**THE CITY COLLEGE – SCHOOL OF ENGINEERING January 20, 2021**

**Mechanical Engineering Curriculum**

**Fall 2020 – Spring 2021**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Math 20100 (C min)**2Calculus IPre: Math 19500 (C min.)4 cr. | **General Chemistry** 2**Chem 10301**Pre: Math 19500 (C min.)4 cr. | **ME 14500**Computer-Aided Drafting2 cr. | **Engl 11000 *6***Freshman Composition3 cr. | **Engr 10100 *6***Engineering DesignPre/Co: Math 19500 (C min.)1 cr. | **Liberal Arts *4***3 cr. |
| **Math 21200 (C min)** 2Calculus IIPre: Math 20100 (C min.) | **Phys 20700** 2General Physics I Pre/Co: Math 20200 | **Science Elective** 2See the list below | **Engl 21007**Writing for Engineering Pre: Engl 11000 or FIQWS | **Liberal Arts *4*** |
| 4 cr. | 4 cr. | 3–4 cr. | 3 cr. | 3 cr. |
| **Math 21300** 2 **(C min)**Calculus IIIPre: Math 202 or Math 212 (C min.)4 cr. | **Phys 20800** 2 General Physics II Pre: Phys 20700Pre/Co: Math 203004 cr. | **ME 24600** 2Engineering Mechanics IPre: Phys 20700 (C min.) & Math 20200 (C min.) Pre/Co: ME 14500 or BME 220003 cr. | **Engr 20400**Electrical CircuitsPre/Co: Phys 20800 (C min.) Pre/Co: Math 20300 (C min.)3 cr. | **Liberal Arts *4***3 cr. |
| **Math 39100 (C min)** 2Differential EquationsPre: Math 20300 or Math 213 | **ME 24700**Engineering Mechanics II Pre: ME 24600 (C min.)Pre/Co: Math 39100 (C min.) | **ME 33000**Mechanics of Materials Pre: Math 20300 (C min.),ME 24600 (C min.) | **ME 32200**Computer Meth. in Engr. Pre/Co: Math 39100 (C min.) | **Engr 23000**ThermodynamicsPre: Chem 10301 (C min.), Pre/Co: Phys 20800 (C min.)& Math 20300 (C min.)3 cro.r Math 21300 (C min) |
| 3 cr. | 3 cr. | 3 cr. | 3 cr. |
| **Math 346 (C min)**Linear algebraPre: Math 20300 or Math 213003 cr. | **ME 31100**Fundamentals of MechatronicsPre: Math 39100 (C min.), Engr 20400, ME 24700,& ME 33000Pre/Co: Math 39200, ME 32200, & Engl 210073 cr. | **ME 35600**Fluid MechanicsPre: Math 39100 (C min.), Phys 20800 (C min.)Pre/Co: ENGR 23000, Math 39200or Math 346003 cr. | **ME 46100**Engineering MaterialsPre: Chem 10301 (C min.) & Engl 21007Pre/Co: ME 330004 cr. | **Liberal Arts *4***3 cr. |
| **ME 43000**Thermal Sys. Analysis & Design Pre: Engr 23000 & ME 356003 cr. | **ME 37100**Computer-Aided DesignPre: ME 14500, ME 33000 & ME 32200Pre/Co: Math 392003 cr. | **ME 41100**System Dynamics & Control Pre: ME 31100, ME 37100Pre/Co: ME 356004 cr. | **ME 43300**Heat Transfer Pre/Co: ME 35600Pre: ENGR 230003 cr. | **ME 47200**Mech. Systems DesignPre: ME 24700 & ME 33000Pre/Co: ME 461003 cr. |
| **Technical Elective**See the list below3 cr. | **ME 43600**Aero-Thermal-Fluids Lab Pre: ME 31100, ME 43000 &ME 433001 cr. | **ME 46200**Manufacturing Processes Pre: ME 14500 & ME 461003 cr. | **Technical Elective**See the list below3 cr. | **ME 47300**Senior Design Project I Pre: ME 47200, ME 37100Pre/Co: ME 43300, ME 46200 & ME 43600 &ME 411003 cr. | **Liberal Arts *4***(20000 or higher)3 cr. |
| **Technical Elective**See the list below3 cr. | **Technical Elective**See the list below3 cr. | **Technical Elective**See the list below3 cr. | **ME 47400**Senior Design Project IIPre: ME 47300 & ME 411003 cr. | **Liberal Arts *4***(20000 or higher)3 cr. |

|  |  |  |
| --- | --- | --- |
| **Technical Electives** *(five courses)*Bio 321002: Human Phys. Chem 261002: Org. Chem I Chem 330002: Phys Chem I CSc 102008, 9: Intro to Comput8CSc 103008, 9: Intro to Comput For Majors8EAS 217002: Earth Atm SciEngr 55400: Reactor Phys and EngrPhys 315002: Medic. Phys.Phys 321002: Mod. Phys. For Eng Phys 422002: BiophysicsPhys 423002: Biophysics in Applications Phys 454002: Descript. Astron.Engr 55500 Thermal HydraulicsEngr 55600 Nuclear Reactor Design, Opt & SafetyME 40100: Review of Engr. Fund. (1 cr.) ME 40200: Project Management (1 cr.) ME 44100 Adv. Stress Anal.ME 46600 Dyn Aerospace VehiclesME 46700: Spec. Topics Aerospace Engr. ME 46800 Aircraft & Rocket Prop | ME 46900 Spacecraft Sys. & Design ME 47000: Spec. Proj. Aerospace Engr. ME 47100 Energy Sys. DesignME 51100 Adv. Mechatronics ME 51400 Rotorcraft Aerodyn. ME 51500 Orbital MechME 52600: Finite Element MethodME 53600: Sustainable Energy Conv. SysME 53700 Turbo-machinesME 53800 Auto Safety Desgn & Injury Biomech ME 53900 Vehicular Power SystemsME 54200 Intro. Theory & Prac. Vib. ME 54600 Robotics & AutomatME 54700 Environ Control ME 54800 AerostructuresME 55500 Struct. Dyn. & Aeroelasticity ME 55600 Adv. Fluid MechME 56300: Micro/Nano Tech. ME 57100 Mech DesignME 57200 Aerodyn DesignME 5900X-5910X9: Special Proj. (1–3 cr.) ME 59500: Teaching /Research Exp.ME 5980X-5990X9: Topics in ME (3–-6 cr.)ME 59901: Prod. Dev. Mgmt & Mkt | **Science Electives** 2 *(one course)*Bio 10100: Foundation of Bio. Bio 32100: Human Phys.Chem 10401: Gen. Chem. II Chem 26100: Org. Chem I Chem 33000: Phys Chem IEAS 10600: Earth Systems Science EAS 21700: Earth Atm SciPhys 31500: Medic. Phys. Phys 32100: Mod. Phys. Phys 42200: BiophysicsPhys 42300: Biophysics in Applications Phys 45400: Descript. Astron. |

1. The latest version of the curriculum sheet supersedes any curriculum and pre-/co-requisite information in the Undergraduate Bulleting or online
2. “C” Passing Grade Requirement: Courses in shaded area ( ) require a minimum passing grade of “C”.
3. Skills tests: Certain students may be required to pass CUNY Assessment Tests in one or more subjects within 1 or 2 years of admission.
4. **Liberal Arts electives:** ME students must take **six** approved courses, of which at least two must have course numbers of 20000 or higher. **Four** of the courses should satisfy Flexible Core (Pathways) liberal arts requirements in the Creative Expression (CE), World Cultures & Global Issues (WCGI), Individual & Society (IS), and U.S. Experience (US) areas. Prior courses in these four areas from other colleges can satisfy the electives. The remaining **two** courses must be chosen from the list on the Grove School of Engineering web site at ccny.cuny.edu/engineering/gen-ed .

See ccny.cuny.edu/engineering/pathways for details and the Pathways course lists. A prior degree may remove the requirement of all six courses.

1. Other Graduation Requirements: Apply for graduation during registration for the last semester. Minimum GPA of 2.00. Minimum QPA of zero. Residency Requirement: 36 credits of 30000-level or higher Mechanical Engineering courses taken at CCNY.
2. Transfer students with credit for Math 20200 are considered too advanced for Engr 10100. They should take a 1-credit ME Elective course instead. FIQWS 10026 fulfills the requirements for Engl 11000 and Engr 10100.
3. Program Changes: Substitution of other courses for required courses must be approved by the Chair of the Mechanical Engineering Department (ST-233), and the Associate Dean of the Office of Undergraduate Affairs (ST-209) for final approval.
4. Students are permitted to select Csc 10200 or CSc 10300 as a Technical Elective, but not both.
5. Departmental approval required.

**Total Credits: 129 – 130**