# Department of Mechanical Engineering

## Curriculum Requirements for Enrollees in the Academic Year 111 (Fall 2022)

| | | |
|---|---|---|
| Program | Four-year technical college program of the Day Division | |
| Group | Mechanical and Electrical Group | |
| Class Type | Regular Class | |
| Special Program | None | |
| Curriculum Committee | Department Curriculum | 111.05.03 |
| | College Curriculum | 111.05.20 |
| | University Curriculum | 111.06.06 |
| | Academic Affairs | 111.06.06 |
| Graduation Credits /Study Duration | At least 128 credits required (normally 4 years). | |
| Credit Load per Semester | Students in Grades 1 and 2 must take no fewer than 16 credits and no more than 28 credits per semester. Students in Grades 3 and 4 must take no fewer than 9 credits and no more than 25 credits per semester. | |

| Required and Elective | Credits | Subject Category | Credits |
|---|---|---|---|
| Required | 87 Credits | General Education | 16 Credits |
| | | Major Required | 71 Credits |
| | | College Major | 0 Credits |
| Elective | 41 Credits | General Education | 8 Credits |
| | | Major Elective | 33 Credits |
| Other Regulations | | | |
| Remarks | "Computer Course" means computer access is required (computer and internet usage fee). | | |

| First Semester, First Year | | | | | Second Semester, First Year | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course | Course | Course Name | Credits / Hours | Notes | Course | Course | Course Name | Credits / Hours | Notes |
| General Education | 404001 | Chinese (1) | 2/2 | | General Education | 404011 | Chinese (2) | 2/2 | |
| General Education | 400E00 | English(I) | 2/2 | | General Education | 400F00 | English(II) | 2/2 | |
| General Education | 404102 | Community Service & Learning(1) | 0/1 | | General Education | 404103 | Community Service & Learning(2) | 0/1 | |
| General Education | 400A00 | physical education (1) | 1/2 | | General Education | 400B00 | physical education (2) | 1/2 | |
| General Education | 300A00 | | 2/2 | | General Education | 300B00 | General Courses (II) | 2/2 | |
| Major Required | 404C03 | Physics(1) | 3/3 | | Major Required | 404064 | Human Rights and Legal Education | 2/2 | |
| Major Required | 404C01 | Calculus (1) | 3/3 | | Major Required | 404C04 | Physics(2) | 3/3 | |
| Major Required | 404C60 | Introduction and Practice of Mechanical Engineering | 2/3 | | Major Required | 404C05 | Physics and Laboratory | 1/2 | |
| Major Required | 404C06 | Chemistry | 3/3 | | Major Required | 404C02 | Calculus(2) | 3/3 | |
| Major Required | 404079 | Computational Thinking and Creative Programming | 2/3 | Computer Course | Major Required | 404C11 | Statics | 3/3 | |
| Major Required | 404056 | Labor education (1) | 0/1 | | Major Required | 404057 | Labor education (2) | 0/1 | |
| | | | | | | | | | |
| 20 Credits, 25 Hours | | | | | 19 Credits, 23 Hours | | | | |

| First Semester, Second Year | | | | | Second Semester, Second Year | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course | Course | Course Name | Credits / Hours | Notes | Course | Course | Course Name | Credits / Hours | Notes |
| General Education | 400G00 | English(III) | 2/2 | | General Education | 400H00 | English (IV) | 2/2 | |
| General Education | 400C00 | Physical Education (III) | 1/2 | | General Education | 400D00 | physical education (4) | 1/2 | |
| General Education | 300C00 | | 2/2 | | General Education | 300D00 | General Courses (IV) | 2/2 | |
| Major Required | 404068 | Contemporary Taiwan and Modern World | 2/2 | | Major Required | 404065 | Practical Chinese | 2/2 | |
| Major Required | 404C12 | Engineering Mathematics(1) | 3/3 | | Major Required | 404C17 | Mechanics of Materials(2) | 2/2 | |
| Major Required | 404C14 | Dynamics | 3/3 | | Major Required | 404C38 | Thermodynamics | 2/2 | |
| Major Required | 404C16 | Mechanics of Materials(1) | 2/2 | | Major Required | 404C62 | Applied Electronics and Practice | 2/3 | |
| Major Required | 404C61 | Electric Circuits and Practice | 2/3 | | Major Required | 404C71 | Control System Engineering | 3/3 | |
| Major Required | 404C69 | C Language | 2/3 | Computer Course | Major Required | 404C72 | Sensor Theory & Applications | 2/2 | |
| Major Required | 404C70 | Logic Design and Practice | 2/3 | | Major Elective | 404Q34 | Computer Aided Drawing | 2/3 | Computer Course |
| Major Elective | 404Q15 | Creative Training | 2/2 | | Major Elective | 404Q35 | Advanced Numerical Machine Control and Practice | 2/2 | |
| Major Elective | 404Q32 | Mechanical Engineering Drawing | 2/3 | | Major Elective | 404Q37 | Material Science and Laboratory | 2/3 | |
| Major Elective | 404Q33 | Material Science | 2/2 | | Major Elective | 404Q88 | Engineering Mathematics(2) | 3/3 | |
| | | | | | | | | | |
| 27 Credits, 32 Hours | | | | | 27 Credits, 31 Hours | | | | |

| First Semester, Third Year | | | | | Second Semester, Third Year | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course | Course | Course Name | Credits / Hours | Notes | Course | Course | Course Name | Credits / Hours | Notes |
| Major Required | 404C39 | Fluid Dynamics and Practice | 2/2 | | Major Required | 404C75 | Programming Controller Application and Practice | 2/2 | |
| Major Required | 404C64 | Pneumatic Control and Practice | 2/3 | | Major Required | 404C77 | Mechatronics | 2/2 | |
| Major Required | 404C74 | Microcomputer Interfacing Practice | 2/3 | | Major Required | 404C78 | Graphics Program Design and Virtual Instrumentation | 2/3 | |
| Major Elective | 404Q04 | Principle of Machine Design | 2/2 | | Major Required | 404C79 | Special Topics | 2/4 | |
| Major Elective | 404Q06 | Heat Treatment | 2/2 | | Major Elective | 404Q10 | Computer-Aided Engineering Analysis | 3/3 | Computer Course |
| Major Elective | 404Q07 | Personal and Professional Ethics | 2/2 | | Major Elective | 404Q24 | Non-Destructive Inspection | 2/2 | |
| Major Elective | 404Q36 | Kinematics of Machines | 2/2 | | Major Elective | 404Q42 | Introduction of CNC Machine Design | 2/2 | |
| Major Elective | 404Q38 | Principles of Electro-Motor | 2/2 | | Major Elective | 404Q43 | Thermodynamicsand Practice | 2/2 | |
| Major Elective | 404Q40 | Vibration Theory and Applications | 2/2 | | Major Elective | 404Q44 | Career Guidance and Counseling | 2/2 | |
| Major Elective | 404Q73 | Computer-Aided Manufacturing and Practice | 2/3 | | Major Elective | 404Q74 | Precision Measurement and Practice | 2/3 | |
| Major Elective | 404Q84 | Computer-Aided Control System Analysis and Design | 3/3 | | Major Elective | 404Q83 | Manufacturing Engineering | 2/2 | |
| | | | | | | | | | |

| 23 Credits, 26 Hours | | | | | 23 Credits, 27 Hours | | | | |
|---|---|---|---|---|---|---|---|---|---|
| First Semester, Fourth Year | | | | | Second Semester, Fourth Year | | | | |
| Course | Course | Course Name | Credits / Hours | Notes | Course | Course | Course Name | Credits / Hours | Notes |
| General Education | 404039 | English Proficiency qualification | 0/2 | | College Major | 40TND9 | Interdisciplinary program learning | 0/1 | |
| Major Elective | 404Q01 | Industrial Management | 2/2 | | College Major Required | 40TNF1 | Interdisciplinary Micro Course Program for Engineering Digital Technology | 0/1 | |
| Major Elective | 404Q12 | Non-traditional Manufacturing | 2/2 | | Major Required | 404C80 | Proficiency Assessment of Mechanical and Mechatronic Technology | 3/3 | |
| Major Elective | 404Q18 | Computer-Aided Design | 3/3 | Computer Course | Major Elective | 404Q23 | Reverse Engineering | 2/2 | |
| Major Elective | 404Q20 | Introduction to Semiconductor Manufacturing Technology | 2/2 | | Major Elective | 404Q29 | Air-Conditioned Engineering | 2/2 | |
| Major Elective | 404Q46 | Technology of CNC Machine Design | 2/2 | | Major Elective | 404Q49 | Opto-Mechatronics Systems | 2/2 | |
| Major Elective | 404Q47 | Welding Engineering and Practice | 2/2 | | Major Elective | 404Q50 | Engineering Statistics and Quality Management | 2/2 | |
| Major Elective | 404Q48 | Heat Engine Engineering and Application | 2/2 | | Major Elective | 404Q51 | Plastic Working | 2/2 | |
| Major Elective | 404Q79 | Labview Designs and Practices of Virtual Instrument | 3/3 | | Major Elective | 404Q52 | CNC Machine Design and Analysis | 2/2 | |
| Major Elective | 404Q81 | Intelligent practice of production line (1) | 3/3 | | Major Elective | 404Q53 | Nano Engineering and Applications | 2/2 | |
| Major Elective | 404Q86 | Principles and Application of Robotic Arm | 2/2 | | Major Elective | 404Q54 | Introduction of Electronics Cooling Technology | 2/2 | |
| | | | | | Major Elective | 404Q78 | Dynamic System Feedback Control Analysis | 3/3 | |
| | | | | | Major Elective | 404Q80 | English for Engineering | 2/2 | |
| | | | | | Major Elective | 404Q82 | Intelligent practice of production line (2) | 3/3 | |
| | | | | | Major Elective | 404Q87 | Semester Off-campus Internship | 9/9 | |
| | | | | | | | | | |
| 23 Credits, 25 Hours | | | | | 36 Credits, 38 Hours | | | | |