



Masters in Engineering Student Handbook Fall 2015

Introduction

The Albert Nerken School of Engineering community at the Cooper Union community extends you a warm welcome. During your time here, you will be immersed in a vibrant learning environment and surrounded by creative thinkers like yourself. Our intent is to instill in you an ethos of enlightened contributions to society, where your fellow classmates, faculty, and staff engage in life-long learning and ethical practice.

We have created this handbook as a roadmap to help you navigate your time here. Please read the policies described in the course catalog and reiterated in this handbook before classes begin, as you will be responsible for abiding by the rules and regulations described in these documents.

Please note that this handbook is meant to be purely an online guide and is subject to change (we will include the revision dates). The policies and regulations described in the Course Catalog are binding.

You are invited to use the follow online resources:

Course Catalog:

<http://cooper.edu/students/registrar/course-catalog>

Albert Nerken School of Engineering:

www.cooper.edu/engineering

Albert Nerken School of Engineering Master's Program:

www.cooper.edu/engineering/curriculum/master

Once again, welcome to Cooper!

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Getting Started

Registration: You can access your educational plan (i.e. the list of courses you will be taking throughout your career at Cooper Union) through the Student Self Service portal: www.cooper.edu/students/registrar/registration

Please note that, in accordance with regulations established by the N.Y. State Education Department, a minimum of 30 graduate level credits beyond the baccalaureate degree must be completed at The Cooper Union (in addition to possible undergraduate deficiencies) for both the thesis requiring M.E. Program and the non-thesis M.E. Program. All graduate level credits, including possibly cross-listed upper level undergraduate credits, must be approved by your academic advisor. **Additionally, in accordance with N.Y. State law, you have to submit a complete set of medical forms to be able to register for classes.**

Academic Honesty: Professors at Cooper Union are committed to preserving an environment that challenges every student to realize his or her potential. You are expected to provide your best effort and will be supported to produce original work of the highest caliber. Firm guidelines defining violations of academic integrity are listed in the Course Catalog under ‘Academic Standards’ and ‘Academic Integrity’. If the definitions of cheating are unclear to you, it is your responsibility to review your professor’s policies to ensure compliance

Obtaining your Cooper ID: Once you are registered in the Cooper system and assigned a Colleague ID, please contact David Robbins (drobbins@cooper.edu), to set up an appointment to process your student identification card. The office of Student affairs is located at 29 3rd Avenue, Suite 3b, New York, NY 10003.

Lockers: Students can secure personal lockers (*provided to each engineering student on the 5th, 6th, and 7th floors of 41 Cooper Square*) by placing a lock on an unused locker and registering it through Student Services at the following website: <https://esc.cooper.edu/admin/lockreg>. You will be able to keep your locker until you complete your degree.

E-mail Address: The CU Computer Center staff will set you up with an @cooper.edu extension, once you have submitted your medical forms and paid your deposit(s). Once your e-mail address has been set up, you will be notified by a Computer Center staff member.

Mailboxes: It is essential that you check your physical mailbox (color-coded by major on the 5th floor) and email regularly as these are both important ways in which we will communicate with you. In the case of email, if you do not use the Cooper Union webmail portal (webmail.cooper.edu), ensure that you forward messages to the address you use.

Cooper Union academic and administrative addresses should not be used for personal mail or packages. Personal mail sent to 30 Cooper Square, 41 Cooper Square, or the Foundation Building may be discarded without notification; never use these building addresses as your personal/permanent address.

Accessing Wifi: To access the Cooper Union networks (cooper-a or cooper-g), please use your @cooper.edu username and password. Prior to entering your username and password, you might be prompted to enter an access password (password: cooperCU).

Drop/Add Period: Incoming students should discuss their course choices with their thesis advisor (thesis students) or Department Chair (all others). After the first week of every semester, “Add’s” are not allowed, including independent studies. During the first week, you may “Drop” classes with approval from your faculty advisor with no record of that “Drop” on your transcript. For classes being dropped between the second and eighth weeks, a “W” will be placed next to the course on your student transcript. To resolve special situations, such as conflicting or overlapping classes or missing pre-requisites students must ask their advisors to email the registrar staff.

In extenuating circumstances, and with the signatures of the course faculty member, your academic advisor, and the Dean of the School of Engineering, “Drop’s” will be allowed after the eighth week. This condition requires an additional waiver form, found in the Deans’ Office, to be signed by those listed above. Otherwise, withdrawals are not allowed and you will receive an “F” in that course. You should be factoring the course work load into your course selections during registration.

To resolve these special situations, students must ask their advisors to email the registrar staff. Students who wish to withdraw from a course after the eighth week must have their instructor, their advisor, and the Dean email their approval to the registrar staff.

After the eighth week of the semester, students cannot withdraw from a course unless a documented medical or other such extenuating circumstance exists.

Resignation: A student may “resign” at any time in writing; a resignation is permanent and is accompanied by a separation notice that is placed in the student’s file.

Safety, Security, and Campus Emergencies: Cooper Union is committed to providing a safe and secure learning environment for our students, staff, and faculty. All first-year and transfer students in the School of Engineering are required to take a shop safety course and pass a written exam. All laboratory personnel and professors will review safety procedures posted in their labs before you start working with them.

If you witness any safety violations, you are strongly urged to report them to the supervising staff member and/or professor. Anonymous reporting can be performed through: <https://safety.cooper.edu/>. Important campus-wide safety and emergency guidelines are handed out to every student, but can also be found at: <http://cooper.edu/students/safety>. Remember, you are an integral part of keeping our campus safe and secure. Every active student will be provided with a photo identification card that must be swiped to gain entry into 41 Cooper Square, the Foundation Building, and the Residence Hall. Visitors can be signed in through the Dean’s Office; host students must accompany their guests at all times. Visitor’s passes are issued in the Dean’s Office.

Health Insurance

The Cooper Union requires all students to submit proof that they have health insurance prior to registration. Students who fail to supply the information requested on the Student Accident and Sickness Insurance Enrollment/Waiver Form before August 15th will be billed for insurance.

Health Forms

It is mandatory that incoming Cooper Union students complete and return the Cooper Union health forms and the New York State required response forms for Meningitis, Measles, Mumps and Rubella. **A physician must fill out, sign and stamp the forms. You cannot attend classes until these forms are completed and received.**

The Cooper Union health forms can be accessed at: www.cooper.edu/students/forms-and-contacts

Policies: All school policies are detailed at: <http://cooper.edu/students/policies>. They include codes of conduct, alcohol, drugs, smoking, copyrights, sexual assault, non-discrimination, and anti-harassment.

2015 - 2016 Academic Calendar

August 25	Tuesday	Move-in day for Residence Hall
August 25- August 30	Tuesday-Sunday	New student orientation
August 31	Monday	Fall semester classes begin
September 4	Friday	No classes (Staff off for summer hours)
September 7	Monday	Labor Day (Staff Holiday)
September 8	Tuesday	Fall Festival (school in session)
September 14	Monday	There will be a \$25 fee for Dropping classes after this date
October 12	Monday	Fall Breather (no classes, administrative offices remain open)
October 13	Tuesday	NOTE: FRIDAY CLASSES MEET
October 14	Wednesday	NOTE: MONDAY CLASSES MEET
November 26-29	Thursday-Sunday	Thanksgiving (Staff Holiday)
November 30-December 4	Monday-Friday	Registration for Spring 2016 classes
December 7-11	Monday-Friday	Last HSS/Engineering Classes
December 14-18	Monday-Friday	Last meeting times for all architecture and art classes/crits. These continue in their regularly assigned rooms/spaces. Final Exams for HSS and Engineering
December 18	Friday	Last day of Fall 2015 semester
December 19-January 18	Saturday-Monday	Winter recess; all schools
December 23-January 3	Wednesday-Sunday	Staff Holiday
January 4	Monday	Administrative Offices reopen. All grades are due in the Office of Admissions and Records before Noon
January 18	Monday	Martin Luther King Jr. 's birthday (Staff Holiday)
January 19	Tuesday	Spring semester classes begin. NOTE: MODIFIED SCHEDULE; MONDAY CLASSES MEET
January 27	Wednesday	There will be a \$25 fee for Dropping classes after this date
February 12-15	Friday-Monday	Founder's Day/President's Day (Staff Holiday)
March 12-20	Saturday-Sunday	Spring recess (administrative offices remain open)
April 19-22	Tuesday-Friday	Registration for Fall 2016 classes
April 27	Wednesday	Last HSS/Engineering Wednesday Classes
April 28	Thursday	Last HSS/Engineering Thursday Classes
May 2	Monday	Last HSS/Engineering Monday Classes
May 3	Tuesday	Last HSS/Engineering Tuesday Classes
May 6	Friday	Last HSS/Engineering Friday Classes
May 4, 5, 9, 10, 11	Wednesday, Thursday, Monday-Wednesday	Last meeting times for all architecture and art classes/crits. These continue in their regularly assigned rooms/spaces. Final Exams for HSS and Engineering
May 11	Wednesday	NOTE: FRIDAY CLASSES, EXAMS AND CRITS MEET
May 11	Wednesday	Last day of Spring 2016 semester
May 12	Thursday	Senior grades due in the Office of Admissions and Records before noon.
May 16	Monday	All non-senior grades are due in the Office of Admissions and Records before noon
May 23	Monday	Commencement rehearsal; annual student exhibition opens
May 24	Tuesday	Commencement
May 30	Monday	Memorial Day (Staff Holiday)
July 4	Monday	Independence Day Celebrated (Staff Holiday)

Description of Degree Programs

Chemical Engineering

Graduate students in the Department of Chemical Engineering are immersed in courses that supplement fundamental principles such as chemical structures, molecular transport, and kinetic relationships, while allowing them to explore individual interests. As part of the curriculum, students are encouraged to develop their creative abilities and to stimulate further inquiry by exploring many related fields, including biomedical, energy and environmental engineering.

In addition to advanced courses in chemical engineering, chemistry, physics and nanotechnology, graduate student research is closely advised by a full-time Cooper Union faculty member from either the chemistry or chemical engineering department. This process is usually informed by matching students' thesis topics with a related faculty member's area of research. Investigations include emerging technologies related to mathematical modeling, sustainability and nanomaterials, particle technology and fluidization, pharmaceutical engineering and processes, crystal growth from high temperature melts and pollution prevention and mitigation.

For more information about the CU Department of Chemical Engineering, please visit: www.cooper.edu/engineering/chemical-engineering

Electrical Engineering

Developing their capacities for both team- and individual work, graduate students in the Electrical Engineering department work with practicing professionals, faculty and peers on a variety of cutting-edge problems. Applicants are expected to exhibit superior skills using a problem-based approach in both academic and professional settings. Through the extensive use of CAD software, integrated with a strong theoretical base, students are provided with a variety of tools to address engineering problems.

Building on electrical engineering core subjects of electronic systems and materials, signal processing and communications, and computer engineering, graduate students are encouraged to explore individual interests for their thesis. Students have the opportunity to work with faculty exploring a diverse array of subjects including, but not limited to, image and video processing, mapping algorithms to architecture, advanced computing and simulation methodology, integrated circuit engineering and sustainable engineering.

For more information about the CU Department of Electrical Engineering, please visit: www.cooper.edu/engineering/electrical-engineering

Mechanical Engineering

Through course projects, research, or consulting opportunities, Mechanical Engineering graduate students are constantly exploring energy and sustainability, nanotechnology, leading computational methods, innovation, management, and economics. Courses strike a unique balance between analytical rigor and creative design, thereby preparing graduates for a variety of careers. Because we foster collaborative, interactive environments, Mechanical Engineering students are often encouraged to engage in interdisciplinary research spanning many subject

fields. They participate in challenging and rewarding courses that combine fundamental major-related concepts with unique and topical minors. Thesis research topics include computer-aided design and engineering, computational fluid dynamics, robotics, automotive systems, thermoelectric power generation, vibrations and acoustics. Valued for their strong project-based design skills and analytical abilities, graduates lead successful careers in the aerospace, automotive, biomedical, entrepreneurship, and construction industries and often pursue doctoral studies in a complete range of mechanical engineering fields.

For more information about the CU Department of Mechanical Engineering, please visit: www.cooper.edu/engineering/mechanical-engineering

Civil Engineering

Graduate students in the Civil Engineering department are equipped with the theoretical and practical knowledge necessary for working to solve many problems facing both our built and natural environments. Coursework grounded in the principles of mathematics, structural mechanics and computer applications, prepares students for careers in urban planning, construction management and infrastructure rehabilitation. Those who chose to continue their studies after graduation are recruited by some of the nation's best universities and often accept prestigious research fellowships while enrolling in doctorate degree programs.

Through numerous combinations of over two dozen graduate-level courses, Civil Engineering students pursue areas of interest in either structural and geotechnical or water resources and environmental engineering. Augmenting the major curriculum, graduate students have the opportunity to declare minors varying from computer engineering to civil engineering management. Responding to current issues, students and faculty often collaborate on a variety of projects related to sustainability, alternative energy sources and the mitigation of damage caused by natural and man-made disasters.

For more information about the CU Department of Civil Engineering, please visit: www.cooper.edu/engineering/civil-engineering

Degree Requirements

Prior to registering for your courses each semester, students are encouraged to consult with their thesis advisor or Department Chair.

Additionally, the Engineering Deans office will contact all masters students, each semester, for a progress check-in.

Students, who have been granted a full scholarship from their department, are automatically declared as thesis track. Students, who have received a partial or no scholarship, enter the master's program as undeclared. During the course of your program, students' will be asked to declare their track: thesis or non-thesis.

Please note that, in accordance with regulations established by the N.Y. State Education Department, a minimum of 30 graduate level credits beyond the baccalaureate degree must be completed at The Cooper Union (in addition to possible undergraduate deficiencies) for both the thesis requiring M.E. Program and the non-thesis M.E. Program. All graduate level credits, including any credits from cross-listed upper level undergraduate courses, must be approved by your academic advisor.

Once a track is declared, the student must meet the following milestones to successfully complete their degree:

Thesis Track

If student is a full-scholarship recipient, program must be completed with two years.

- Advisor Identified
- Complete course requirements (24 credits)
- Complete thesis requirement (6 credits)
- Submit thesis draft
- Schedule defense
- Pass defense
- Notify Associate Registrar, once graduation date is confirmed
- Degree audit and faculty approval

Non-thesis track

- Advisor Identified
- Complete course requirement (30 credits)
- Complete writing requirement
- Notify Associate Registrar, once graduation date is confirmed
- Degree audit and faculty approval

Graduation Requirements

A minimum of 30 graduate level credits beyond the baccalaureate degree must be completed at The Cooper Union (in addition to possible undergraduate deficiencies). All graduate level credits, including possibly cross-listed upper level undergraduate credits, must be approved by a student's academic advisor(s). Students may complete the requirements in one of two ways: either the thesis option that comprises of 24 credits in courses and 6 representing the thesis or the recently introduced non-thesis option which is 30 credits of course work.

Regardless of your track, students are required to notify the Associate Registrar, once their graduation date is confirmed. A degree audit, as well as a timely approval by the faculty, will be necessary.

Thesis track students:

The degree is comprised of 30 total credits: 24 in courses and 6 representing the thesis. Half of the course credits are taken in the student's department (major) and the remainder in interdisciplinary courses (minor) that support the student's educational plan. The thesis project is defended before an audience of faculty, students and invited professionals; an approved report is submitted according to departmental guidelines.

Thesis projects present students with the opportunity to explore specific areas of interest in great depth. Students complete project-based research, which is then presented orally to peers, faculty and industry leaders; a thesis is submitted in written form.

Students who are recipients of their department's full scholarship, must complete their program within 2 years.

Non-thesis track students:

The master's non-thesis option requires a total of 30 credits of coursework at the graduate level. The 30 course credits are composed of at least 18 credits within the student's discipline (graduate level). A special project requirement must be satisfied. All courses and the project requirement must be approved by your departmental advisor.

The special project requirement that is typical of the M.E. program would be satisfied by any of the following:

- 1) A graduate level independent study course (up to 6 credits)
- 2) Submission to the Dean's office a report that has already satisfied requirements for a graduate level course in which a grade of "B" or higher was received. This report will have to meet structure and formatting requirements specified by the Dean's office.

Contact Information and Resources

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Office of Admissions and Records

30 Cooper Square
New York, NY 10003
Phone: (212) 353-4120
E-mail: admissions@cooper.edu
<http://cooper.edu/admissions/contact>

Office of Financial Aid

30 Cooper Square
6th Floor
New York, NY 10003
Phone: (212) 353-4043
<https://www.cooper.edu/admissions/financial-aid>

Office of Student Affairs

29 Third Avenue
Third Floor
New York, NY 10003
<http://www.cooper.edu/students/student-affairs>