GENT 1153 Engineering Graphics
Description: Sketching, manual drafting and CAD generation of engineering drawings to ANSI standards. Interpreting typical industrial drawings. Students with two years high school or one year practical ANSI drafting/CAD may substitute an advanced course in mechanical engineering technology with consent of their advisers.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Engineering Technology

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 3123 Applied Analysis for Technology
Prerequisites: MATH 2133 or equivalent.
Description: Applications of elements of matrix algebra, ordinary differential equations, Fourier series, and infinite series to problems in engineering technology.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
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 3433 Basic Thermodynamics
Prerequisites: MATH 2123 or MATH 2144 and PHYS 1114 or PHYS 2014
Description: Basic scientific principles of energy and the behavior of substances as related to engines and systems. Gas laws, vapors and engine cycles. Previously offered as MPT 3433.
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 4433 Heat Transfer
Prerequisites: MATH 2123 or MATH 2144 and PHYS 1114 or PHYS 2014.
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 5013 Research Methods
Prerequisites: Consent of instructor.
Description: Methods and skills required to successfully conduct engineering technology research projects. Maintaining research records, experiment design, data collection and analysis, data validation, result presentation and research ethics.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

GENT 5013 Research Methods
GENT 5023 Project Management
Prerequisites: Consent of instructor.
Description: Methods and skills needed to successfully improve your employability and advancement in today's dynamic workforce. Understanding of the responsibilities of project leader and become better prepared to apply these knowledge/skills to the project environment.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Engineering Technology

GENT 5033 Risk Analysis
Prerequisites: Consent of instructor.
Description: Identification of various risks and analytical treatment of those risks in various work settings, such as energy, mechanical and construction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
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