GENT 2323 Statics
Prerequisites: MATH 2123 or 2144 and PHYS 1114 or PHYS 2014.
Description: Forces acting on bodies at rest; forces, moments of force, distributed forces, reactions, free-body diagrams, friction, internal forces and moments of inertia. Applications.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

GENT 2650 Technical Projects
Prerequisites: Completion of three semesters' work in a technical institute curriculum.
Description: Special projects assigned by advisers with the approval of the director. A comprehensive written report must be prepared and an oral examination may also be required. Offered for variable credit, 1-4 credit hours, maximum of 4 credit hours.
Credit hours: 1-4
Contact hours: Other: 1
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Engineering Technology

GENT 3323 Strength of Materials
Prerequisites: MATH 2123 or MATH 2144 with grade of "C" or better in GENT 2323 or ENSC 2113.
Description: Stress and strain and their relation to loads. Axial, torsional and bending loads, beam deflection, columns and combined stresses. Applications emphasized. Course previously offered as MCDT 3323 and MET 3323.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Engineering Technology

GENT 3503 Fundamentals of Mechatronics
Prerequisites: Grade C or better in EET 3104 or EET 2635.
Description: Fundamentals of mechatronic systems and components. Different modeling approaches used for mechatronics systems, sensors and actuators, data acquisition and interfacing, signal conditioning, and PLCs.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

GENT 4503 Mechatronics System Design
Prerequisites: Grade C or better in GENT 3123 and GENT 3503 (can be concurrent enrollment in GENT 3123).
Description: Modelling of mechanical, electrical, and hydraulic components. Feedback control systems, electro-hydraulic drives, electric drives, and microcontroller programming.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

GENT 5113 Intelligent Mechatronics Systems and Robotics
Prerequisites: GENT 3123 or equivalent.
Description: Modelling of mechanical, electrical, and hydraulic components and robotic manipulators. Control systems design, electro-hydraulic drives, electrical drives, robotic manipulator and intelligent control design.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology