INDUSTRIAL ENGINEERING TECHNOLOGY

Program Description
The Industrial Engineering Technology program provides a bachelor's completion degree option with the skills and theoretical knowledge needed to advance graduates into engineering and management positions in their respective industries. Graduates from this program will be prepared to take on new roles such as: industrial engineer, manufacturing engineer, quality engineer, and process engineer.

Students learn how to apply engineering principles to the work environment, how to work collaboratively in a team environment, and how to use tools and data to anticipate and solve issues in the engineering process. Coursework includes study in manufacturing processes and industrial automation, work methods and design, quality and lean, management, and ethics and social responsibility.

Curriculum is project-based so that theoretical engineering principles are reinforced and experienced through hands-on creation and problem-solving. Arts & Sciences courses help students understand the core mathematical and scientific principles which are the foundation of engineering theory, and provide students with the communication and critical thinking skills required to succeed in the profession.

The program also incorporates a senior capstone project in its final semester that gives students the chance to demonstrate real-world industrial engineering experience.

Dunwoody College of Technology: a non-profit, private technical college since 1914.

Degree Requirements
Transfer credits from a robotics or manufacturing-based AAS degree; requires a transfer evaluation

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Common Job Titles
Manufacturing Engineer
Industrial Engineer
Quality Engineer

Recent Employers
Andersen Windows
Boston Scientific
Graco
MTS Systems Corporation
Pentair

Salary Data
$89,360*
Annual Average Salary

Placement Rate
100%**

How to Apply

dunwoody.edu
612.374.5800
info@dunwoody.edu

** Data reflects placement for AY2016-17 graduates indicating employment in their field of study within 6 months following graduation. Full data calculations are available for review during College open hours Monday through Friday 8 a.m. to 4 p.m. CT at Career Services or contact careerservices@dunwoody.edu.
AY2018-19 Revised: 6.20.18
Course Descriptions

IENG1120 Introduction to Engineering, 2 cr.
Explore major topics in Engineering. Provides students with a pathway to success in the program, including time management, industry software, study skills, internship availability and career opportunities.

IENG3115 Statistical Quality Control, 2 cr.
Apply statistical methods to study the quality of manufactured products, determining how to reduce the time required to produce the product and ensure the quality of the product. Topics include probability and statistics, control charts, acceptance criteria and sampling, and case studies.

IENG3145 Ethics & Social Responsibility for Engineering, 2 cr.
The theory and application of ethics and social responsibility as it applies to engineering practice. Topics include engineering ethics codes, cultural and diversity issues, environmental concerns, and intellectual property.

IENG3150 Manufacturing Processes with Lab, 3 cr.
Examine and apply various manufacturing processes and materials used in product development and manufacturing. Each process is covered from a technical perspective, with an emphasis placed on how multiple processes can be linked together. Several manufacturing processes, such as computer aided design, machining, welding, and electronics are used to design a product.

IENG3215 Project Management, 2 cr.
Examine the methods and tools used for effective management of engineering projects. Topics include the analytical methods used to budget, schedule, and control projects, as well as risk management, team leadership, and communication.

IENG3235 Quality Systems, 2 cr.
Investigate several quality concepts used to improve quality and customer satisfaction. Topics include principle concepts of quality management: customer, process, and workforce focuses; international standards; concurrent engineering; and performance for excellence, strategy, and knowledge management.

IENG3250 Lean Systems with Lab, 3 cr.
Investigate the history and evolution of lean systems and current day applications to manufacturing, service, and business. Apply fundamental lean philosophies and tools to manufacturing, service, and business. Understand the role of culture transformation and change management techniques in the application of lean tools.

IENG4111 Ergonomics & Work Measurement, 3 cr.
Introduction to ergonomics as applied to the human-machine interface, as well as the fundamental concepts behind work design, with emphasis on measuring work and analyzing work methods. Topics include methods engineering and analysis, time and motion studies, and workplace design considering physical and cognitive ergonomic principles.

IENG4115 Supply Chain Management, 2 cr.
Explain the fundamentals of supply chain management. Topics include the supply chain network, system integration, supply chain strategies, and challenges in managing the supply chain.

IENG4125 Production Planning & Control, 2 cr.
Utilize aspects of management to maximize productivity in a factory or service environment. Topics include sales & operations planning, inventory and capacity management, material requirements planning, and the theory of constraints.

IENG4135 Operations Management, 2 cr.
Explain the planning, organization, coordination, and control of the resources needed to produce a company's goods and services. Topics include strategy alignment, capacity planning, aggregate plans, and the importance of workplace safety.

IENG4145 Engineering Economic Analysis, 2 cr.
The concepts of finance and economics within the engineering environment. Analyze costs, risk, funding options, economic return on investment, and legal and environmental concerns.

IENG4210 Simulation Modeling & Analysis, 3 cr.
Utilize simulation to create, analyze, and evaluate realistic models of real-world environments. Topics include Monte Carlo simulation, queuing theory, selecting input distributions, animation in simulation, and evaluating simulation output.

IENG4250 Industrial Automation with Lab, 3 cr.
Investigate and apply several automated processes used in manufacturing, service, and business processes. Topics include automated work systems, safety, and design of systems.

IENG4295 Senior Capstone, 4 cr.
Demonstrate overall content knowledge of the program outcomes through a major project. Conduct a final presentation of the project and explain how it applies to the engineering program outcomes.

Math1700 Precalculus, 3 cr.
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.

Math1810 Calculus I, 3 cr.
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximaums, minimaums and allowable rates of change. Computer software will enable the application of limits, derivatives, transcendental functions, implicit differentiation and related rates.

WRIT4020 Capstone Technical Writing, 2 cr.
Research, plan, and organize professional documents for the capstone project. Topics include assessment techniques, special audience considerations, professional speaking skills, and presentation aids.

Math1820 Calculus II, 3 cr.
The fundamental tool used by engineers and scientists to determine critical measurements, such as calculating the area under curves or the capacities inside of complex geometries. Computer software will enable the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.

Phys1810 Calculus-Based Physics , 3 cr.
Introduction to mechanics using differential and integral calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics.