Automation Engineering Major
Major Course Requirements AY 2021-2023
92 – 94 Program Credits

Support Group (25 cr)
MATH 171/172 Calculus I/Calculus II (5 + 4 cr)
PHYS 191/192 General Physics I/General Physics II (5 cr + 5 cr)
MATH 301 Statistics (3 cr)
MATH 371 Differential Equations (3 cr)

Fundamentals Group (36 cr)
EGR 105 Engineering Fundamentals (3 cr)
EGR 110 Engineering Graphics (3 cr)
EGR 130/131 Basic Electrical Circuits I/II (4 cr + 4 cr)
EGR 221 Machine Components (3 cr)
EGR 232 Semiconductor Devices (3 cr)
EGR 242 Programming for engineers (3 cr)
EGR 240 Logic & Control Devices (3 cr)
EGR 201 Engineering Mechanics: Statics (3 cr)
EGR 202 Engineering Mechanics: Dynamics (3 cr)
EGR 203 Mechanics of Materials (4 cr)

Advanced Study Group (30 – 32 cr)
EGRT 320 Motors and Drives (4 cr)
EGR 325 Signals and Systems (3 cr)
EGR 330 Thermodynamics (3 cr)
EGR 342 Measurement, Control & Data Acquisition (3 cr)
EGR 360 Project Management (3 cr)
EGRT 390 Industrial Robots/Mechatronics (4 cr)
EGR 400 Internship (1-3 cr) or EGRT 410 Capstone Project (3 cr)
EGR NEW Control Systems (3 cr)
EGR NEW Kinematics and Dynamics of Machinery (3 cr)
EGR NEW Automation Systems Design (3 cr)

Required Elective (3 cr) (examples)
EGRT 116 – Basic Manufacturing Processes, EGR 282 – Engineering Economics, EGRT 375 – Renewable Energy, EGRT 335 – Heat Transfer