional Council
Actions Approved – April 14 2016 Addendum**

Subject: Mathematics (MATH) Discipline: Mathematics

<p>150 Calculus with Analytic Geometry I</p> <p align="right">80 - 90 hours lecture, 5 units Letter Grade or Pass/No Pass Option</p> <p>REQUISITES: <i>Prerequisite:</i> Mathematics 141 with a grade of "C" or better, or equivalent. This course is an introduction to university-level calculus requiring a strong background in algebra and trigonometry. The topics of study include analytic geometry, limits, differentiation and integration of algebraic and transcendental functions, and applications of derivatives and integrals. Emphasis is placed on calculus applications involving motion, optimization, graphing, and applications in the physical and life sciences. This course incorporates the use of technology. Analytical reading and problem solving are strongly emphasized in this course. This course is intended for students majoring in mathematics, computer science, physics, chemistry, engineering, or economics.</p> <p>FIELD TRIP REQUIREMENTS: Not required</p> <p>TRANSFER APPLICABILITY: Associate Degree Credit & transfer to CSU. CSU General Education. IGETC. UC Transfer Course List.</p>	<p>Offered At: City, Mesa, Miramar</p> <p>Action(s) Proposed: Course Revision (May Include Activation) <i>Six Year Review</i> <i>Student Learning Objectives</i> <i>Outline of Topics</i> <i>Texts</i> Approved</p> <p>Proposed for College(s): City, Mesa, Miramar</p> <p>Originating Campus: MESA</p> <p>Effective: Fall 2016</p>
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Subject: Mathematics (MATH) Discipline: Mathematics

<p>151 Calculus with Analytic Geometry II</p> <p align="right">64 - 72 hours lecture, 4 units Letter Grade or Pass/No Pass Option</p> <p>REQUISITES: <i>Prerequisite:</i> Mathematics 150 with a grade of "C" or better, or equivalent. This is the second course in the calculus and analytic geometry sequence. This course covers more advanced topics in analytic geometry, differentiation and integration of algebraic and transcendental functions, infinite series, Taylor series, and parametric equations. This course also covers a general introduction to the theory and applications of power series, techniques of integration, and functions in polar coordinates, as it serves as a basis for multivariable calculus and differential equations, as well as most upper division courses in mathematics and engineering. This course is intended for the transfer student planning to major in mathematics, computer science, physics, chemistry, engineering or economics.</p> <p>FIELD TRIP REQUIREMENTS: May be required</p> <p>TRANSFER APPLICABILITY: Associate Degree Credit & transfer to CSU. CSU General Education. IGETC. UC Transfer Course List.</p>	<p>Offered At: City, Mesa, Miramar</p> <p>Action(s) Proposed: Course Revision (May Include Activation) <i>Six Year Review</i> <i>Outline of Topics</i> <i>Texts</i> Approved</p> <p>Proposed for College(s): City, Mesa, Miramar</p> <p>Originating Campus: MESA</p> <p>Effective: Fall 2016</p>
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*Requires Board of Trustees approval prior to implementation
~Course requires CCCC submission

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<p>252 Calculus with Analytic Geometry III</p> <p style="text-align: right;">64 - 72 hours lecture, 4 units Grade Only</p> <p>REQUISITES: <i>Prerequisite:</i> Mathematics 151 with a grade of "C" or better, or equivalent. This course includes the algebra and geometry of 2 and 3 dimensional Euclidean vectors, the algebra and calculus of multivariable functions including composition of functions, limits, continuity, partial differentiation, gradients, higher order derivatives, the chain rule, constrained and unconstrained optimization including Lagrange's theorem, multiple integrals, integrals over paths and surfaces, and integral theorems of vector analysis. This course is intended as a general introduction to the theory and applications of multivariable calculus. This course is essential for most upper division courses in mathematics and forms part of the foundation for engineering and physics. The course is intended for the students interested and/or planning to major in mathematics, physics, astronomy, engineering, computer science, physical chemistry, operational research, or economics.</p> <p>FIELD TRIP REQUIREMENTS: May be required</p> <p>TRANSFER APPLICABILITY: Associate Degree Credit & transfer to CSU. CSU General Education. IGETC. UC Transfer Course List.</p>	<p>Offered At: City, Mesa, Miramar</p> <p>Action(s) Proposed: Course Revision (May Include Activation) <i>Six Year Review</i> <i>Outline of Topics</i> <i>Texts</i> Approved</p> <p>Proposed for College(s): City, Mesa, Miramar</p> <p>Originating Campus: MESA</p> <p>Effective: Fall 2016</p>
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PROGRAM CHANGES

(Note: To view from *Proposals* screen, click *Program Search* button, scroll down to program name, then option title, if appropriate, and click *PR* icon.)

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