

GRADUATE PROGRAM IN APPLIED PHYSICS

2023 Overview

Northwestern

Northwestern

Applied Physics

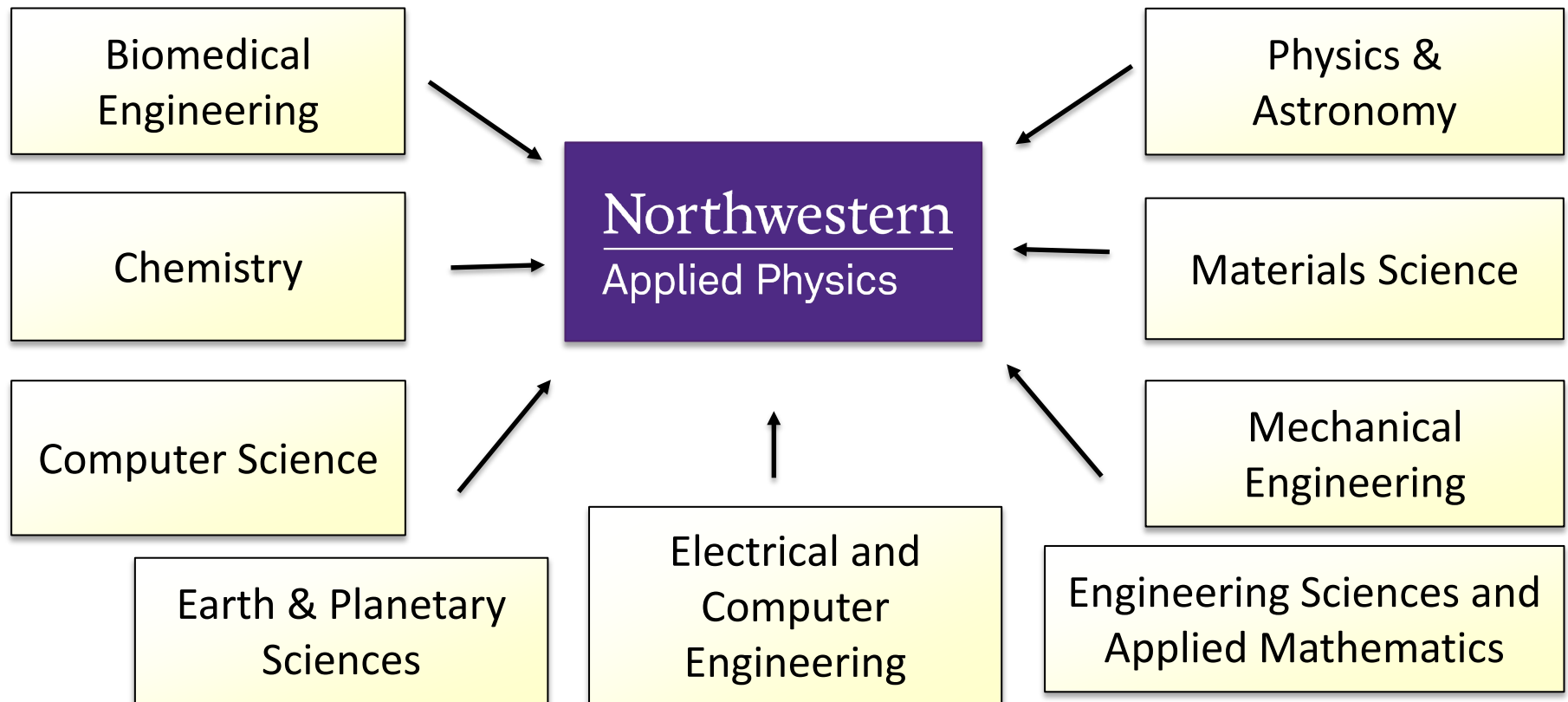
Affiliation:

2 Schools and 9 Departments

WEINBERG COLLEGE
OF ARTS & SCIENCES

&

McCORMICK SCHOOL OF
ENGINEERING



Nate Stern



Weinberg
Co-Director

Lincoln Lauhon



McCormick
Co-Director

Chris Jacobsen



Admissions
Chair

Pedram Khalili



Director of
Graduate Studies

Clarence Morales



Program
Assistant



**Clarence Morales,
Program Assistant**

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Director of Graduate Studies**

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**Chris Jacobsen
Admissions Chair**

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c-jacobsen@northwestern.edu

Student Council



Gregor Dairaghi

GregorDairaghi2026@u.northwestern.edu



Maggie Quinn

MargaretQuinn2026@u.northwestern.edu



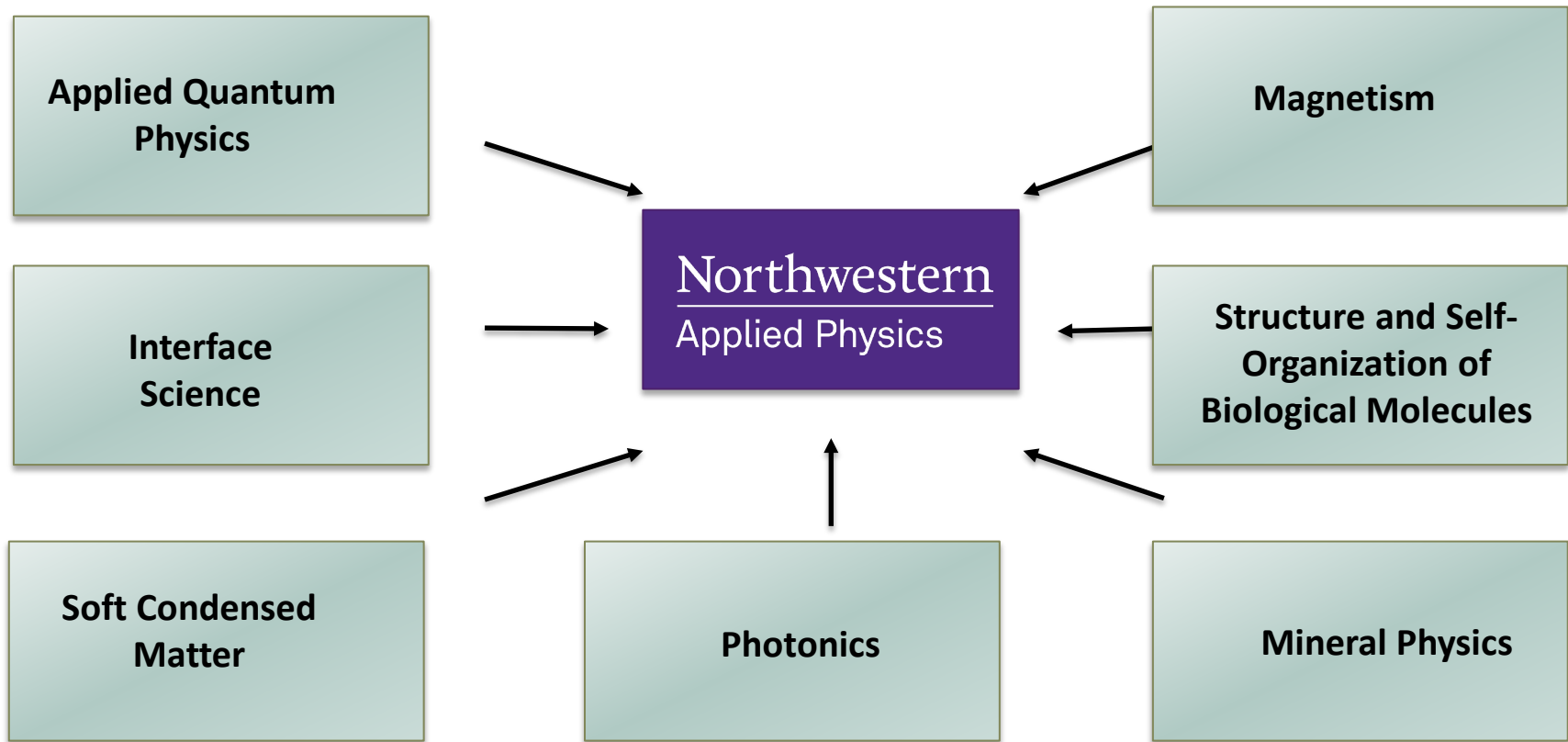
Lawrence Rhoads

LawrenceRhoads2025@u.northwestern.edu



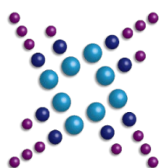
Emmanuel Aneke

eaneke@u.northwestern.edu



Northwestern Applied Physics

Collaborative Research Centers and Institutes



Materials Research Center
Northwestern University



Northwestern
PAULA M. TRIENENS INSTITUTE FOR
SUSTAINABILITY AND ENERGY



INTERNATIONAL INSTITUTE
FOR NANOTECHNOLOGY
Northwestern University

CAPST A logo for CAPST (Center for Applied Physics and Superconducting Technologies) featuring the letters CAPST in a bold font, with a circular icon containing an upward and downward arrow.

Center for **Applied Physics and Superconducting Technologies**

Fermilab
Northwestern



Chemistry of
Life Processes
Institute

Argonne NATIONAL LABORATORY

Fermilab



Northwestern University
Argonne National Laboratory
Institute of Science and Engineering

#1

We need you:

your skills and talent, your unique ideas and perspective

#2

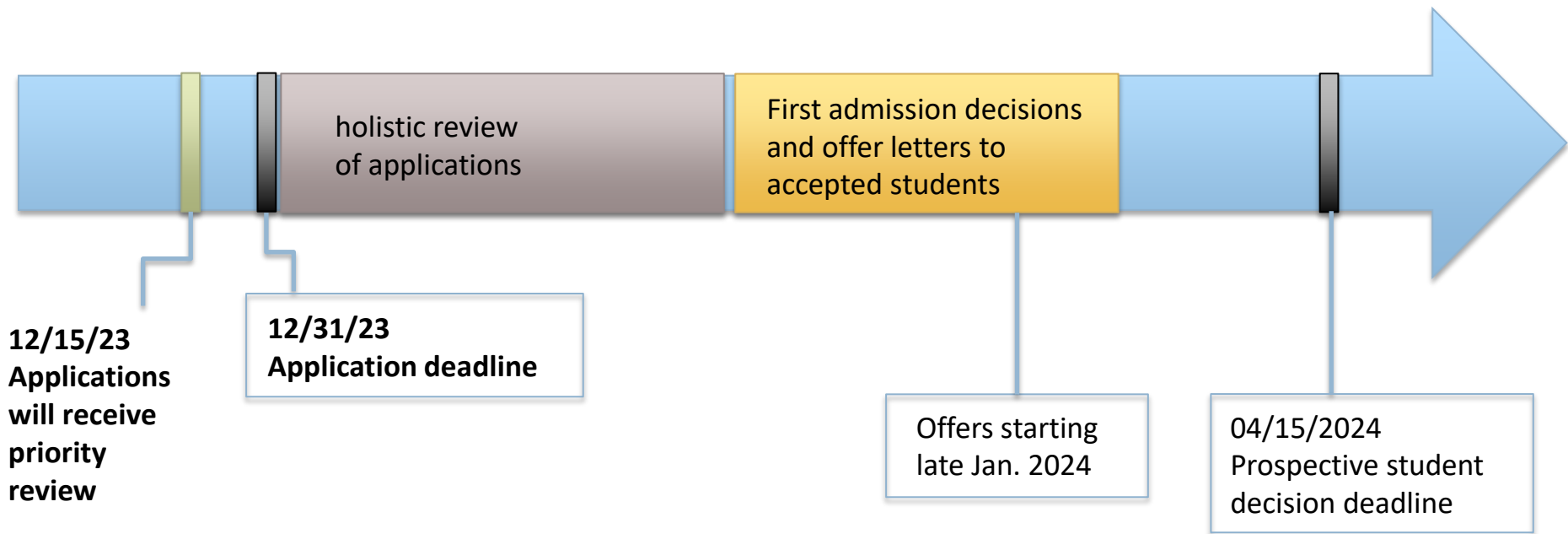
Unique Research Opportunities

- interdisciplinary, multiple departments
- many faculty members (experiment, theory)
- new QIS centers

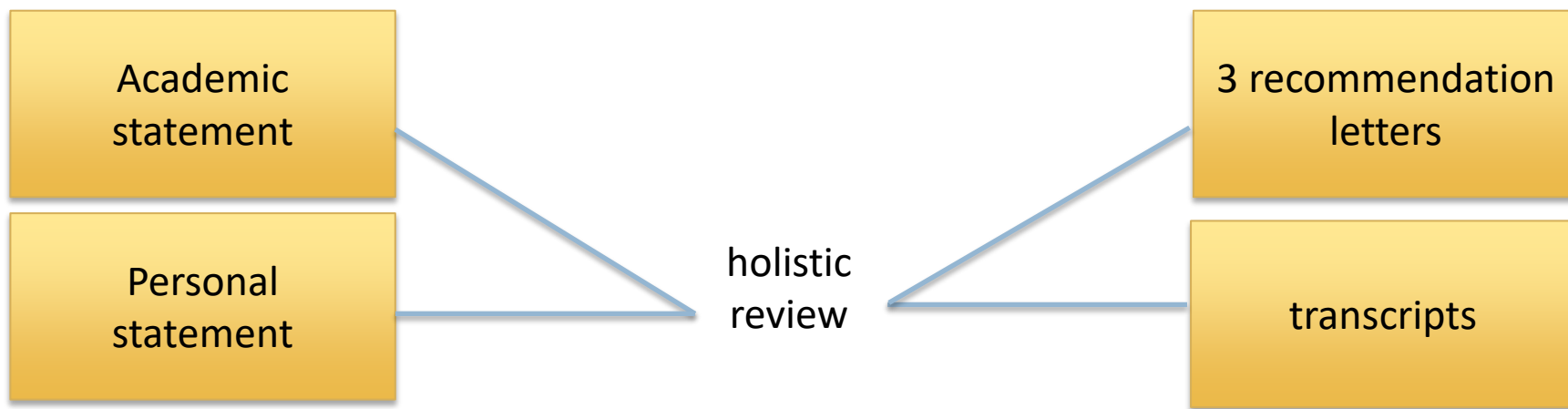
#3

Start your own research early (second quarter!)

interact with AP students and faculty doing research in a variety of disciplines



Content of your application



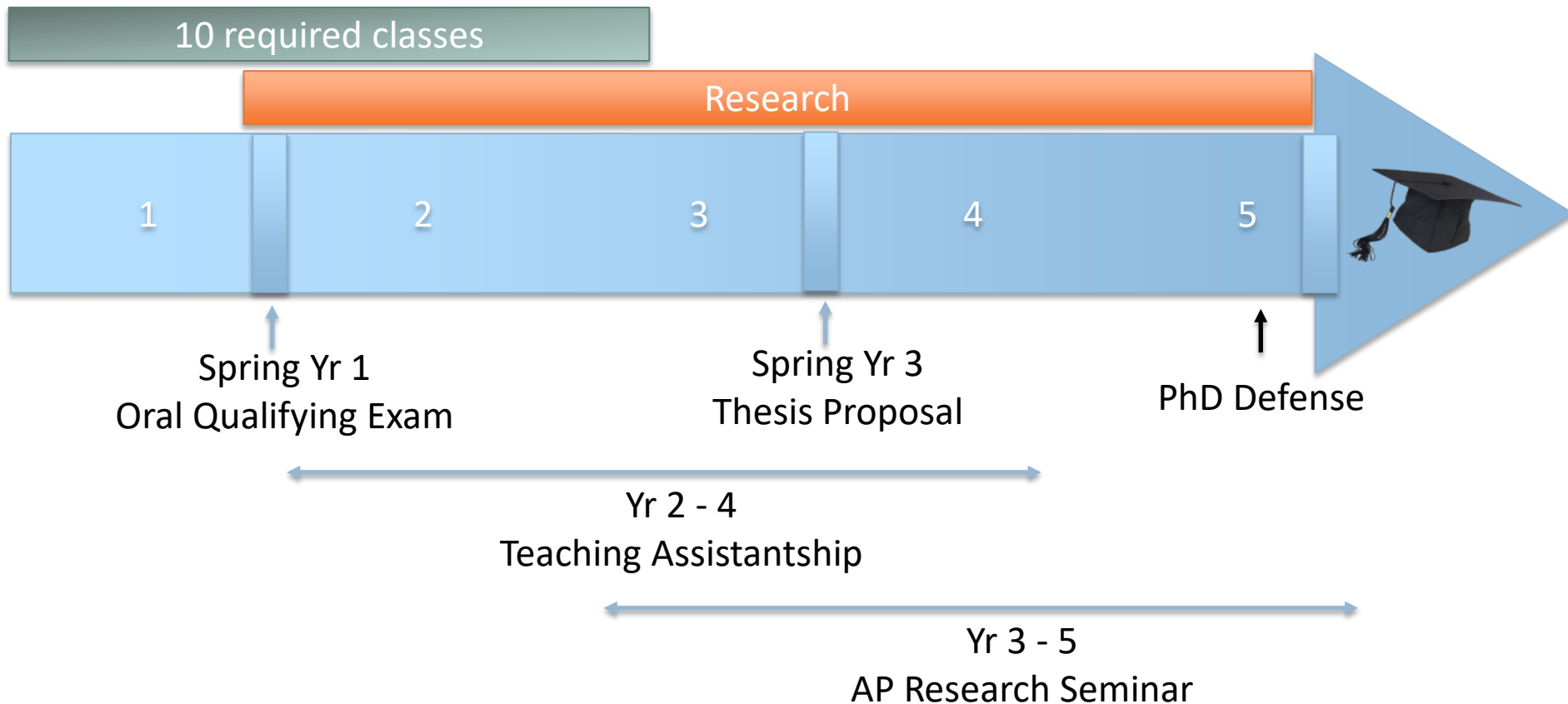
Optional		
Additional information statement	[GRE / GRE Physics] <i>Not required for applications submitted in 2023 for fall 2024 enrollment</i>	60s video <i>to introduce yourself and briefly describe your research, career interests and why Northwestern</i>

- ➡ **Tell your story!**
The admissions committee and faculty want to get to know you
- ➡ **Why Applied Physics?**
- ➡ **What inspires you?** What drives you? What makes you different?
- ➡ Mention **faculty you might be interested** in working with.
- ➡ If applicable, mention any **research experience**.
- ➡ **Mention obstacles you faced,**
and how you managed to overcome them.
Resilience and determination are strengths!

provide you
with a
solid foundation
in **physics**

enable you
to become an
**independent
researcher**

prepare you for
and assist you in
planning and realizing
your
career plans



Northwestern

POLICIES CALENDAR CONTACT RESOURCES FOR YOU ▾

THE GRADUATE SCHOOL

Search this site 🔍

Admissions Academics Funding Diversity **Professional Development** Campus Life About

HOME > PROFESSIONAL DEVELOPMENT

Professional Development

Career Paths

Core Competencies

Professional Development Funding

Careers and Job Search



Professional Development

The Graduate School at Northwestern University (TGS) offers a variety of resources and programming to contribute to the professional development of our graduate students and postdoctoral fellows.

In addition to providing direct services (such as workshops and speakers), TGS serves as a gateway to programming and resources across campus. TGS partners with several University offices to provide skill acquisition in five major [Core Competencies](#). In addition, students are encouraged to explore the [Career Pathways](#), where professional development opportunities and resources are organized by career path, in a timeline format. Finally, TGS offers

OUR PARTNERS

- Center for Civic Engagement
- Office of Fellowships
- Center for Leadership
- Office of Postdoctoral Affairs
- Searle Center for Advancing Learning and Teaching

- Career Exploration
- Leadership and Management
- Speaking and Presenting
- Teaching
- Writing and Research



~ 50 faculty members in:

- Biomedical Engineering
- Chemistry
- Computer Science
- Earth and Planetary Sciences
- Electrical and Computer Engineering
- Engineering Sciences and Applied Mathematics
- Materials Science and Engineering
- Mechanical Engineering
- Physics and Astronomy

* As of Sept. 2023

First Year

Start your own
research

Second Year or later

Fall

MAT SCI 401: Chemical & Statistical Thermodynamics of Materials
or **PHYS 416:** Introduction to Statistical Mechanics (Winter Yr1)

PHYS 412-1: Quantum Mechanics

PHYS 411-1: Methods of Theoretical Physics

GEN ENG 519: Responsible Conduct of Research Training

Winter

PHYS 412-2: Quantum Mechanics

PHYS 414-1: Electrodynamics

PHYS 416-0: Introduction to Statistical Mechanics
or **MAT SCI 401:** Chemical & Statistical Thermodynamics of Materials
(Fall Yr1)

Spring

MAT SCI 405: Physics of Solids
or **PHYS 422-1:** Condensed Matter Physics (Fall Yr2)

Fall

PHYS 422-1: Condensed Matter Physics
or **MAT SCI 405:** Physics of Solids (Spring Yr1)

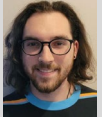
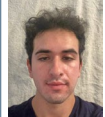
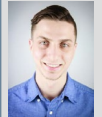
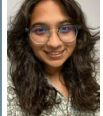
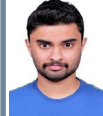
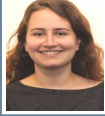
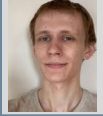
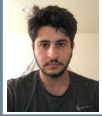
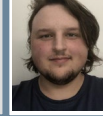
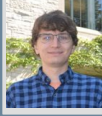
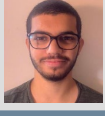
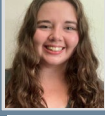
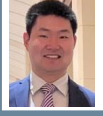
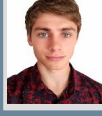
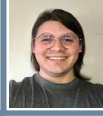
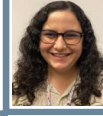
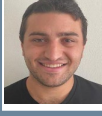
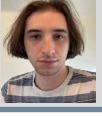
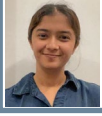
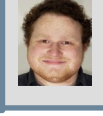
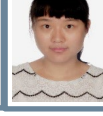
Fall or later

Computational Methods of Applied Physics
Experimental Methods of Applied Physics
2 Electives

Northwestern

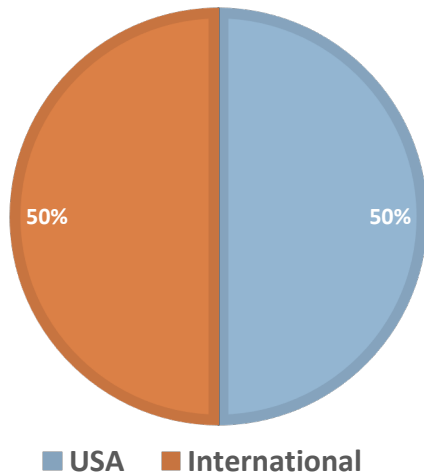
Applied Physics

Graduate Students

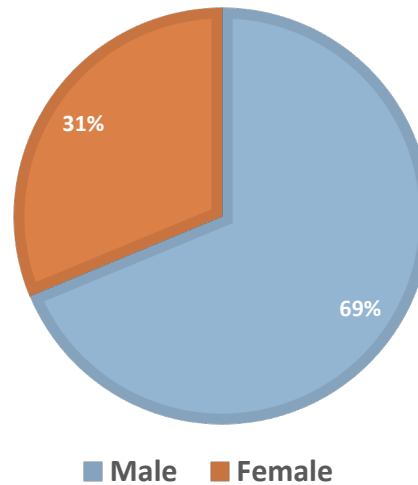
 Aziz Abogoda Sauls group	 Ting Ching Chu Lauhon group	 Annaliese Ehlen Overa de la Cruz group	 Huanbo Jiang Odom, T. group	 Gilhwan (Peter) Lim First Year student	 Dingwen Qan Overa de la Cruz group	 Madison Schwinn Chen group	 Yiping Wang Kovachy group
 Emmanuel Aneke Jacobsen group	 Christopher Cravey Grayson group	 Matthew Farnese Overa de la Cruz group	 Ubaid Kazianga First year student	 Chenguang Liu Jacobsen/Pankuch groups	 Margaret Quinn Rondinelli group	 Antara Sen Overa de la Cruz / Kriegman Groups	 Andre Vallieres Koch Group
 Mauricio Angelone Jacobsen group	 Gregor Dairaghi Odom, T. group	 Jennifer Garland Petford-Long group	 Samira Khan Driscoll group	 Eric Matt First Year student	 Rohan Rajmohan Koch group	 Banibrato Sinha Khalili group	 Parker Watts Waisielewski group
 Sevede Nur Arpac Khalili group	 Vin San Dinh Koch / Romanenko groups	 Gamze Gul Kumar group	 Trevor Kling Hosseini group	 Ennis Mawas Figueroa-Feliciano group	 Anirudh Ramesh Kumar group	 Lucas Stanley Geraci group	 Noah Welke First-Year student
 Matthew Capocci Koch group	 Junhang Duan First Year student	 Kara Hokenstad Kumar group	 Yisheng Lei Hosseini group	 Arthur McCray Petford-Long group	 Lawrence Rhoads Grayson group	 Gina Talcott First Year student	 Joseph Yaker Koch / Romanenko group
 Tse-Min Chiang Schatz group	 Ely Eastman Kumar group	 Swan Htun Jacobsen group	 Wing-Shun Li Backman / Dravid group	 Jasmine Panthee Chandrase-khar group	 Benjamin Roter Jacobsen group	 Yi Wang Odom, T. group	 Tianpu Zhao Koch Group

* As of Sept. 2023

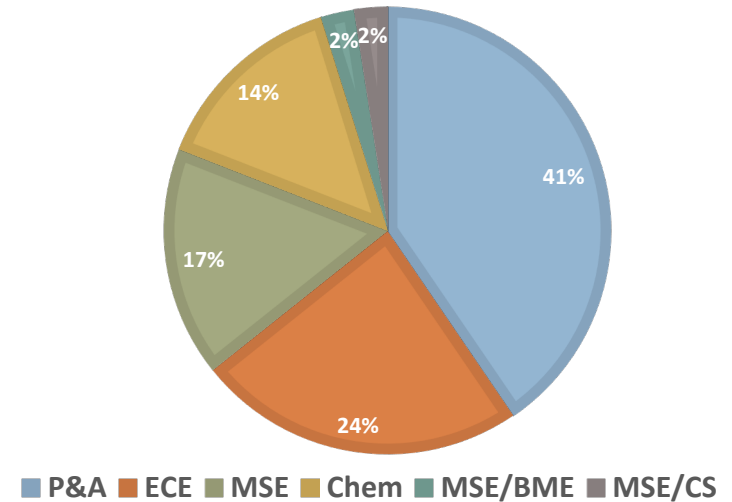
BY CITIZENSHIP
TOTAL: 48 STUDENTS



BY GENDER
TOTAL: 48 STUDENTS



BY ADVISOR'S MAIN DEPARTMENT
TOTAL: 42 STUDENTS
(6 HAVE NOT CHOSEN AN ADVISOR YET)



As of Sept. 2023

Where do our Alumni work?



ACADEMIA



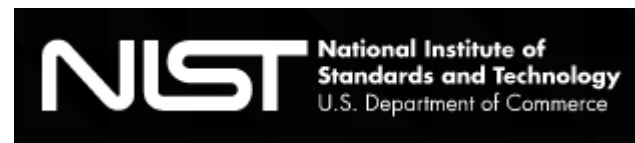
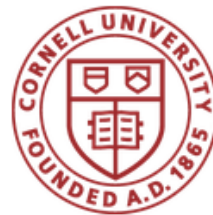
NATIONAL LABS



INDUSTRY



FINANCE





City of Evanston

- Population of ~75,000.
- Convenient, quiet.
- Quick and easy connections to downtown Chicago.
(Metra: ~20 mins)

City of Chicago

- Population of 2.7M
- Great museums, restaurants, sports, culture,...
- And beaches!

