

Course Change Request

Date Submitted: 11/22/24 10:32 am

Viewing: **CDS 461 : Molecular Dynamics and Monte Carlo Simulations**

Last approved: 05/22/24 6:52 am

Last edit: 01/17/25 10:10 am

Changes proposed by: blaisten

Catalog Pages referencing this course

- [Computational and Data Sciences \(CDS\)](#)
- [Department of Computational and Data Sciences](#)

Select modification type:

Substantial

Are you completing this form on someone else's behalf?

No

Effective Term: Spring 2025

Subject Code: CDS - Computational and Data Sciences

Course Number: 461

In Workflow

1. **CDS Chair**
2. **SC Curriculum Committee**
3. SC Assistant Dean
4. Assoc Provost- Undergraduate
5. Registrar-Courses
6. Banner

Approval Path

1. 12/06/24 3:35 pm
Arie Croitoru
(acroitor): Approved for CDS Chair

History

1. Dec 18, 2018 by Estela Blaisten-Barojas (blaisten)
2. Apr 21, 2023 by Estela Blaisten-Barojas (blaisten)
3. May 22, 2024 by Estela Blaisten-Barojas (blaisten)

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:**Catalog Title:** Molecular Dynamics and Monte Carlo Simulations**Banner Title:** Mol Dyn/Monte Carlo Simulation**Will section titles vary by semester?** No**Credits:** 3**Schedule Type:** Lecture**Hours of Lecture or Seminar per week:** 3**Repeatable:** May only be taken once for credit, limited to 2 attempts (N2) **Max Allowable Credits:** 6**Default Grade Mode:** Undergraduate Regular**Recommended Prerequisite(s):**Competency in programming at CDS 251 level or higher, PHYS 243 or equivalent, higher and MATH 214 or MATH 216, or permission of the instructor.**Recommended Corequisite(s):****Required Prerequisite(s) / Corequisite(s) (Updates only):**CDS 251 ~~and PHYS 243~~**Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):**

And/Or	(Course/Test Code	Min Grade/Score	Academic Level)	Concurrency?
		CDS 251	C	UG		
And		PHYS 243	C	UG		

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:**Field(s) of Study:****Class(es):****Level(s):****Degree(s):****School(s):****Catalog****Description:**

Covers particle methods to solve variety of physical systems. Emphasizes study of structure and thermodynamics of condensed systems in liquid and solid phases while implementing numerically the Molecular Dynamics and Monte Carlo methods. Applications and projects include a variety of atomistic and molecular simulations based on pairwise interatomic interactions.

Justification:

What: move the required prerequisite of PHYS 243 to be recommended

Why: Students may have enough physics background for the course through PHYS courses other than PHYS 243.

Does this course cover material which crosses into another department? No

Learning Outcomes:

Will this course be scheduled as a cross-level cross listed section?

Attach Syllabus**Additional Attachments****Specialized Course****Categories:**

Mason Impact

Application for Mason Impact

Select the requested Mason Impact designation:

**Additional
Comments:**

**Reviewer
Comments**

Key: 1925