School of Engineering

ADVISING MANUAL 2025-2026

Reviewed & Approved Jan 10, 2026

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Overview

This School of Engineering (SOE) Advising Manual has been prepared by the Dean's Office of the School of Engineering to assist students in understanding what is required to earn a degree in engineering at Manhattan University as well as introducing them to different policies, procedures and services. SOE students should use the Advising Manual (published in their freshman year) as a reference throughout their undergraduate academic career. Important information such as program course plans, restricted courses, academic requirements, academic support resources, advisor contacts, and more are found in the Advising Manual. The Advising Manual is updated every June and the contents are subject to change during the year. Every effort has been made to align the contents of the Advising Manual with the Manhattan University Undergraduate Catalog and the Manhattan University Community Standards & Student Code of Conduct.

Office of the Dean, School of Engineering:

Dean of the School of Engineering
Dr. Kathryn Jabokow 718-862-7307 kathryn.jablokow@manhattan.edu
Leo 201

Associate Dean
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Leo 202

General Academic Requirements

To graduate with an engineering degree, a student must meet the following criteria along with other program-specific requirements:

- An overall GPA of **2.0** is required for all attempted courses.

- A grade of C (2.0) or better in Calculus I, II, III, Differential Equations, Chemistry and Physics (Organic Chemistry, Physical Chemistry, and Science Electives are not included but are considered Engineering Core Courses subject to the no more than three grades less than C rule below). **NOTE**: A grade of **C-** (1.67) does **NOT** meet the requirement of C (2.0) or better for these or any other courses.

- Students must successfully complete all 100- and 200-level science courses before they are admitted to 300-level courses in their programs.

- Students may only enroll in a course offered at Manhattan University three times to pass that course, excluding withdrawals (W grades). If the student is unsuccessful in passing the course after their third time, they may not enroll in an equivalent course at another institution and transfer in that course in order to continue on their initially intended degree path. For Math and Science courses, students must achieve a grade of C (2.0) within these three attempts.

- Students may only attempt to successfully complete gateway courses three (3) times. These gateway courses are: Chemical Engineering - CHML 205 & CHML 207; Civil and Environmental Engineering - ENGS 206 & ENGS 230; Electrical and Computer Engineering - EECE 201 & EECE 203; and Mechanical Engineering - ENGS 205 & ENGS 206. A withdrawal (W) from a gateway engineering course counts as one attempt. After three unsuccessful attempts, a student will not be allowed to pursue the same engineering major.

- Some ENGS or program specific classes may require a grade of C (2.0) or better depending upon the program. See the course requirements of the individual programs in this Advising Manual or the Course Catalog for details.

- Students are responsible for successfully completing any non-acceptable grades in the types of courses discussed under the previous bullet points **before** progressing to **any** 300-level Engineering Courses.

- No more than **three** (3) grades less than C (2.0) in Engineering Core, Core Electives, and Technical Electives required courses are permitted.

- There are additional required courses in Religious Studies (three (3) Religious Studies courses (nine credits), English (ENGL 110 plus a second English course is highly recommended or required in some programs), and General Education Courses (twelve credits selected from non-engineering courses such as history, literature, philosophy, social sciences, business, education and religious studies depending on the program of study). *Note that **ROTC** students may substitute ROTC 401 as a social science elective*

- Students are required to provide transcripts for all Advanced Placement (AP) Courses, Transfer Courses, and off-Campus Courses within three months of admission or completion of the course, and if a

prerequisite, prior to the start of the next semester, **otherwise, credit will not be granted**.

The above are just some important highlights. All of these items and other issues related to your success as a student in the School of Engineering are described in greater detail on the following pages. You may also speak to the Associate Dean and your Academic Advisor if you need further explanation.

Attendance Policy

Students are required to fulfill all course requirements as detailed in the course syllabi for their registered courses. Implicit in these requirements is the completion of all course assignments and attendance in all classes.

A student who is absent from class cannot expect the course instructor to provide notes or allow makeup tests, quizzes, or laboratories. The student may incur an appropriate grading penalty for such absences if the penalty was described in the syllabus. Reasonable accommodations for absences are recommended, but are solely at the discretion of the course instructor.

If the instructor believes that a student's failure to attend class is substantially affecting the student's course grade, then the instructor is strongly encouraged to report the situation to the dean of the school in which the student is matriculated. It is recommended that the dean be contacted by the course instructor after the student incurs four hours of absences in a course. The dean will address the situation with the student. (excerpt from Academic Policies & Procedures)

Additionally, it is expected that the course instructor will enter a referral into **Jasper Connect**. The referral will be acted upon by the student's school and the University.

In a situation when an extended absence occurs because of illness, death in the family, or other significant personal reasons, the student should notify the Associate Dean (AD) or Academic Advisor (AA) at the start of, or prior to, the absence. The AD or AA will then notify all of the student's instructors of the absence. Upon return, the student must provide suitable documentation to the AD or AA. Even with such documentation, the acceptance of an excused absence is entirely up to the course instructor. For one-day absences, the student should contact the faculty member teaching the course directly.

Academic Advisors

- Students will be provided registration instructions in advance and must have their registration form approved by the Assistant Dean or Academic advisor no later than one week in advance of their registration date to guarantee approval in advance of registration. Students cannot register online until this approval is complete.

- Students entering their first (1st) semester of sophomore year and are *undecided* about the discipline of engineering they wish to pursue must see the **School of Engineering Associate Dean or Academic Advisor:**

Ms. Lisa Juncaj — Thomas Hall 3.14 — 718-862-7962
Director of Centralized Academic Advising — lisa.juncaj@manhattan.edu

Ms. Erica Reubel — Thomas Hall 3.27 — 718-862-7282
Academic Advisor — erica.reubel@manhattan.edu

Ms. Charmaine Whitter-White — Thomas Hall 3.26 — 718-862-7986
Academic Advisor — charmaine.white@manhattan.edu

- Incoming transfer students must see the School of Engineering Academic Advisor:

Students entering their first (1st) semester of sophomore year who have decided on a program of study in the School of Engineering and all other students must see their Department Chairperson or other designated advisor. As of the date of the publishing of this manual, the Chairpersons for all of the departments in the School of Engineering are:

Chemical Engineering	**Dr. Sasidhar Varanasi**	Leo 427 chmldept@manhattan.edu	718-862-7296
Civil and Environmental Engineering	**Dr. Matthew Volovski**	Leo 301 civldept@manhattan.edu	718-862-7171
Electrical and Computer Engineering	**Dr. Wafa Elmannai**	Leo 251 elecdept@manhattan.edu	718-862-7183
Mechanical Engineering	**Dr. Parisa Saboori**	Leo 207A mechdept@manhattan.edu	718-862-7145

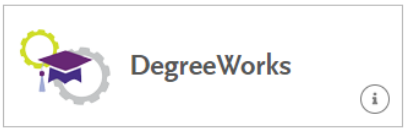
Add/Drop Period

Students are permitted to make changes to their schedules through the Self-Service up to and including the first week of classes. This is referred to as the "Add/Drop period." This gives the student an opportunity to make changes in their schedule due to unforeseen circumstances. After the completion of the first week of classes no further changes can be made with the exception of a withdrawal from a class, which will result in a W grade on the transcript. No classes may be added after the Add/Drop period ends. It is the student's responsibility to check that their registration is accurate and correct, and to resolve any outstanding late registrations before the conclusion of the add/drop period. Registration requests after that time may not be honored.

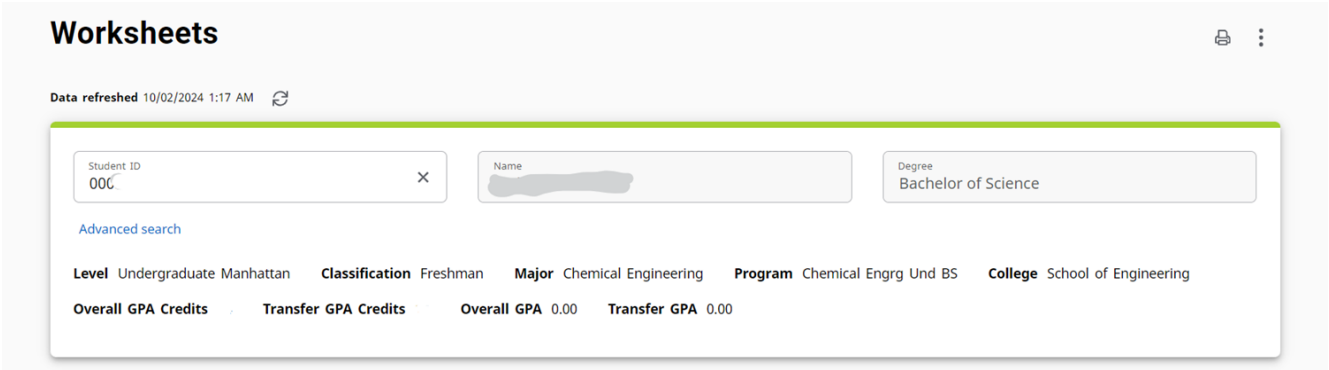
First-year students must see the School of Engineering Associate Dean or Academic Advisor to make any changes to their schedule in their first semester. After the student registers in November of the fall semester, they may make adjustments to their schedules as needed.

Advising Reports and Degree Progress

Manhattan University uses an advising report tool called ***DegreeWorks***.



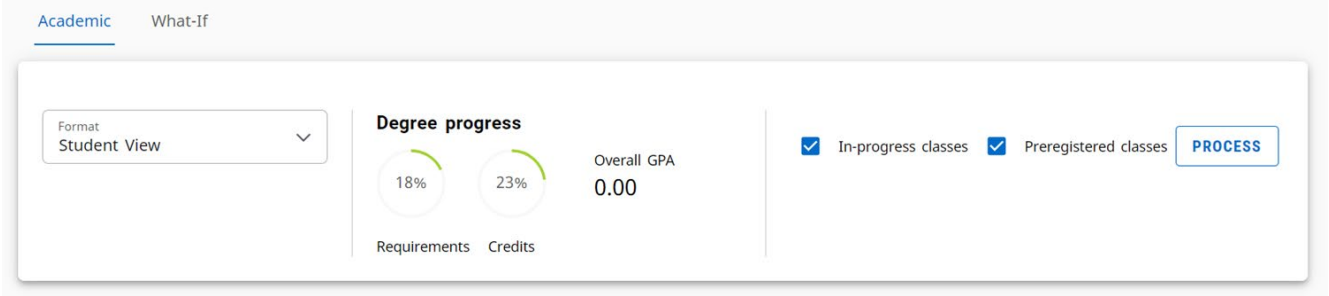
Your DegreeWorks worksheet will reflect your credits earned. Students should review their DegreeWorks at least once each semester. If you feel there is something incorrect on your DegreeWorks, you should contact the Dean's Office as soon as possible.



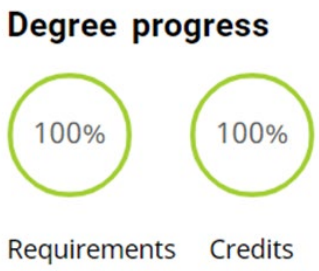
A summary of some of the information shown at the top of the Worksheet:

- Student ID & Name: Displays the student Banner ID number
- Degree: The student's current degree program will display here.
- Level: Displays UG for Undergraduate students or GR for Graduate students.
- Classification: The student level will be displayed here (freshman, sophomore, etc.)
- Major(s): The student's current major(s)
- Minor(s): Displays the student's current minor(s) (if applicable).
- Concentration(s): Displays the student's current concentration(s) (if applicable)

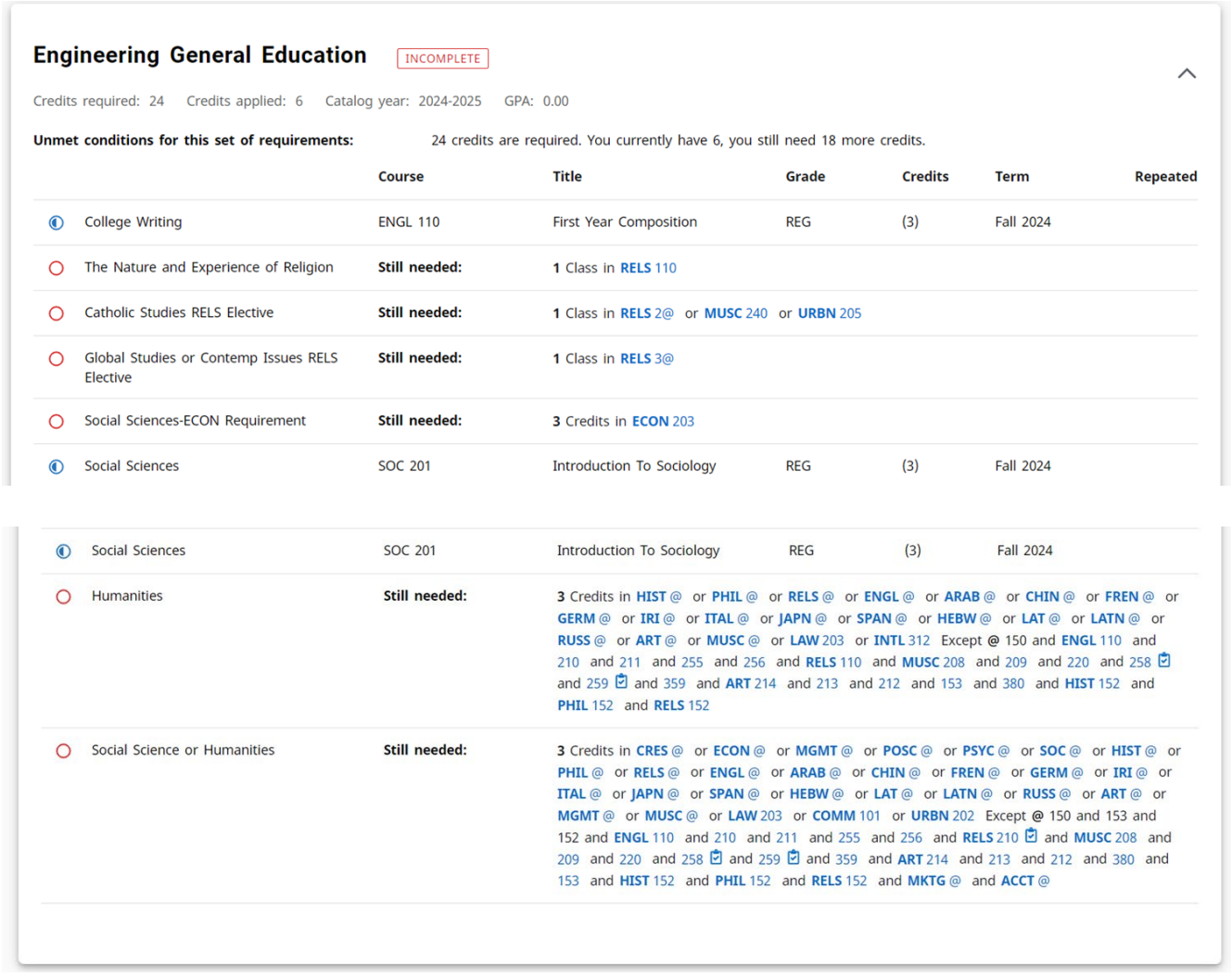
Degree Progress Circles: These circles estimate how close you are to earning your degree, considering the complete and incomplete requirements throughout your audit. This area also shows your overall GPA. Incoming freshman will show as 0.00 GPA, regardless of the number of credits transferred into the University from AP, dual-enrollment or from other institutions.



As you get closer to graduation, the degree progress circles will move closer to 100%.



Degree Block: This block lists all the requirements for your specific degree, like the minimum GPA and credit hours. It also displays the title of each requirement area (block), like general education, University requirements, and major.

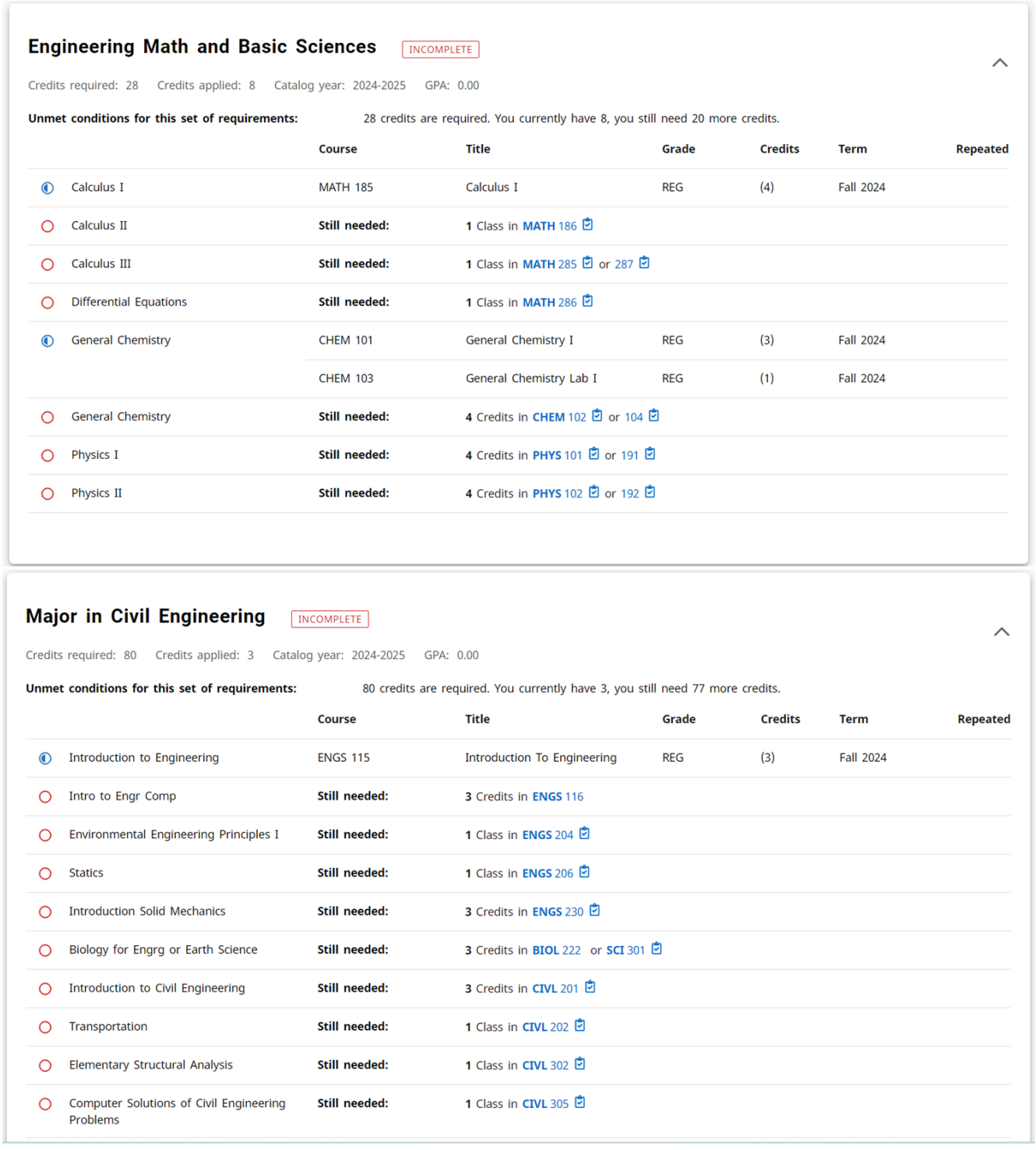


Engineering General Education INCOMPLETE

Credits required: 24 Credits applied: 6 Catalog year: 2024-2025 GPA: 0.00

Unmet conditions for this set of requirements: 24 credits are required. You currently have 6, you still need 18 more credits.

	Course	Title	Grade	Credits	Term	Repeated
College Writing	ENGL 110	First Year Composition	REG	(3)	Fall 2024	
The Nature and Experience of Religion	**Still needed:**	**1** Class in **RELS** 110				
Catholic Studies RELS Elective	**Still needed:**	**1** Class in **RELS** 2@ or **MUSC** 240 or **URBN** 205				
Global Studies or Contemp Issues RELS Elective	**Still needed:**	**1** Class in **RELS** 3@				
Social Sciences-ECON Requirement	**Still needed:**	**3** Credits in **ECON** 203				
Social Sciences	SOC 201	Introduction To Sociology	REG	(3)	Fall 2024	
Social Sciences	SOC 201	Introduction To Sociology	REG	(3)	Fall 2024	
Humanities	**Still needed:**	**3** Credits in **HIST** @ or **PHIL** @ or **RELS** @ or **ENGL** @ or **ARAB** @ or **CHIN** @ or **FREN** @ or **GERM** @ or **IRI** @ or **ITAL** @ or **JAPN** @ or **SPAN** @ or **HEBW** @ or **LAT** @ or **LATN** @ or **RUSS** @ or **ART** @ or **MUSC** @ or **LAW** 203 or **INTL** 312 Except **@** 150 and **ENGL** 110 and 210 and 211 and 255 and 256 and **RELS** 110 and **MUSC** 208 and 209 and 220 and 258 and 259 and 359 and **ART** 214 and 213 and 212 and 153 and 380 and **HIST** 152 and **PHIL** 152 and **RELS** 152				
Social Science or Humanities	**Still needed:**	**3** Credits in **CRES** @ or **ECON** @ or **MGMT** @ or **POSC** @ or **PSYC** @ or **SOC** @ or **HIST** @ or **PHIL** @ or **RELS** @ or **ENGL** @ or **ARAB** @ or **CHIN** @ or **FREN** @ or **GERM** @ or **IRI** @ or **ITAL** @ or **JAPN** @ or **SPAN** @ or **HEBW** @ or **LAT** @ or **LATN** @ or **RUSS** @ or **ART** @ or **MGMT** @ or **MUSC** @ or **LAW** 203 or **COMM** 101 or **URBN** 202 Except **@** 150 and 153 and 152 and **ENGL** 110 and 210 and 211 and 255 and 256 and **RELS** 210 and **MUSC** 208 and 209 and 220 and 258 and 259 and 359 and **ART** 214 and 213 and 212 and 380 and 153 and **HIST** 152 and **PHIL** 152 and **RELS** 152 and **MKTG** @ and **ACCT** @				



Engineering Math and Basic Sciences INCOMPLETE

Credits required: 28 Credits applied: 8 Catalog year: 2024-2025 GPA: 0.00

Unmet conditions for this set of requirements: 28 credits are required. You currently have 8, you still need 20 more credits.

	Course	Title	Grade	Credits	Term	Repeated
Calculus I	MATH 185	Calculus I	REG	(4)	Fall 2024	
Calculus II	**Still needed:**	**1** Class in **MATH** 186				
Calculus III	**Still needed:**	**1** Class in **MATH** 285 or 287				
Differential Equations	**Still needed:**	**1** Class in **MATH** 286				
General Chemistry	CHEM 101	General Chemistry I	REG	(3)	Fall 2024	
	CHEM 103	General Chemistry Lab I	REG	(1)	Fall 2024	
General Chemistry	**Still needed:**	**4** Credits in **CHEM** 102 or 104				
Physics I	**Still needed:**	**4** Credits in **PHYS** 101 or 191				
Physics II	**Still needed:**	**4** Credits in **PHYS** 102 or 192				

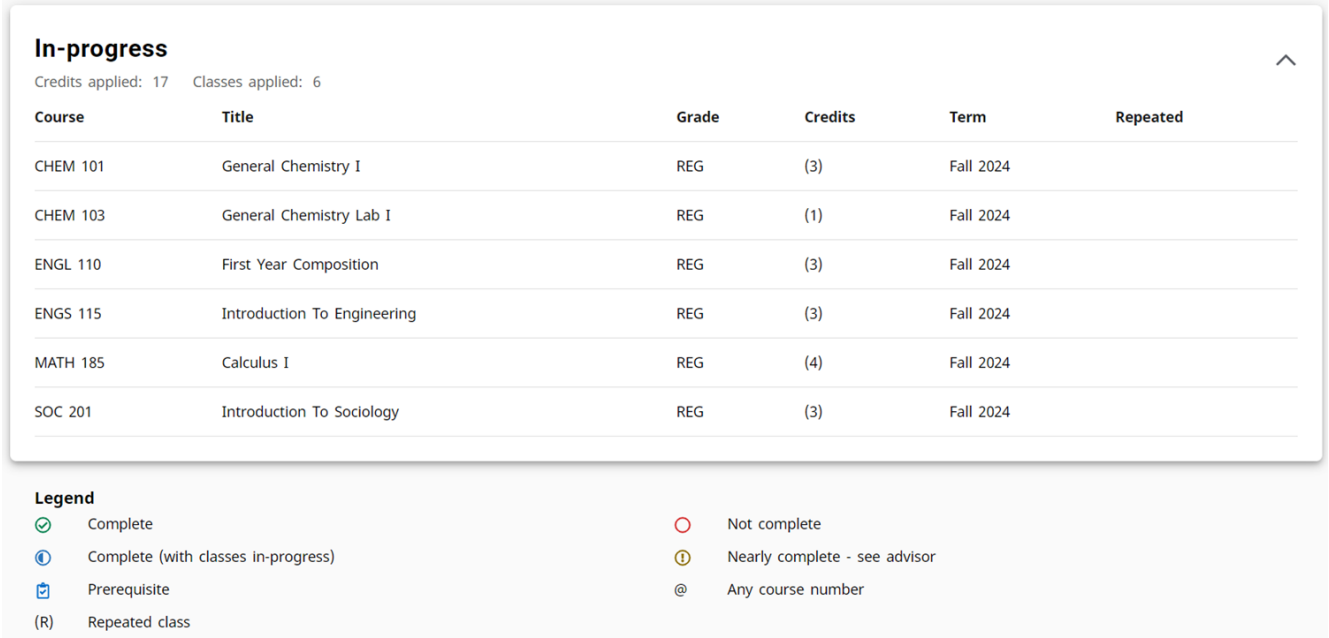
Major in Civil Engineering INCOMPLETE

Credits required: 80 Credits applied: 3 Catalog year: 2024-2025 GPA: 0.00

Unmet conditions for this set of requirements: 80 credits are required. You currently have 3, you still need 77 more credits.

	Course	Title	Grade	Credits	Term	Repeated
Introduction to Engineering	ENGS 115	Introduction To Engineering	REG	(3)	Fall 2024	
Intro to Engr Comp	**Still needed:**	**3** Credits in **ENGS** 116				
Environmental Engineering Principles I	**Still needed:**	**1** Class in **ENGS** 204				
Statics	**Still needed:**	**1** Class in **ENGS** 206				
Introduction Solid Mechanics	**Still needed:**	**3** Credits in **ENGS** 230				
Biology for Engrg or Earth Science	**Still needed:**	**3** Credits in **BIOL** 222 or **SCI** 301				
Introduction to Civil Engineering	**Still needed:**	**3** Credits in **CIVL** 201				
Transportation	**Still needed:**	**1** Class in **CIVL** 202				
Elementary Structural Analysis	**Still needed:**	**1** Class in **CIVL** 302				
Computer Solutions of Civil Engineering Problems	**Still needed:**	**1** Class in **CIVL** 305				

In-Progress: The courses that the student is currently registered for are listed here in addition to displaying where they fit throughout the audit.



In-progress

Credits applied: 17 Classes applied: 6

Course	Title	Grade	Credits	Term	Repeated
CHEM 101	General Chemistry I	REG	(3)	Fall 2024	
CHEM 103	General Chemistry Lab I	REG	(1)	Fall 2024	
ENGL 110	First Year Composition	REG	(3)	Fall 2024	
ENGS 115	Introduction To Engineering	REG	(3)	Fall 2024	
MATH 185	Calculus I	REG	(4)	Fall 2024	
SOC 201	Introduction To Sociology	REG	(3)	Fall 2024	

Legend

- Complete
- Complete (with classes in-progress)
- Prerequisite
- (R) Repeated class
- Not complete
- Nearly complete - see advisor
- @ Any course number

Some students may have the following Optional Blocks:

Not Counted / Over the Limit: These are courses that exceed the number of allowed repeats, exceed the amount of credits eligible for degree credit, or are not required for your major and therefore, will not count as hours towards graduation.

Insufficient: These courses include any incomplete courses, any courses from you've withdrawn, any audited course, any course that did not meet a specific grade requirement, or any course you did not pass.

The Registration Process

For first year students, The School of Engineering Dean's Office will communicate with them about the registration process and how they can receive assistance. Incoming transfer students should meet with their respective department chairs in early October to start this registration process. A student must go through the following steps before being able to register:

Step 1: Make Your Schedule

- Check your DegreeWorks for accuracy. **This is critical**. If your DegreeWorks is inaccurate, you must report that inaccuracy to an advisor, via email, immediately.

- Around the sixth week of the semester, you will receive e-mail notification that pre-registration has opened. Check the program schedule for your major to see what courses you should be taking that semester. The current program schedules are available in the back of the Advising Manual, as well as a listing of all the prerequisites and corequisites for each course.

BE ALERT! Depending on when you entered Manhattan University, your 4-year course outline may vary within a particular engineering program. Make sure you are following the correct schedule. The year you entered Manhattan determines the specific program of study you will need to follow.

- Be sure to have a back-up schedule of classes in case your preferred schedule involves a class that gets closed out.

Step 2: Pre-Register, Get Approval to Register

Around the seventh or eighth week of the semester, you will receive e-mail notification that pre-registration has opened. Fill in the courses and sections you wish to take on the pre-registration on-line form: https://inside.manhattan.edu/academic-resources/registrar/register/forms.php Note that this form is NOT your registration form. The purpose of this form is to allow your academic advisor to review the classes you have selected to make sure they will progress you towards your degree.

- It will take 24 to 48 hours for your advisor to review your classes. If you are approved, you will receive an email notification of approval and your advisor hold will be removed.
- If there is an issue with your registration, you will receive email notification and instructions to make a revision. You will then need to re-submit the form and await the results of your advisor review.

Step 3: Check for Holds

You cannot register for courses if you have any **holds**. It is a good idea to check for any holds at least two weeks before your assigned registration time.

- Click on Registration status, then go to Student Services, under Student Records, click on Holds to see if you have any registration holds. If there is a hold on your account, contact the office that placed the hold (e.g., Admissions, Bursar, Health Services, or others) to resolve it.

Step 4: Register for Classes

Online registration opens and ends on very specific dates each semester. Usually, registration opens around the ninth week of the semester and closes just before the start of the next semester. All students that have cleared all their holds can register online within this period.

Priority registration dates are determined by the number of credits you have already completed, not including any credits for courses you are currently enrolled in. The system will prevent you from registering online prior to your assigned start day and time. A typical priority schedule is shown below:

Monday	7 a.m.	Seniors/90+ credits/SCPS Division/Graduate students
Tuesday	7 a.m.	All Athletes/Veterans/Honors

Wednesday	7 a.m.	Juniors/60-89 credits
Thursday	7 a.m.	Sophomores/27–59 credits
Friday	7 a.m.	Freshmen/0–26 credits

- Go to the Manhattan University Homepage and click on "Quick Links", Self-Service, and Enter Secure area. Enter your email login and password.
- Click on the "Student" tab at the top of the screen". Then click on the Registration Menu Option.
- To register for the course, click on the "Add or Drop Courses" Menu Option and add the CRN numbers for the classes you want.
- If any classes are closed you may delete the CRN and place a new one in its place. Use "Look Up Courses" to find out what classes are available.
- If you register for a different section for the SAME course that is on your signed and approved schedule sheet, there is no need to get it re-approved. However, if you register for a different course from what is on your signed approved schedule, you must get that schedule re-approved. For example, you may register for section 02 of MATH 186 if you were approved to take another section of MATH 186 on your form. You may not register for MATH 285 instead.
- Self-Service will remain open for the student to make changes to their schedule up to and including the first week of classes in the Fall.

Step 5: What to Do When Issues Arise

- **Students taking a repeat course** (for example if you are retaking a math course because of a grade less than C), will need an override to register. Please reach out to your Academic Advisor.

- **If a course required for progression in your major is closed** and there are no open sections that fit your schedule, we will make sure you get into that course. If a student is closed out of a section during the registration process, they may request approval from the chairperson of the department in which the course is taught. Some departments use waiting lists for courses to help schedule additional sections. You must see the Engineering Associate Dean or the Academic Advisor for ENGS 100 level courses.
- **Students that need a math, chemistry, or physics class during summer to stay on track,** will be required to register for this class during summer prior to registering for the next class in the sequence in Fall. No prerequisite override is needed in this case because Banner is smart. Students will be instructed to register for the summer class first, then add the next class for the fall semester.
    - For students that plan to take a summer class elsewhere, they first need approval from the Dean of Engineering office to allow the exception, then approval from the Mathematics & Physics Department or Chemistry Department for approval of the off-campus institution & course.
    - Off-campus courses must be taught in-person.
    - A student would need to show proof of registration of that course and payment at the other institution before they are given the prerequisite override for the class. This is done by sending this information by email to Jasper Central.
    - You must submit your official transcript to the Dean's Office before the fourth week of the following semester.

- Note that if you do not take the course that you indicate on your registration form, it is likely that:

- You will not graduate on time with your class

or

  - You will end up taking that course over the summer at an additional cost, i.e., $4,290 for a three credit course and $5,720 for a four-credit course at 2025-2026 rates (tuition subject to change).

Prerequisites/Corequisites

The engineering curricula for the different programs are very sequential in nature and build upon prior information in different courses. Each course in a program of study typically has prerequisites that must be completed successfully before the course itself is attempted. In some cases, a course will have one or more corequisites that enhance the course in question. **Students are responsible for successfully completing the prerequisites for a course before starting the course**. If a student is found enrolled in a course for which the student has not successfully completed the prerequisites, the student will be dropped from the course by the instructor or the School of Engineering Dean's Office. Each program and the School of Engineering actively screen for students who have not successfully completed prerequisite courses. Students are advised to check on prerequisites and corequisites for courses in the online undergraduate and graduate catalogs found at Undergraduate Catalog and Graduate Catalog, respectively.

Modify Program Process

Students must take great care to follow the program of their choice as specified at the end of this manual. Not taking the proper courses in the proper semester can cause serious consequences, including delayed graduation. When significant extenuating circumstances require a student to change their program, a student **must** file a Program Modification Form which must be signed by both the Department Chair and the Assistant Dean or Academic Advisor representing the Dean's Office. This form will only be accepted through the online approval request form. It is available on the School of Engineering Online Resources (SoEOR) page.

Declaring a Minor or Concentration

If you are considering a minor or concentration, you should first consult with your academic advisor to discuss how the minor fits into the curriculum and your overall degree plan. This is important because if any additional courses outside of the normal curriculum are required, additional courses may need to be taken during the summer and can result in an additional cost. After that advisement takes place, a student must file a Minor and Concentration Declaration form on the SoEOR webpage. If the student is a senior, the Minor and Concentration Declaration form must be received prior to the start of their final semester. Late submissions with compelling circumstances may be considered, but might not be honored after a student has submitted their graduation application with the University.

Common minors in School of Engineering include:

Mathematics Minor:

- The math minor is five classes of advanced math, generally Calculus I through Differential Equations, with the addition of one more advanced math course.
- A minimum grade of C in each of the courses
- At least three courses must be taken at Manhattan University, with AP and/or transfer credit subject to approval by the Chair of the Mathematics and Physics Department.

Chemistry Minor

- The chemistry minor is five classes of advanced chemistry, taken in the Department of Biological and Chemical Sciences.
- A minimum grade of C is required for all courses.
- The courses are: General Chemistry I CHEM 101, General Chemistry II (CHEM 102), Organic Chemistry I (CHEM 319), Organic Chemistry II (CHEM 320) and one additional course selected from CHEM 302, CHEM 309, CHEM 310, CHEM 335, CHEM 421 or CHEM 433.
- At least three courses must be taken at Manhattan University, with AP and/or transfer credit subject to approval by the Chair of the Chemistry Department.

Withdrawing from a Class

Students may withdraw from an undergraduate class until the end of the twelfth week of the semester. The Registrar sets the last date for withdrawals each semester. Students wishing to withdraw from a class must complete the required online forms through Self-Service. It is the student's responsibility to verify (through Self-Service) that the withdrawal was properly processed. No late Withdrawals will be permitted except under compelling extenuating circumstances.

Students should be aware that withdrawing from a course may result in additional tuition fees resulting from the need to make up required courses, will impact the following semester's schedule if the withdrawn course is a prerequisite, and may delay graduation.

Grade Replacement Policy

The Manhattan University grade course replacement policy applies to any student who has not met the minimum required grade in a course for their program of study. When the student repeats the same course at Manhattan University, the higher of the two grades is used in calculating the student's GPA. The lower grade will remain on the student's record but will not be used in the calculation of the cumulative GPA. No additional credits are earned. All grades earned will appear on the student's transcript. Grade replacement is not automatic. The student must apply for grade replacement by submitting a request to the Grade Replacement Request form on the SoEOR webpage. Normally, the School of Engineering will approve grade replacement for only 100- and 200-level courses.

Incomplete Grades

An "I" grade indicates that some requirements of a course have not been satisfied by the end of the term. In all cases, the incomplete work must be completed and submitted to the instructor no later than 45 days from the last

day of the term's final examination period. The faculty member must submit the final grade no later than 50 days from the last day of the term's final examination period. An incomplete will be converted to a grade of "F" if the work is not completed on schedule and if the final grade is not submitted on schedule. Extensions for the completion of the work or the submission of the final grade will be granted by the Dean of the school only in highly unusual circumstances. All incomplete grades must be resolved before the student graduates. A grade of "I" does not satisfy the grade requirement for any prerequisite course. The "I" grade must be resolved with an acceptable grade before a prerequisite course can be counted as being successfully completed and before the student is permitted to take any course requiring the prerequisite.

Intersession and Summer Session Courses

Consult Self-Service for a list of courses offered at Manhattan University during the winter intersession and during the summer sessions. Courses are offered during two (2) summer sessions by Manhattan University.

The Winter Intersession runs over the Christmas/New Year Holiday. Typically, no Engineering or few Science courses are offered because of the compressed schedule. Calculus I is offered but is restricted to students required to retake Calculus I from the Fall semester and the student must have approval from the Chair of the Mathematics and Physics Department.

Summer Session 1 (6 weeks) – Monday after spring final exams (mid-May) to just before July 4th holiday.
Summer Session 2 (6 weeks) – After July 4th holiday to second week in August

Students must adhere to the posted withdrawal and drop dates for the summer session; and are subject to the posted refund schedule. Students who are not registered by the first course meeting will not be permitted to register late without compelling or extenuating circumstances, as approved by the School of Engineering Dean's Office.

Credit for Off-Campus Courses

Once matriculated into a degree-granting program (major) at Manhattan University (University), a student may not take off-campus courses offered by another accredited institution for transfer to the University without prior written approval from the student's academic advisor and the student's dean. A maximum of 12 credits may be taken in off-campus courses. Each school may set limitations on what types of courses may or may not be approved for its students that are consistent with the University's overall requirements (see https://inside.manhattan.edu/academic-resources/registrar/policies.php for more details).

A full-time engineering student at Manhattan University is allowed to take only their English, humanities, or social science electives off-campus at another institution during the winter recess or summer. **An engineering student is not permitted to take any mathematics, chemistry, physics or engineering course at another institution except under compelling circumstances as approved by the School of Engineering Dean's Office.** Only Manhattan University courses are allowed for seniors in the Winter Intersession of the graduation year, no off-campus courses are allowed.

Steps to get permission to take an off-campus course:

1. Get written permission (email is fine) from the Associate Dean or Academic Advisor for the School of

Engineering

2. Obtain approval from the chair of the corresponding Manhattan department in writing, either via email or, with the signed form (form available below).
3. Submit the form with the chairperson approval for formal approval from the School of Engineering. Do not register for the course until you receive approval. Off-Campus Course Approval Form on the SoEOR webpage.

There are no exceptions to these rules

Leaves of Absence/Withdrawals

Students must remain registered for each semester. If for any reason a student is unable to register for a semester, they must indicate in writing that they wish to be placed on Maintenance of Matriculation through the Assistant Dean or Academic Advisor. This may be done only for two consecutive semesters. During the leave of absence from Manhattan University, the student may not take courses at other institutions for the purposes of transferring credits back to the University.

If a student is unable to complete a semester, a voluntary withdrawal form must be submitted. Withdrawals for medical reasons must receive approval from the Director of the Counseling Center which will require proper documentation of the medical reason. This medical reason is held confidentially and is not released to anyone within the University.

Return from a Voluntary Withdrawal is solely at the discretion of the student with the exception of returns from medical leave, which must be approved by the Director of the Counseling Center. If the student does not return after one year, the Voluntary Withdrawal or lack of registration becomes a Permanent Withdrawal and the student must reapply for admission to the University to return to classes.

Please refer to Student Account Services and Financial Aid Office for any financial repercussion of withdrawals.

Religious Studies Electives

Requirement of 9 Credit hours

- RELS 110 – Nature and Experience of Religion.
- A 200 level elective course from Group A: Catholic Studies.
- A 300 level elective course from Group B: Global Studies and Comparative Issues.

- You may not substitute any courses above (i.e. a 300-level course for a 200 level course). If your schedule requires such a substitution, you must complete a program modification form with the approval of the Religious Studies department chair prior to the start of the semester.

Ethics is a key component of an engineering education. The Engineering Accreditation Commission of ABET expects ethics in engineering education. Therefore, it is strongly suggested that students (particularly juniors and seniors) try to choose one of their 300 level religious studies electives from the following list of courses that have ethics as a central theme to the course:

RELS 300 – Special Topics (if ethics related and approved by your advisor)
RELS 337 – The American Religious Experience
RELS 362 – Ethics in the Workplace
RELS 372 – Religion and Science
RELS 373 – Death as a Fact of Life
RELS 376 – Religion and the Media
RELS 377 – Religion and Environmentalism
RELS 381 – Religious Dimensions of Peace

*All Religious Studies courses must be taken at Manhattan University.

English Electives

- Every student must take ENGL 110 (First Year Composition) or ENGL 210 (Advanced First Year Composition). Students that have taken AP English Language and Composition and have received a grade of 4 or 5 may apply for credit for ENGL 110 prior to admittance to Manhattan.

- Every student is highly encouraged, and some programs may require a student to take an additional English elective. It is suggested to avoid 300 level literature courses unless you consult with the Assistant Dean or your Academic Advisor first because some of these courses are designed for English majors and may have a heavy workload with regard to required readings. Your advisor may be able to suggest a more suitable semester for courses of this nature.

- Students are **not** permitted to take the following English courses: ENGL 210, 211, 255, 256 to satisfy their humanities, or English Elective requirements.

General Education Electives

To enhance their liberal arts background, engineering students take courses offered by the other schools in the University. The selection of courses is not arbitrary and must be consistent with meeting the student outcomes of the program and core competencies of Manhattan University. The Engineering Accreditation Commission of ABET states that "The professional component must include: a general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives."

As a guide, the following suggested types of courses should be considered by the student and student's advisor:

- Two (2) *Social Science* courses. For example, these courses may be chosen from Economics, Government, Psychology, Management, Critical Race & Ethnicity Studies, and Sociology. *Students in the **Civil Engineering** program **must take** at least one of their Social Science courses in **Economics***

- One (1) *Humanities* course. For example, this course may be chosen from History, Philosophy, Religious Studies (in addition to the three (3) Religious Studies requirements), English (in addition to the one (1) or two (2) English elective requirements), Modern Foreign Language, Fine Arts, Music (Arts and Music courses are limited to those that study the works of established artists).

- The fourth (4th) elective may be a *Humanities* course, *Social Science* course, or a course consistent with meeting the requirements of the engineering program (e.g., an economics course for civil engineering majors).

Please refer to the undergraduate catalog or Self-Service for a current list of courses.

Academic Requirements

Academic Progress Requirements.
All students are required to maintain good academic standing as a condition of enrollment at Manhattan University. The guidelines vary, depending upon the student's grade level and depending upon which form(s) of aid they are receiving. Good academic standing is measured by reviewing a student's quantitative and qualitative progress. The quantitative measurement ensures that students are making progress toward their degree goals, while the qualitative measurement ensures that students are succeeding in their coursework.

- All undergraduate students in the School of Engineering are required to have a minimum cumulative average of 2.0, end of freshman year, 2.0 end of sophomore year and then a 2.0 or higher by your junior year while earning a minimum number of credits to demonstrate good academic standing.
- All undergraduate students are required to maintain a 2.0 for any institutional aid; this does not include scholarship aid.
- All graduate students are required to have a cumulative average of 3.0 or higher while earning the minimum number of credits to demonstrate good academic standing.
- All undergraduate and graduate students will only have federal aid paid one time for courses they are repeating to improve a course grade.
- Each School at Manhattan University may implement additional guidelines for satisfactory academic progress in their programs.

School of Engineering Academic Progress Requirements
All school of engineering students are expected to make adequate progress towards fulfilling their degree requirements every semester. Failure to do so will result in being placed on Academic Contract, regardless of GPA. Adequate progress towards a degree is defined as having no more than two (2) courses required to be repeated during the first two semesters and no more than four (4) courses required to be repeated during the first four (4) semesters. This includes all courses – mathematics, science, engineering, and general education courses and includes all causes for repeating courses including withdrawals, failure, and courses where the minimum required grade was not achieved

In addition, each of the engineering undergraduate programs has selected two different courses defined as **gateway courses**. These are essential courses in the different programs and the ability to successfully complete the courses in a timely manner is mandatory. A student will be allowed a maximum of three (3) attempts to take and pass, with a grade of C (2.0) or better, each of the gateway courses in the student's program. A "W" grade is considered one attempt. After three unsuccessful attempts to pass a gateway course with a C (2.0) or better, the student will be subject to dismissal from the program (but not Manhattan University), as determined by the department chair and the dean. Respective engineering major gateway courses are as follows:

- **Chemical Engineering -** CHML 205 Intro to Thermodynamics and CHML 207 Process Calculations

- **Civil Engineering -** ENGS 206 Statics and ENGS 230 Intro to Solid Mechanics
- **Electrical and Computer Engineering -** EECE 201 Fundamentals of Electrical Systems Analysis I and EECE 203 Electrical Systems Analysis II
- **Mechanical Engineering -** ENGS 205 Intro to Thermodynamics and ENGS 206 Statics

A student taking Math 100 (pre-calculus) as a result of their performance on the TRAM exam must earn a grade of C (2.0) or better in the course by the second attempt to remain in the School of Engineering.

Academic Standing. Students are in good academic standing in Engineering when their Manhattan University cumulative grade point average is at least 2.00, and their term grade point average is at least 2.00. Grade point averages are computed at the end of each semester.

Academic Warning. A letter of academic warning is typically issued to each student earning a grade of D or F in any given semester but is still in good academic standing in Engineering. Letters of academic warning in two consecutive semesters while the student is still in good academic standing in Engineering will result in a meeting with the Academic Advisor or the Dean. The letter of academic warning clearly spells out the danger to an academic program of receiving unacceptable grades.

Academic Probation. The regulations of Manhattan University provide that students will be placed on academic probation when their cumulative Grade Point Average (GPA) falls below the requirement for satisfactory academic progress, which is a cumulative 2.0 across all disciplines. In the School of Engineering there is an additional requirement that term GPA must remain above 2.0.

Academic probation is designed to assist students return to good academic standing through thoughtful planning, participation in programming, and engagement with support services and personnel at the University. Students will be removed from academic probation when their term and cumulative GPA returns to at least 2.0.

Students who do not return to good academic standing after their first semester of academic probation (Probation One) will be placed on a second semester of academic probation (Probation Two). If a student does not return to good academic standing after a second semester of academic probation, they will face academic suspension or dismissal from the University. Students can return to good academic standing after either their first or second semester of academic probation. Each semester of probation will be accompanied by an academic recovery plan as detailed below.

Probation One Recovery Plan:

- Required online workshop that is provided by the Center for Advising and Academic Success to be attended the week before the semester begins
- A Moodle course facilitated by the Center for Advising and Academic Success to be completed during the first six weeks of the semester
- Regular meetings with a member from Centralized Academic Advising
- No reduction in course load will be mandated at this stage

Probation Two Recovery Plan (an individualized plan between Deans' Offices and Centralized Academic Advising):

- A contract that is agreed with and signed by the student, which establishes the recovery plan and is housed with Associate Deans in each Dean's Office

- A Moodle course facilitated by the Center for Advising and Academic Success to be completed during the first six weeks of the semester
- A collaborative approach between Dean's Offices and Centralized Academic Advising throughout the semester, with regular meetings taking place to discuss the needs of students on Probation 2
- Required reduction in course work to no more than 4 classes and 1 lab (maximum of 13 credits).

A suggested list of tailored services offered to the students, which might include access to Student Success Mentors, study plans, attendance at workshops, and regular meetings with individuals from the Dean's Office of the student's primary major and/or representatives from the Center for Advising and Academic Success
A mandatory reduction in course load to four courses maximum

A student who returns to good academic standing and enters probation in a future term will enter Probation One again, regardless of their academic probation status in any past semesters. Any student who faces academic suspension or dismissal has the ability to appeal the decision. All appeals will be reviewed by the Deans' Offices and must be submitted within ten days of the academic suspension or dismissal notice.

Academic Suspension. Students are subject to suspension when a student fails to achieve good academic standing while on probation or fails to satisfy the terms of the academic contract. In cases warranting suspension, although dismissal is indicated, a judgment is made by the Dean of Engineering that the student's studies should be interrupted for a designated time period, usually six months or one year, before reinstatement would be considered. Suspended students must present evidence of their ability to continue their studies successfully when applying for such reinstatement into the School of Engineering.

Academic Dismissal. Dismissal is a permanent separation from Manhattan University (not just the School of Engineering). A letter of dismissal may be issued to a student failing to satisfy the terms of the academic contract or failing to achieve good academic standing while on probation. A student may also be dismissed from the University when the student receives failing grades in all courses attempted in any one semester.

A student may appeal a dismissal decision to the dean of the student's school. A written appeal for reconsideration must be submitted to the dean within 10 business days of being notified of the dismissal, providing a credible explanation for the student's unsatisfactory academic performance and a compelling reason why the student should not be dismissed. The dean, in consultation with the Provost's Office, will review the appeal and give the student a decision of acceptance or denial within 10 business days after receiving the appeal. The dean's decision regarding the appeal is final.

If the appeal is granted, a plan for achieving satisfactory academic progress will be prepared by the dean, with a specific timeline. If a student fails to follow or meet the requirements as outlined in the academic progress plan, they will be dismissed from the University. This decision will be final and not subject to appeal.

After dismissal, students may not reapply to the University until they have been away for at least two years. As part of the reapplication process, students must provide evidence that they are now able to successfully make progress toward their degree. Reapplication does not guarantee admittance to the University. If a student is readmitted after a period of two years and is academically dismissed a second time, the dismissal is final and there is no opportunity to appeal.

Academic Integrity

"Academic integrity means that every member of the academic community accepts the responsibility to be honest, truthful, ethical and accountable for all intellectual efforts, for all access to and presentation of data, facts, information and opinions, and for all access to and use of data or other files (printed, oral, audio, video or digital) related in any way to students, faculty, staff or administration. In addition, every member of the Manhattan University community must understand what can constitute violations of academic integrity, the consequences in terms of penalties, and by what process penalties are imposed." (Excerpt from the Manhattan University Academic Integrity Policy.) The full policy can be found here: https://inside.manhattan.edu/student-life/dean-of-students/code-conduct.php#academicintegrity

In engineering, integrity and ethical behavior are tantamount; and, as such, any form of cheating, plagiarism, fabrication, or academic misconduct will not be tolerated. The Academic Integrity policy will be vigorously applied to all violations of academic integrity by engineering students in all courses at the University. Any student violating the Academic Integrity policy is subject to disciplinary actions up to, and including, **dismissal** from Manhattan University.

Support Services

Specialized Resource Center

The Specialized Resource Center (SRC) serves all students with a special need or disability. The SRC is a resource for students, faculty and the University at large. Use of services is voluntary, strictly confidential and without fee. The mission of the center is to ensure educational opportunity for all students with special needs by providing access to full participation in campus life. This is accomplished by assisting students in arranging individualized support services. A sampling of auxiliary aids and/or academic adjustments offered by the SRC for students providing appropriate documentation based on their individual needs for no fee include: priority seating; alternative testing environments; readers, note takers and scribes; access to adaptive technology and liaison with faculty and other University departments. The SRC is located on the 2nd floor in Thomas Hall.

Please note that students who have special needs or disabilities must self-identify to the SRC if they wish to access its resources. Information identifying students with special needs or disabilities is not transferred from any previous institution to the University.

Center for Academic Success

The Manhattan University Center for Academic Success (CAS), Center for Academic Success, is committed to providing student centered programs and initiatives designed to enhance the learning experience of all students. These programs include peer-tutoring by trained and certified tutors, academic learning professionals, and individualized academic coaching plans. Students will work in tandem with qualified and caring professionals and peers to receive personal and academic support to ensure their undergraduate success. The CAS has several locations throughout the campus including The Learning Center in Thomas Hall, the Writing Center in Thomas

Hall.

Center for Career Development

The Center for Career Development (CCD) located in Thomas Hall offers various professional training programs and services all throughout the year. Students and alumni can schedule individual career counseling appointments to assess interests, values, skills and preferences using decision-making tools and career assessments. The career counselors teach effective job search techniques using online resources and networking; discuss opportunities in a variety of career paths; help tailor resumes and cover letters for specific opportunities; strengthen personal branding and build strong interviewing skills. The CCD has a career counselor assigned to the School of Engineering. The Center's website provides a wealth of information on various career fields and contains links, articles, and professional organizations for various industries, company names, domestic and international internship and job sites and Manhattan University specific resources.

Students and alumni can access the on-line, 24-hour job posting board for full-time, part-time, internship (current students only) and temporary positions. For those seniors seeking full-time employment upon graduation, there is an active campus recruitment program available during the fall and spring semesters. Representatives from companies/organizations come to campus to interview students for career opportunities.

Additionally, CCD offers the Mentor Program for Manhattan University students to gain insight into their intended careers by being paired with professionals, generally Manhattan University alumni, in those career areas. Meeting with mentors during a semester, visiting the work sites, talking with other employees at the company, sitting in on a meeting, or sometimes participating in a project, offers the students opportunities to think about a chosen career field early in their college career. The program is open to incoming first-year students in the School of Engineering and to sophomores and juniors in the other schools during the participating academic year.

Center for Graduate School and Fellowship Advisement

The Manhattan University Center for Graduate School and Fellowship Advisement (CGS&FA) is organized so that graduating students and alumni who desire to continue on to graduate or professional schools are provided with the preparation and support to make that transition and to succeed at the graduate level. In addition, the CGS&FA provides support to students and alumni applying to external fellowships. The CGS&FA offers individualized advising, centralized resources and information, and programming for students interested in graduate school, research, and fellowship opportunities. The CGS&FA is located in Thomas Hall.
(Excerpts from the Manhattan University Undergraduate Catalog with modifications)

Non-Academic Campus Resources

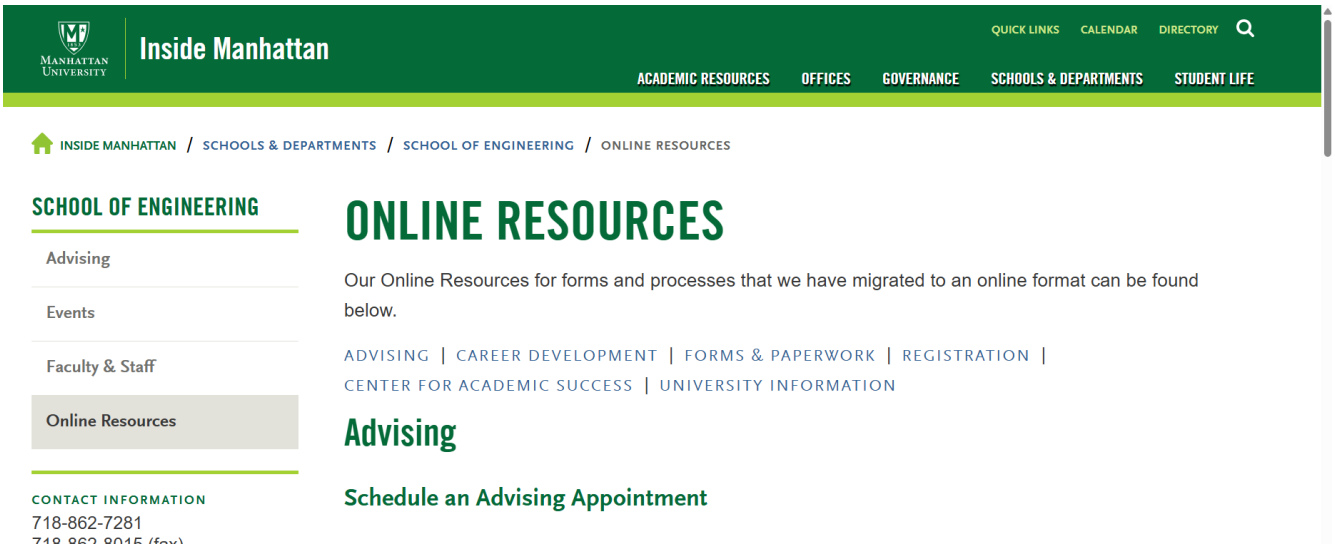
The School of Engineering supports each student's holistic well-being. As such, the Academic Advisor or Assistant Dean may refer you to resources across campus that may help you find support, encouragement and belonging on campus. There are many resources available on campus, and more can be found on the University's website:

- The CARE Team and Dean of Students: https://inside.manhattan.edu/student-life/dean-of-students/index.php
- The Counseling Center: https://inside.manhattan.edu/student-life/counseling-center/index.php

- Commuter Services, and Outreach: https://inside.manhattan.edu/student-life/commuter.php
- Health Services: https://inside.manhattan.edu/student-life/health-services/index.php
- International Student & Scholar Services: https://inside.manhattan.edu/student-life/international-services/index.php
- Lasallian Women, and Gender Resource Center: https://inside.manhattan.edu/student-life/lasallian-women-gender-resource-center/index.php
- The Multicultural Center: https://inside.manhattan.edu/student-life/multicultural-center/index.php
- The Office of Diversity, Equity and Title IX: https://inside.manhattan.edu/offices/diversity-equity-title-ix/index.php
- Residence Life: https://inside.manhattan.edu/student-life/residence-life/index.php
- Student Engagement: https://inside.manhattan.edu/student-life/student-engagement/index.php
- Veterans' Success: https://inside.manhattan.edu/student-life/veteran-success-programs/index.php

School of Engineering Online Resources (SoEOR) Page

The SoEOR webpage on the Manhattan University website is a vital resource to engineering students. This includes information about campus resources, registration forms, this Advising Manual, and more. You are advised to bookmark the following link on your desktop and mobile devices.



Programs of Study for Engineering Majors

The following are representative programs of study for the different engineering majors. Students often have a variation on the sequence of courses depending on numerous factors such as transfer credits applied to the program. **The First Year for all engineering majors is the same**. Starting the sophomore year, the types of courses vary among the programs.

First Year of Study – All Engineering Majors

34 Credits

Fall Term - 17 Credits		
ENGS 115	Introduction to Engineering	3
MATH 185	Calculus I	4
CHEM 101/103 **or** PHYS 101/191	General Chemistry with Lab **or** Physics I with Lab	4
ENGL 110 **or** RELS 110	First Year Composition **or** The Nature and Experience of Religion	3
GEN ED ELEC	General Education Elective	3

Spring Term - 17 Credits		
ENGS 116 or ENGS 117	Introduction to Engineering Computation or Introduction to Engineering Computation Honors	3
MATH 186	Calculus II	4
CHEM 101/103 **or** PHYS 101/191	General Chemistry with Lab **or** Physics I with Lab	4
ENGL 110 **or** RELS 110	First Year Composition **or** The Nature and Experience of Religion	3
GEN ED ELEC	General Education Elective	3

NOTE: Incoming Transfer students with more than 30 transfer credits may not be required to take ENGS 115 and ENGS 116/117. Those students may use an advanced math, science, or another acceptable engineering course transferred from their prior institution to fulfill their freshman engineering course requirements. If a student does not have eligible credits for ENGS 115 or ENGS 116/117, only ENGS 115 can be substituted for Math 372, or a 400- or 500-level technical elective within their major to fulfill the required number of program credits. If no such course can be applied from a previous institution, the student must take 3 credits in Math, or Science to make up ENGS 115. ENGS 116/117 may not be substituted.

Chemical Engineering Program

B.S. Degree in Chemical Engineering - 136 Credits Required

The curriculum for the first year is common for all majors in engineering. To enable a student to gauge their interest in chemical engineering, he or she takes designated courses from the chemical engineering course offerings in the sophomore year. The junior and senior years allow for concentrated studies in technical areas. A representative program is shown below.

Sophomore Year

FALL SEMESTER				SPRING SEMESTER		
MATH 285	Calculus III	4		MATH 286	Differential Equations	3
CHEM 102/104	General Chemistry II /Lab II	4		MATH 336	Applied Statistics	3
CHML 201	Chemical Engineering Materials	3		ENGS 204/206	Environmental Engineering Principles I or Statics	3
CHML 202	Chemical Engineering Materials Science Lab	1		CHML 208	Chemical Engineering Principles I (Fluids)	3
CHML 205[a]	Introduction to Thermodynamics	3		CHML 209	Chemical Engr. Thermodynamics	3
CHML 207[a]	Process Calculations	3		CHML 211	Fluids Lab	1
ENGS 301[c]	Engineering Professional Devel. I	0		ENGS 302[c]	Engineering Professional Devel. II	0
TOTAL		18		TOTAL		16

[a] **Gateway Courses:** A grade of "C" or better is required in CHML 205/Intro to Thermodynamics and CHML 207/Process Calculations, before a student will be allowed to proceed with other chemical engineering courses. Students are allowed a maximum of three attempts to achieve a "C" or better in gateway courses before dismissal from the major program (not the School of Engineering). A "W" grade is considered one attempt. Advanced level mathematics courses will also count towards mathematics minor.

Junior Year

FALL SEMESTER				SPRING SEMESTER		
CHML 316	Computer Simulation and Design	3		CHEM 320	Organic Chemistry II	3
CHEM 319	Organic Chemistry I	3		CHML 321	Chemical Reaction Engineering (Kinetics)	3
CHEM 323	Organic Chemistry Lab I	2		CHML 339	Separations II (Adv. Mass Transfer)	3
CHML 305	Chemical Engineering Principles II (Heat Transfer)	3		CHML 342 or CHML 423	Process Safety & Quality Assurance or Process Control	3
CHML 306	Separation Process Design I (Mass Transfer)	3		ENGS 302[c]	Engineering Professional Devel. II	0
Technical Elective	Adv. Engr. Elect. 400 Level	3		Technical Elective	Adv. Engr. Elect. 400 Level	3
ENGS 301[c]	Engineering Professional Devel. I	0				
TOTAL		17		TOTAL		15

Juniors with a cumulative GPA of 3.2 qualify for the Seamless Master's Program and should consult with the department chair for program details. Students can take up to two graduate level courses as an undergraduate and apply it to their master's program. Credits can only apply to one degree). Students need to register for ENGS 301 and ENGS 302 once either in sophomore or junior year. These are zero credit hour pass/fail courses (FE

preparation class) listed on transcripts with mandatory registration.

Senior Year

FALL SEMESTER				SPRING SEMESTER		
CHML 403	Chemical Engr. Lab I	3		CHML 404	Chemical Engr. Lab II	3
CHML 405	Process and Plant Design I	3		CHML 406	Process and Plant Design II	3
Technical Elective	Adv Sci or Engr Elective	3		CHML 342 or CHML 423	Process Safety & Quality Assurance or Process Control	3
RELS 2XX/3XX	Religious Studies Elective	3		Technical Elective	Adv. Engr. Elect. 400 Level	3
General Ed. Elective	Approved Elective	3		CHEM 310 335 or 433	Phys Chem II or Inorganic Chem or Biochem	3
General Ed. Elective	Approved Elective	3		RELS 2XX/3XX	Religious Studies Elective	3
TOTAL		18		TOTAL		18

Students must take an advanced science/math (chemistry, physics, or mathematics) or 400 level engineering elective in senior year from an approved list provided by the Chemical Engineering department chair.

Concentrations in Chemical Engineering

In addition to the foundational program in chemical engineering, a student may focus on a concentration area. The three concentration areas in chemical engineering are *Biopharmaceutical Engineering, Consumer Products & Cosmetic Engineering, and Principles and Processing of Novel Materials Engineering*. The Biopharmaceutical Engineering concentration will prepare students for a variety of roles in the biopharmaceutical and biotechnology sectors, including discovery, development, formulation and production of pharmaceutical products and therapeutic agents. The Consumer Products & Cosmetic Engineering concentration will prepare students for a variety of roles in the cosmetic and consumer product industries, including product formulation and development, process engineering, and research and development. The *Principles and Processing of Novel Materials Petroleum Engineering* concentration covers topics of interest to engineers in development and production of biomaterials, polymers, ceramics, and semiconductor materials. Students interested in one of the concentrations must meet with the department chair to plan for the necessary coursework.

Civil & Environmental Engineering Program

B.S. Degree in Civil Engineering - 133 Credits Required

The curriculum for the first year is common for all majors in engineering. Students take the foundational courses in Civil and Environmental Engineering in sophomore year. The junior and senior years allow for concentrated studies in the areas of structural, environmental & water resources, geotechnical, and transportation engineering. A representative program is shown below.

Sophomore Year

FALL SEMESTER				SPRING SEMESTER		
MATH 285[1]	Calculus III	4		MATH 286[1]	Differential Equations	3
CHEM 102/104[1]	Chemistry II and Lab II	4		RELS	RELS Elective	3
ENGS 206[1,5]	Statics	3		ENGS 230[1,5]	Introduction Solid Mechanics	3
CIVL 201[1]	Intro to Civil Engineering	3		CIVL 202[1]	Transportation	3
ENGS 204[1]	Environmental Engineering Principles I	3			Approved Science Elective[2]	3
				CEEN 298	CEEN Professional Dev. I	1
Total		17		Total		16

The semesters the following courses are taken can be switched; (CIVL 201 & CIVL 202) and (ENGS 204 & Approved Science Elective[2])

Junior Year

FALL SEMESTER				SPRING SEMESTER		
CEEN 303[1]	Fluid Mechanics	3		CEEN 307[1]	Hydraulic Design	3
CEEN 304	Fluid Mechanics Lab	1		CEEN 308	Reliability Analysis in Civil and Environmental Engineering	3
CEEN 314	Water & Wastewater Treatment Processes	3		CIVL 309[1]	Steel Design	3
CIVL 302[1]	Structural Analysis I	3		CIVL 310[1]	Introduction Geomechanics	3
CIVL 305[1]	Computer Solutions of CE Problems	3		CIVL 311	Soil Mechanics Lab	1
CIVL 306	Civil Engineering Materials	3		CIVL 312[1]	Structural Analysis II	3
					CEEN Professional Dev. II	1
Total		16		Total		17

Juniors with a cumulative GPA of 3.0 qualify for the Seamless Master's Program. Please consult with the department chair for program details.

Senior Year

FALL SEMESTER				SPRING SEMESTER		
CIVL 406[6] or ENVL 402[6]	Structural Analysis III or Environmental Data Analysis & Process Design	3		CIVL 411 or ENVL 408	Capstone Structural Design or Environmental Engineering Design	3
CIVL 410[6] or ENVL 407[6]	Intro. Geotech. Applications or Groundwater	3		CIVL 412	Highway Design	3
CIVL 409[6,7]	Reinforced Concrete Design	3			CIVL/ENVL Elective	3

	CIVL/ENVL Elective	3			CIVL/ENVL Elective	3
	RELS Elective	3			General Education Elective[4]	3
	General Education Elective[4]	3				
Total		18		Total		15

Seniors chose either the environmental capstone, ENVL 408, which requires ENVL 402 and ENVL 407 or the civil capstone, CIVL 411, which requires CIVL 406 and CIVL 410.

Notes:

1 These courses must be passed with a grade of C (2.0) or better.

2 Students are required to take one approved science elective in their sophomore or second year of the program. They may take this class either in the fall or in the spring semester. Approved science electives are: BIOL 222 Biology for Engineers; and SCI 301 Earth Science for Engineers.

3 Students are not allowed to enroll in any junior level or third year courses before completing all prerequisite mathematics, science, and engineering science courses.

4 Every civil engineering student is required to take an economics course as part of their General Education Elective.

5 Students are not allowed to repeat the course more than three times. Failure to successfully complete the course in three attempts will lead to dismissal from the program.

6 The student must pass these courses with a grade of C (2.0) or better to enroll in CIVL 411 and/or ENVL 408.

7 The C requirement is waived for students pursuing the environmental capstone (ENVL 408).

Environmental Engineering Minor

The minor in environmental engineering is open to all engineering majors and consists of 15 credits (5 courses). Required coursework includes ENGS 204 Environmental Engineering Principles I and four additional approved environmental engineering courses. Approved courses include: CEEN 314 Water and Wastewater Treatment Processes, CEEN 430 Water Infrastructure Systems Analytics, CEEN 446 Coastal Engineering, CEEN 450 Energy and the Environment, ENVL 402 Environmental Data Analysis and Process Design, ENVL 407 Groundwater (or CIVL 407 Groundwater Resources), ENVL 408 Environmental Engineering Design, ENVL 409 Environmental Chemistry, ENVL 410 Hazardous Waste Design, ENVL 417 Environmental Law, ENVL 425 Surface Water Quality Modeling, and ENVL 439 Environmental Engineering Projects. Students interested in the environmental engineering minor should contact Dr. Kevin Farley or Dr. Jessica Wilson.

Completing the environmental engineering minor and an approved science elective (currently SCI 301) allows engineering students entry into Masters of Science (M.S.) in Environmental Engineering graduate program provided they have a cumulative G.P.A. of 3.0. Students interested in entry to the ABET accredited Master of Engineering (M.E.) in Environmental Engineering program have the additional requirement of completing both approved science electives.

In addition, there are numerous opportunities for partial or full financial support for graduate studies including:

- Graduate Internships
- Graduate Fellowships
- Graduate Research Assistantships (GRAs)
- Graduate Laboratory Assistants (GLAs)

Fundamentals of Engineering (FE) Examination – Department of Civil & Environmental Engineering

All seniors must take the Fundamentals of Engineering (FE) examination in their senior year as a requirement to graduate from the program. Students are not required to pass the FE exam; they are only required to take the FE exam and then document that they have completed the requirement. An important distinction for engineers is to become a licensed professional engineer. Receipt of the baccalaureate degree from an institution accredited by the EAC of ABET is one important step towards licensure. The requirements for licensure include a two-part examination. Engineering students in good academic standing at Manhattan University may take the first part, the Fundamentals of Engineering (FE) examination, during their senior year. All engineering students are strongly encouraged to take and pass the FE examination. The examination is heavily based on mathematics, basic sciences, and engineering sciences. The engineering curricula at Manhattan University prepares the student for the examination.

Electrical And Computer Engineering Program

B.S. Degree in Electrical Engineering, B.S. Degree in Computer Engineering - 134 Credits Required

Sophomore Year

Fall Semester		
EECE 201*/**	Fundamental of Electrical System Analysis I	3
EECE 210	Applied Software Engineering I	3
EECE 229	Intro to Digital Systems	3
MATH 285	Calculus III	4
ENGL	English Elective	3
TOTAL		16

Spring Semester		
EECE 203*/**	Fundamentals of Electrical System Analysis II	3
EECE 232	Computer System, Organization & Design	3
MATH 286	Differential Equations	3
PHYS 102/192	Physics II and Lab	4
Gen Ed/RELS	Gen Ed or RELS Elective	3
TOTAL		16

****Gateway Courses**: A grade of "C" or better is required in EECE 201 Fundamentals of Electrical Systems Analysis I and EECE 203 Electrical Systems Analysis II. Students are allowed a maximum of three attempts to achieve a C or better in gateway courses before dismissal from the major program (not the School of Engineering). A "W" grade is considered one attempt.

Junior Year

Fall Semester		
EECE 303	Signals & Systems I	3
EECE 305	Electronic Systems I	4
EECE 311	Applied Electromagnetics	3
EECE 321	Embedded Systems Design	3
Gen Ed	Gen Ed Elective	3
TOTAL		16

Spring Semester		
EECE 312	Signals & Systems II	3
EECE 306	Electronic Systems II	4
EECE 316	Probability and Statistics	3
EECE 320	Applied Software Engineering II (COMPE)	3
EECE 326	Instrumentation Systems (EE)	3
EECE 329	Modeling Techniques in Electrical & Computer Engineering	3
TOTAL		16

(**Note:** Juniors with a cumulative GPA of 3.2 qualify for the Seamless Master's Program and should consult with the department chair for program details. Students can take up to two graduate level courses as an undergraduate and apply it to their master's program. Credits can only apply to one degree)

Senior Year for Computer Engineers

Fall Semester		
EECE 410	Capstone Design I	3
EECE 476	Object-Oriented Programming and Data Structures for Computer Engineering	3
	Technical Elective	3
	Technical Elective	3
	Technical Elective	3
	Gen Ed or RELS Elective	3
TOTAL		18

Spring Semester		
EECE 411	Capstone Design II	3
EECE 473	Operating Systems for Computer Engineering	3
EECE 475	Computer Network Architecture	3
	Technical Elective	3
	Technical Elective	3
	General Education Elective	3
TOTAL		18

Senior Year for Electrical Engineers

Fall Semester		
EECE 410	Capstone Design I	3
EECE 477	Power & Energy Systems	3
	Technical Elective	3
	Technical Elective	3
	Technical Elective	3
	Gen Ed or RELS Elective	3
TOTAL		18

Spring Semester		
EECE 411	Capstone Design II	3
EECE 425	Control Systems Design	3
EECE 474	Modern Communication Systems	3
	Technical Elective	3
	Technical Elective	3
	Gen Ed Elective	3
TOTAL		18

*EECE 201 Fundamentals of Electrical Systems Analysis I and EECE 203 Electrical Systems Analysis II must be completed with a grade of C (2.0) or better.

Concentrations in Electrical and Computer Engineering

In addition to its foundational undergraduate programs, the Electrical and Computer Engineering Department offers three specialized concentrations at the undergraduate level in Applied Artificial Intelligence (AI), Cybersecurity, and Power Grids and Green Energy Engineering. Courses satisfying the options are taken in the senior year as technical electives. The concentration course listings are found in the 2025-26 catalog.

Concentration in Cybersecurity

Available for both ELEC and CMPE majors - The cybersecurity undergraduate concentration equips students with the knowledge and skills to protect and defend digital systems against cyber threats, ensuring the security and integrity of critical information, designing secure engineering systems, and developing effective security strategies.

Applied Artificial Intelligence Concentration

Available for both ELEC and CMPE majors - Artificial Intelligence concentration is designed to provide Electrical and Computer Engineering students with the fundamental concepts of the artificial intelligence from an engineering perspective, as well as the ability to develop the knowledge of the principles, methods, systems, and toolchains underlying modern artificial intelligence. A major component of this concentration is the development and implementation of AI-orchestrated systems that can function within the constraints imposed by engineering. ECE students will be allowed to branch out and draw on courses across the spectrum of AI topics including machine learning, computer vision, imaging processing, deep learning, big data, and data mining.

Concentration in Power Grids and Green Energy Engineering

Available for ONLY ELEC majors - The concentration in Power Grids and Green Energy Engineering provides a broad background in the principles, analysis, and design of large electric power and green energy systems, smart grids, electric energy conversion, and the application of electronic devices at high power levels.

Mechanical Engineering Program

B.S. Degree in Mechanical Engineering - 133-134 Credits Required

Sophomore Year

FALL SEMESTER		
CHEM 102/104 or PHYS 102/192	General Chemistry II w/ Lab or Physics II w/ Lab	4
ENGS 205*/**	Intro Thermodynamics	3
ENGS 206*/**	Statics	3
MATH 285	Calculus III	4
MECH 211	Technical and Graphical Communication	3
TOTAL		17

SPRING SEMESTER		
ENGS 201/202	Materials Science & Lab	3
ENGS 220	Dynamics	3
MECH 230	Intro Solid Mechanics	3
MECH 240	Applied Thermodynamics	2
MATH 286	Differential Equations	3
ENGL	English Elective	3
TOTAL		17

*ENGS 205, Introduction to Thermodynamics and ENGS 206, Statics, MUST be passed with a grade of "C" or better before enrolling in any 300 level Mechanical Engineering courses.

****Gateway Courses:** A grade of "C" or better is required in ENGS 205/Intro to Thermodynamics and ENGS 206/Statics. Students are allowed a maximum of three attempts to achieve a C or better in gateway courses before dismissal from the major program (not the School of Engineering). A "W" grade is considered one attempt.

Junior Year

FALL SEMESTER		
MECH 321	Solid Mechanics Laboratory	1
MECH 318	Fluid Mechanics I	3
MECH 323	Machine Design	4
MECH 312	Intro Mechatronics	3
RELS 2XX	Religious Studies – Catholic Studies Elective	3
MATH/SCIENCE	Elective	3/4
TOTAL		17-18

SPRING SEMESTER		
MECH 314	Engr. Analysis & Num. Methods	3
MECH 319	Fluid Mechanics 2	2
MECH 325	Heat Transfer	4
MECH 332	Finite Element Analysis and Computer Aided Engineering	3
MECH 330	Thermal & Fluid Laboratory	2
Gen Ed. Elective	General Education Elective	3
TOTAL		17

(**Note:** Juniors with a cumulative GPA of 3.2 qualify for the Seamless Master's Program and should consult with the department chair for program details. Students can take up to two graduate level courses as an undergraduate and apply it to their master's program. Credits can only apply to one degree)

Senior Year

FALL SEMESTER		
MECH 401	Mechanical Engr Design I	2
MECH 439/440	Manufacturing Processes & Lab	3
MECH 411	Mechanical Vibrations	3

SPRING SEMESTER		
MECH 402	Mechanical Engr Design II	2
MECH 414	Engineering Economy and Project Management	3
MECH	Mechanical Engineering Elective	3

MECH 422	Thermal/Fluids System Design	3	MECH	Mechanical Engineering Elective	3
RELS 3XX	Religious Studies – Ethics Elective	3	Gen Ed. Elective	General Education Elective	3
TOTAL		17	TOTAL		14

Concentrations in the Mechanical Engineering Department

In addition to its foundational undergraduate program, the Mechanical Engineering Department offers a specialized concentration at the undergraduate level in the area of *Biomechanics* and *Aerospace*. Courses satisfying the option are taken in different years. Students seeking to complete a concentration should contact the Mechanical Engineering chairperson, Dr. Parisa Saboori, all requirements.

Biomechanics Concentration

Biomechanics is the study of the mechanical engineering aspects of biological systems. Areas of interest include, tissue engineering, the strength and structural behavior of biocompatible materials; and the application of solid and fluid mechanics to biological systems in health and disease.

Students accepted into the concentration must take:

- **One** biology course as their science elective from: BIOL 207 Anatomy & Physiology I; BIOL222 Biology for Engineers; and BIOL 441 Cardiovascular Biology*
- **Two** Mechanical Engineering elective courses from: MECH 408 Mechanical Engineering Projects I; MECH 410 Mechanical Engineering Projects II; MECH 431 Structural Biomechanics; MECH 437 Biomechanical Instrumentation; MECH 438 Operation Research; MECH 450 Intro Tissue Engineering; MECH 451; Intro Biofluid Mechanics; MECH 474 Introduction to Biomechanics; MECH 475 Data Driven Problem Solving in Mechanical Engineering; MECH 483 Biomechanics Modeling and Applications; MECH 487 Applications of Instrumentation and Data Acquisition; MECG 536 Applied Biofluid Mechanics;
- When students take MECH 401/402 they are strongly encouraged to engage in a biomechanics design project.

Aerospace Concentration

The Aerospace concentration is designed to give students an introduction to aerospace science and technology. Aerospace engineers use engineering principles to design and develop aircraft and spacecraft, both manned and unmanned. The employment prospects in aerospace are expected to be strong for the foreseeable future.

Students accepted into the concentration must take:

- **One** math course as their Math/Science elective from: MATH 372 Linear Algebra, MATH 386 Partial Differential Equations, and MATH 490 Complex Analysis
- **Two** Mechanical Engineering elective courses from: MECH 408 Mechanical Engineering Projects I; MECH 410 Mechanical Engineering Projects II; MECH 428 Combustion Systems; MECH 438 Operation Research; MECH 461 Propulsion; MECH 462 Aircraft Design; MECH 468 Astronautics; MECH 488 Turbomachinery; MECH 475 Data Driven Problem Solving in Mechanical Engineering; MECH 477 Flight Mechanics; MECH 478 Introduction to Aerodynamics; MECH 485 Design of Aerospace Structures; MECG 701 Viscous Flow Theory; MECG 702 Compressible Flow; MECG 704 Computational Fluid Mechanics

- When students take MECH 401/402 they are strongly encouraged to engage in an aerospace design project.
- When students take MECH 330 they are encouraged to complete an aerospace-related Design of Experiments project.
- All 700-level courses require senior status and a minimum GPA of 3.0 or the chairperson's permission.

Programs of Study for Engineering Minors

Engineering students can develop depth in an area other than the major by completing a minor in a different program. Students may minor in biology, business, computer science, chemistry, economics, English, environmental studies, finance, government, history, management, marketing, mathematics, modern foreign languages, peace studies, philosophy, physics, psychology, religious studies, urban affairs, and women and gender studies. In general, a minor requires 15 credits. Courses must be completed at Manhattan University.

Engineering students may also choose to minor in another engineering discipline. Engineering Minors are not open to any other majors except engineering. The engineering minors are and course plans are as follows:

Chemical Engineering
CHML 207 Process Calculations, CHML 208 Chemical Engineering Principles I, CHML 305 Chemical Engineering Principles II, CHML 306 Separation Process Design I, and CHML 321 Chemical Reaction Engineering.

Civil Engineering
CIVL 302 Structural Analysis I, CIVL 309 Steel Design, CIVL 310 Introductory Geomechanics, CIVL 409 Reinforced Concrete Design, and CEEN 303 Fluid Mechanics.

Computer Engineering
1. For all students except electrical engineering majors:
EECE 229 Introduction to Digital Systems, EECE 232 Computer System, Organization & Design, and EECE 210 Applied Software Engineering I, and two additional computer engineering courses approved by the ECE department chair.
2. For electrical engineering majors:
EECE 232 Computer System, Organization and Design and EECE 210Applied Software Engineering I, plus three elective computer engineering courses, of which at least two must be upper division or graduate, approved by the ECE department chair. These elective courses cannot be used to simultaneously satisfy the requirements for electrical engineering.

Electrical Engineering
1. For all students except computer engineering majors:
EECE 201 Fundamentals of Electrical System Analysis, EECE 203 Fundamentals of Electrical System Analysis II, and EECE 229 Introduction to Digital Systems plus sequence a, b, or c as follows:

a. EECE 303 Signals and Systems I and EECE 304 Signals and Systems II, or
b. EECE 305 Electronic Systems I and EECE 306 Electronic Systems II, or
c. Two upper division courses in electrical engineering approved by the ECE department chair.

2. For computer engineering majors:
EECE 232 Computer System, Organization and Design and EECE 321 Embedded Systems Design, plus three elective electrical engineering courses, of which at least two must be upper division or graduate level, approved by the department chair. These elective courses cannot be used to simultaneously satisfy the requirements for computer engineering.

Environmental Engineering --

Open to all Engineering majors. See above under Civil and Environmental Engineering requirements.

Mechanical Engineering --
ENGS 205 Introductory Thermodynamics, ENGS 206 Statics, MECH 230 Introductory Solid Mechanics, MECH 318 Fluid Mechanics I, and MECH 325 Heat Transfer. This set of courses may be modified by the mechanical engineering department chair based upon the background of the student.

Prerequisites/Corequisites for Minors
Students pursuing an engineering minor are responsible for any required prerequisites. Completion of the engineering minor may qualify students for entry to the graduate program of the minor program. Students should contact the chair or director of the minor program for further information.

Engineering students may obtain an Application for Minor or Concentration form at the SOE Online Resource (SOEOR) page. After the form is approved by the program chair or director offering the minor, the form should be returned to the Office of the Dean of Engineering by the student. When all courses have been completed, the dean will notify the Office of the Registrar.