

Industrial Operations Management
at
Dalton State College

Introduction

Bachelors programs in the University System of Georgia are mandated to be 120 academic credits. The first 60 of these are reserved for General Education requirements giving students exposure to the fields of Science and Mathematics, Social Science, Humanities and Fine Arts, as well as essential skills such as writing. In addition, this part of the curriculum allows the student to take classes related to their field of study. For the Industrial Operations Management (IOMG) major these include core business classes, accounting, economics, as well as an introduction to business and computers.

The IOMG degree is a business degree and upper division work requires the student to complete 24 credits in the Business Core as well as specialized courses in Human Resources Management and Manufacturing Cost Analysis. The Business Core includes courses in the usual business disciplines, marketing, finance, etc., as well as providing instruction in business writing, applied calculus, and introductory statistics. The remaining 36 credit hours are used to provide the students with a thorough background in three key areas of Operations Management (Quality, Integrated Materials Management, and Information Technology) and introduce some of the most important methodologies from the field of Industrial Engineering.

Quality

Students of Industrial Operations Management are required to take four courses that provide prerequisite training, primarily statistics, through advanced quality control tools (Statistical Process Control), to managerial topics such as Total Quality Management and the ISO 9000 quality assurance standard. In addition to the required applied calculus course, training begins with MATH 2200, a statistics course that introduces students to the subject and takes them through simple linear regression.

More advanced statistics, primarily multiple regression, is a part of BUSA 3055 (Quantitative Methods) and this course prepares students for an advanced course in Statistics for Process Control (MATH 4502). Although the primary focus is statistical process control, students are introduced to experimental design. The final course in the area is Quality Management Systems (BUSA 4503) a “capstone” course that addresses Total Quality Management as well as the prominent quality assurance programs such as ISO 9000 and the Malcolm Baldrige National Quality Award.

Integrated Materials Management

This competency is built through another set of four courses, beginning with Principles of Operations Management (IOMG 3251) and concluding with IOMG 4255 (Manufacturing Planning and Control). In addition to more contemporary subjects such as Just-In-Time manufacturing and Integrated Materials Management, subjects in IOMG 4243, the students are expected to apply the methodologies, primarily math modeling and simulation (introduced in Quantitative Methods), to solve problems related to materials management.

Information Technology

Students have four upper division electives and are required to take at least three designed to meet their individual goals for using information technology. These courses are in addition to a required course, Introduction to Data Processing Systems (IOMG 3253), which exposes all IOMG candidates to key technologies, these include database theory, operating systems and computer networking, as well as programming in Visual BASIC. Students are free to take courses from the area of Management Information Systems, these include Systems Analysis and Design, Database Management Systems, Telecommunications Management, and Web-based MIS. Students are strongly encouraged to consider any or all of the three IOMG electives offered by the college. These are Computer Integrated Manufacturing (IOMG 3254), Introduction to Object Oriented Programming (IOMG 3257), and Advanced Application Development (IOMG 4257). Courses are intended to give students specialized training using programmable logic controllers and other automation techniques, programming in C++, and advanced Visual BASIC and database skills.