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Krishna Chowdary

chowdark@evergreen.edu

360 867 6156

Lab 2 2253

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Fall major topics and Credit: Full program is 16 credits.

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- Lab (4 credits) computational tools and experimental skills
- Partial credit options available: discuss with faculty
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Winter and Spring major topics: Classical Mechanics (8 credits); Electromagnetism (8 credits); Quantum Mechanics (8 credits); Advanced Lab/Projects (8 credits). All areas are eligible for upper division science credit if work meets program standards.

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- LA: Linear Algebra (4 credits)
- MVC: Multivariable and Vector Calculus (4 credits)
- Lab (4 credits) computational tools and experimental skills
- Partial credit options available: discuss with faculty
- Work in DE, LA, and Lab that meets program standards are eligible for upper division science credit

Winter and Spring major topics: Classical Mechanics (8 credits); Electromagnetism (8 credits); Quantum Mechanics (8 credits); Advanced Lab/Projects (8 credits). All areas are eligible for upper division science credit if work meets program standards.

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#### \*\*Tentative\*\* Fall Schedule (subject to change):

### Texts: TBD; check program website for updates/details

Catalog Description: This intermediate-to-advanced program builds upon previous introductory work in calculus and physics, aiming to deepen students' comprehension of nature, its representation through physical models, and the robust connections between mathematics and physical theories. Our focus is on understanding the nature and formal structure of quantitative physical theories, emphasizing the unification of concepts and mathematical structures that organize diverse physical theories into a coherent body of knowledge. We will pose increasingly sophisticated questions about the nature of physical reality, spanning various scales of space, time, matter, and energy, and develop mathematical and experimental tools to address these inquiries. Additionally, we will explore our studies within a broader historical, philosophical, and cultural context.

In fall, we will develop foundational skills in mathematical methods, covering Differential Equations, Linear Algebra, and Multivariable and Vector calculus. Laboratory activities will enhance our experimental skills and provide us experience with computational tools.

In winter and spring, we will focus on advanced physics topics, including Classical Mechanics, Electromagnetism, and Quantum Mechanics, applying the mathematical methods established in the fall quarter. Our laboratory work will extend and complement the theoretical focus.

Given the challenging nature of the material, consistent class participation and a substantial time commitment outside of class will be required. We aim to create a collaborative and inclusive learning environment that fosters mutual support and success through lectures, workshops, and labs. Weekly assignments include reading, writing, and substantial problem sets. There will be regular quizzes and exams

sites.evergreen.edu/psamm2425

Krishna Chowdary

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360 867 6156

Lab 2 2253

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