

# AIISO YUFENG LI FAMILY DEPARTMENT OF CHEMICAL AND NANOENGINEERING

Welcome!

JUNE 2024

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# ABOUT THE DEPARTMENT

# Welcome to the Department of Chemical and NanoEngineering at UC San Diego!

In the Department of Chemical and Nano Engineering, we aim to:

- Educate tomorrow's technology leaders
- Conduct leading edge research and drive innovation
- Transfer discoveries for the benefit of society

Our educational objectives are to:

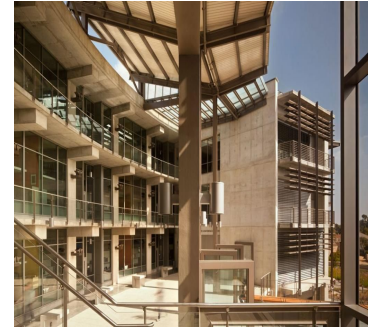
- Equip our graduates with strong technical backgrounds, enabling them to be successful in careers that cross traditional areas of applied science and engineering
- Prepare our graduates to be fluent in a multidisciplinary body of knowledge for participating in and seeding new technologies
- Train graduates into the high-technology workplace with professional, scientific, and technical skills; who conduct themselves ethically and knowledgeably in a wide range of professional environments.



# Department of Chemical and Nano Engineering

The Department of Chemical and Nano Engineering was the first in the world to offer both undergraduate and graduate degrees in NanoEngineering in 2007. The department currently has over 30 faculty. Undergraduate and graduate degrees are also offered for the Chemical Engineering program.

Our renowned [faculty](#) are engaged in various research topics. We recommend reviewing their lab websites to learn more about their backgrounds and impacts in their perspective fields.



# How do you meet people in NANO?

- 1 Take NANO classes
- 2 Attend events, seminars, & workshops
- 3 Participate in student organization, NanoEngineering and Technology Society (NETS)
- 4 Form study groups in your classes
- 5 Meet with faculty, advisors, and other students



# WHAT IS NANOENGINEERING?

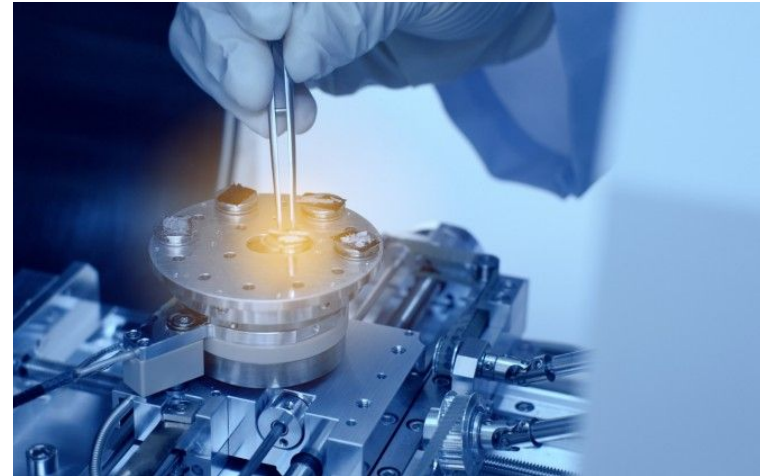
# What is NanoEngineering?

## Nanoengineering

Practice of engineering on the nanoscale, wherein the unique and enabling aspects of a nanoscale material or structure are used to create a device to be utilized by humankind.

### Primary Research Areas:

- Biomedical Nanotechnology
- Molecular and Nanomaterials
- Nanotechnologies for Energy and the Environment
- Computational Nanoscience and Engineering





# Nanoengineering at UC San Diego



# MAJOR AND CURRICULUM

# Basic Curriculum

Requirement	Units	Notes
General Education	Varied	This requirement is intended to fulfill the general education requirements (G.E.) from respective colleges.
Basic Sciences and Mathematics	60	<ul style="list-style-type: none"> <li>• 24 units of mathematics (MATH 20A-E and MATH 18 (formerly MATH 20F))</li> <li>• 16 units of physics (PHYS 2A–D)</li> <li>• 16 units of chemistry (CHEM 6A–C, 7L)</li> <li>• 4 units of biology (BILD 1).</li> </ul>
Engineering Preparation	12	This requirement covers basics in computer programming, circuit analysis and circuits lab (NANO 15, 107, and 108).
NanoEngineering Core	45	This requirement constitutes a one-unit seminar (NANO 4) and nine core courses (NANO 11, 20L, 102, 104, 110, 111,112, 115L, 117, 119, 120A, 120B, and 148).
NanoEngineering Electives	20	The five elective courses requirement must be chosen from among the upper-division NANO courses offered by the department (NANO courses numbered 100 through 199).

# How to Complete a Nanoengineering Major

- Take all major required courses for a letter grade, earning a C- or above.
- Follow the first-year or transfer plan provided by the Department of Chemical and Nano Engineering. Keep in mind that most courses are only offered once a year. Pay close attention to the required prerequisites and the order in which courses should be undertaken.
- Any deviations from the academic plans provided will require meeting with an academic advisor to develop an alternative plan.

# Changing Majors

*\*Effective Summer 2024, NanoEngineering is no longer a selective major.*

## Step 1.

Submit Request via the [Major/Minor tool](#) on TritonLink. Incoming students cannot change to NANO major until officially starting at UC San Diego.

## Step 2.

Wait for the request to be processed. Processing time will vary if department and/or college approval is required.

## Step 3.

Follow a Department provided plan for your new Nanoengineering major.

Advising & Grades	Clas
Academic History	
Co-Curricular Record	
Degree Audit	
Degree Planner	
General Catalog	
GPA Calculator	
Major & Minor	
REAL Portal	
Order Official Documents	
Virtual Advising Center	



***We recommend students meet with a department advisor to ask any questions they have before making the switch.***

**WHAT CAN YOU DO ALONG THE WAY?**

# Research!

- Discover what interests you!
- Develop knowledge, skills, and abilities and/or support groundbreaking research initiatives.
- Take advantage of opportunities to network and build relationships with faculty who can later write you letters of recommendation.
- Earn units toward graduation through enrollment in NANO 199 courses.

For more information on how to get involved in research, refer to our department website and the UC Undergraduate Research Hub



# Research Resources

## REAL Portal

- Offers research, internship, international, service learning, entrepreneurial, leadership, and other co-curricular opportunities that help students build real-world skills and apply knowledge gained in the classroom.

## Undergraduate Research Hub

- Offerings for Academic Year and Summer research programs and opportunities, including the Faculty Mentorship Program

## Academic Internship Program

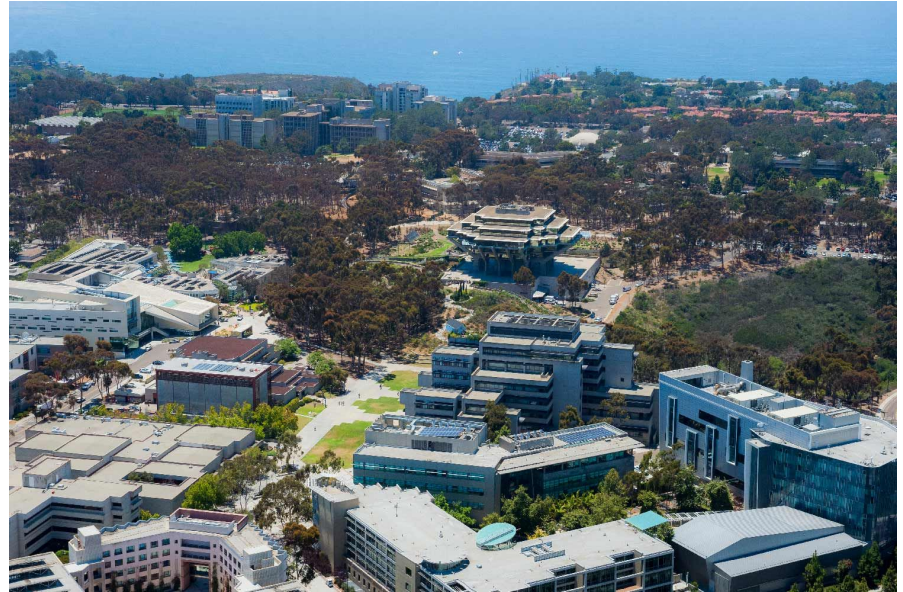
- Resource for Academic Internships and postings, as well as options for credit-based learning opportunities through their programs.



**WHERE WILL YOU GO?**

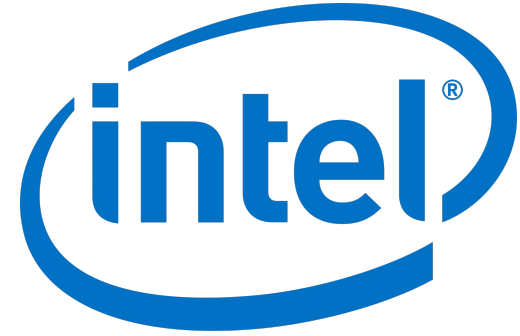
# Pursue a Graduate Education

- Complete a Bachelor of Science degree
- Get research experience
- Network & seek advising
- Attend seminars & workshops
- Submit applications with strong letters of recommendation and be intentional in your statement of purpose
- For questions about our graduate programs (B.S./M.S. , M.S., & PhD), please email [ne-gradinfo @ucsd.edu](mailto:ne-gradinfo@ucsd.edu)



# Employers

- Intel Corporation
- 3M
- Illumina
- General Dynamics
- Tesla Motors
- Johnson & Johnson
- U.S. Air Force
- Cisco Systems
- etc...



**HAVE QUESTIONS?**

# Questions to ask Advising & Faculty

## Ask Advisors questions on:

- course planning and enrollment
- petitions and EASy requests
- major requirements and exceptions
- course prerequisites
- how to enroll in independent study courses
- transfer courses and course equivalency

## Ask Faculty questions on:

- classes (how you're doing, how to improve)
- course selection toward a particular career/grad program
- post-grad planning (careers, grad programs)
- research and how you can get involved
- the subject of nanoengineering, and how to develop as a scholar in the field

# How to contact advisors?

- 1 Contact via the VAC ([vac.ucsd.edu](http://vac.ucsd.edu)). Be sure to select 'Nanoengineering' as the recipient of your message!
- 2 Come to drop-in hours!
- 3 Schedule an appointment!



**Visit our advising page here!**

**Thank you!**