



# OPERATIONS MANAGEMENT/MANAGEMENT INFORMATION SYSTEMS

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**Faculty Emeriti:**  
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## PROGRAMS OFFERED

### Bachelor of Science in Business Administration

#### Concentrations:

- Management Information Systems
- Aviation Science

### Bachelor of Science – Fire Science Administration

#### Operations Management/Management Information Systems Department

The Operations Management/Management Information Systems Department instills in all business students an appreciation and awareness of the potential of quantitative techniques to the resolution of complex, large-scale business problems at all levels within an organization, and in particular, the role of the production function within an enterprise.

#### Aviation Science

This program is a joint venture between Salem State College and North Shore Community College and is administered by the OM/MIS Department. The first two years of the program including the flight training segment are completed at North Shore Community College. No students will be accepted into the concentration prior to completion of the flight training segment. Salem State College is a member of the University Aviation Association.

#### Junior year

MGT 231	Management Theory and Practice	3
MGT 241N	Principles of Marketing	3
Literature Sequence		6
ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
MAT 202	Algebra & Trigonometry	3
PHS 211	General Physics I	4
PHS 212	General Physics II	4
Free Elective		3
TOTAL		32

#### Senior year

BUS 252	Business Law I	3
FIN 322	Financial Management	3
MIS 490	Aviation Administration	3
Business Electives		6
BIO 101	Biological Science I	4
BIO 328	Aviation Physiology	3
MAT 247	Statistics I	3
GGR 342	Air Photo Interpretation	3
Free Elective		3
TOTAL		31

#### Fire Science Administration

The Bachelor of Science program is primarily an upper level program designed to attract students from the Massachusetts Community College System. It is also designed to meet the professional, educational needs and objectives of fire protection personnel. It meets or exceeds the standard, as established by the National Fire Protection Association, for Fire Officer I, II, III, IV, in NFPA 1031-1983. The focus of the lower level courses will be the acquisition of basic fire technology skills, while the upper level courses will primarily focus on the research and administration of fire protection as a component of the public delivery system.





Business Administration  
Salem State College  
Advisor: \_\_\_\_\_

Name: \_\_\_\_\_  
Date admitted into Major: \_\_\_\_\_  
Transfer credits: \_\_\_\_\_

**BACHELOR OF SCIENCE  
IN BUSINESS ADMINISTRATION  
AVIATION SCIENCE CONCENTRATION**

**CORE REQUIREMENTS**

**Competency-Based Skills**

- Basic College Math
- Reading Comprehension
- Computer Literacy

@	ENG	101	Composition I	3	_____
@	ENG	102	Composition II	3	_____
@	SPC	101	(Speech)	3	_____
@	SFL	194	Health and Wellness	3	_____

Physical Education Activities (1 cr. total)

@	SFL	_____	_____	_____	_____
@	SFL	_____	_____	_____	_____

**Distribution Sequences (18-20 credits)**

_____	_____	(Literature I)	3	_____	
_____	_____	(Literature II)	3	_____	
_____	_____	(Lab Science I)	3-4	_____	
_____	_____	(Lab Science II)	3-4	_____	
@	HIS	101	History of World Civilization I	3	_____
@	HIS	_____	(History II)	3	_____

**Distribution Electives (18 credits)**

Among the distribution electives, the student must earn at least 3 but no more than 9 additional semester hours in each of the three divisions.

**Humanities (Division I)**

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**Science/Mathematics (Division II)**

*	MAT	202N	Precalculus	3	_____
*	MAT	247	Statistics I	3	_____
*	GGR	350P	Meteorology	3	_____

**Social Sciences (Division III)**

*	PSY	101	General Psychology	3	_____
*	ECO	201	Prin. of Macroeconomics	3	_____
_____	_____	_____	_____	_____	_____

(Note: Courses allowable as distribution electives are marked 'D' in the College Catalog or indicated by appropriate footnotes.)

**COURSES IN MAJOR (18 credits)**

ACC	106	Financial Accounting	3	_____
MGT	231	Mgmt. Theory and Pract.	3	_____
MKT	241N	Principles of Marketing	3	_____
BUS	252	Business Law I	3	_____
FIN	322	Financial Management	3	_____
MIS	490	Aviation Administration	3	_____

**SUPPORT COURSES (16 credits)**

BTE	117	Microcomp. in the Prof.	3	_____
ECO	202	Prin. of Microeconomics	3	_____
BIO	328	Aviation Physiology	3	_____
GGR	342	Air Photo Interpretation	3	_____
BIO	122	Biological Science I	4	_____

**FLIGHT TRAINING (21 credits)**

_____	_____	Private Pilot Certification	7	_____
_____	_____	Comm. Pilot Certification	7	_____
_____	_____	Instrument Rating	7	_____

**BUSINESS ELECTIVES (6 credits)**

_____	_____	_____	3	_____
_____	_____	_____	3	_____

**\*\*FREE ELECTIVES (minimum: 14 credits)**

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

@ Requirements so marked should be completed within the first 53 credits of study (i.e., before Junior status). Exceptions will be made for transfer students.  
 \* These are **required** support courses which may also be used to satisfy the indicated Distribution requirements. A student may choose to fulfill Distribution requirements with courses other than the ones listed, but these listed courses must still be taken.  
 \*\* Most students completing this program enter under a transfer agreement with North Shore Community College. For such transfer students, the SFL Activities requirement is waived in accordance with College policy. For these students, 11 free elective credits are also included as transfer credits.  
 Note: If a course is used to satisfy two or more requirements (for example, a support course and a distribution elective), the credits are counted in only one place. Using a course to satisfy more than one requirement does **not** reduce the credit total required for graduation.



Business Administration
Salem State College
Advisor: \_\_\_\_\_

Name: \_\_\_\_\_
Date admitted into Major: \_\_\_\_\_
Transfer credits: \_\_\_\_\_

BACHELOR OF SCIENCE
IN BUSINESS ADMINISTRATION
MANAGEMENT INFORMATION SYSTEMS
CONCENTRATION

CORE REQUIREMENTS

Competency-Based Skills

- @ Basic College Math
@ Reading Comprehension
@ Computer Literacy

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes ENG 101, ENG 102, SPC 101, SFL 194.

Physical Education Activities (1 cr. total)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes SFL courses.

Distribution Sequences (18-20 credits)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes Literature, Lab Science, and History courses.

Distribution Electives (18 credits)

Among the distribution electives, the student must earn at least 3 but no more than 9 additional semester hours in each of the three divisions.

Humanities (Division I)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes PHL 203.

Science/Mathematics (Division II)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes MAT 108, MAT 208.

Social Sciences (Division III)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes PSY 101, SOC 201, ECO 201.

(Note: Courses allowable as distribution electives are marked 'D' in the College Catalog or indicated by appropriate footnotes.)

COURSES IN MAJOR (33 credits)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes BUS 170, ACC 106, ACC 202, MGT 231, MKT 241N, BUS 252, FIN 322, MIS 361, MIS 362, BUS 470, MIS 433.

SUPPORT COURSES (6 credits)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes ECO 202, BTE 117.

MANAGEMENT INFORMATION SYSTEMS
CONCENTRATION COURSES (21-23 credits)

Required

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes MIS 467, MIS 484, MIS 485, BUS 370, BUS 563.

Electives (any 2 courses)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Includes CSC 200, CSC 201J, CSC 202J, CSC 205, FIN 468, ECO 301, BUS 400, GGR 320, MIS 440, MIS 470, MIS 486, MIS 487.

\*\*\*FREE ELECTIVES or MINOR (minimum: 15 credits)

Table with 4 columns: Course code, Title, Credits, and a blank line for marking. Empty table for free electives or minor.

@ Requirements so marked should be completed within the first 53 credits of study (i.e., before Junior status). Exceptions will be made for transfer students.
\* These are required support courses which may also be used to satisfy the indicated Distribution requirements. A student may choose to fulfill Distribution requirements with courses other than the ones listed, but these listed courses must still be taken.
\*\* No more than 55 credits, including free electives and/or minor, may be taken in the School of Business.
Note: If a course is used to satisfy two or more requirements (for example, a support course and a distribution elective), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.



Business Administration
Salem State College
Advisor: \_\_\_\_\_

Name: \_\_\_\_\_
Date admitted into Major: \_\_\_\_\_
Transfer credits: \_\_\_\_\_

BACHELOR OF SCIENCE
FIRE SCIENCE ADMINISTRATION

CORE REQUIREMENTS

Competency-Based Skills

- @ Basic College Math
@ Reading Comprehension
@ Computer Literacy

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking. Includes ENG 101, ENG 102, SPC 101, SFL 194.

Physical Education Activities (1 cr. total)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking. Includes SFL courses.

Distribution Sequences (18-20 credits)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking. Includes Literature, Lab Science, and History courses.

Distribution Electives (18 credits)

Among the distribution electives, the student must earn at least 3 but no more than 9 additional semester hours in each of the three divisions.

Humanities (Division I)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking.

Science/Mathematics (Division II)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking.

Social Sciences (Division III)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking. Includes POL 315, SOC 201, ECO 200.

(Note: Courses allowable as distribution electives are marked 'D' in the College Catalog or indicated by appropriate footnotes.)

COURSES IN MAJOR (39 credits)

Freshman/Sophomore Transfer credits 21 \_\_\_\_\_

JUNIOR/SENIOR MAJOR REQUIREMENTS

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking. Includes FSC 300, FSC 350, FSC 520, MGT 330, MGT 403, MGT 442.

SUPPORT COURSES (15 credits)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking. Includes MGT 231, ECO 317, GGR 370, BTE 117.

FREE ELECTIVES (minimum: 21 credits)

Table with 4 columns: Course ID, Course Name, Credits, and a blank line for marking.

@ Requirements so marked should be completed within the first 53 credits of study (i.e., before Junior status). Exceptions will be made for transfer students.
\* These are required support courses which may also be used to satisfy the indicated Distribution requirements. A student may choose to fulfill Distribution requirements with courses other than the ones listed, but these listed courses must still be taken.
Note: If a course is used to satisfy two or more requirements (for example, a support course and a distribution elective), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.



COURSE DESCRIPTIONS

OPERATIONS MANAGEMENT/MANAGEMENT INFORMATION SYSTEMS

Fire Science Administration

FSC 300 Fire Science Administration 3 credits

This course is designed to introduce the student to modern management concepts and their relevance to the fire service. It will explore the skills and techniques used by competent management in business, government, and voluntary organizations, with emphasis on their linking to fire service. Decision-making, communications, motivation, leadership, stress and time management, among other management principles will be studied in depth. Three lecture hours per week. FSC Major requirement.

FSC 350 Advanced Arson Detection and Prevention 3 credits

This course studies the problems and techniques of fire investigation, the chemistry of fire, and combustion properties of selected fuels. Emphasis on modern investigative methods and on the application and assistance of various scientific aids available to the fire investigator. Arson prevention programs, their success and/or failure will be discussed. Three lecture hours per week. FSC major requirement.

FSC 520 Internship in Fire Science 3 credits

The internship affords students the opportunity to translate theory into practice, to apply and gain knowledge, and to experience directly the operations and functions of a Fire Service agency. This fieldwork may assist students in clarifying their career goals and exploring future employment opportunities. Interns must be available for eight to ten hours per week for fieldwork and regular meetings with the Coordinator of Fire Science. Open only for FSC majors.

Prerequisites: FSC 300 and FSC 350. OM/MIS Department Chairperson.

Management Information Systems

MIS 361 Quantitative Methods for Managerial Decisions I 3 credits

A computer-oriented study of the collection, tabulation, analysis and interpretation of data for management decisions. The key role of sampling is emphasized in estimates of population measures based on sample data. A major complementing feature is the participation of students, in-groups, engaging in 'hands-on' projects utilizing the techniques learned in class. Three lecture hours per week. Required of and limited to Business Administration Juniors, except Aviation Science concentration.

Prerequisites: MAT 108, MAT 208.

MIS 362 Quantitative Methods for Managerial Decisions II 3 credits

This course, a continuation of MIS 361, is a computer-oriented examination of advanced quantitative techniques as applied to management decisions, including analysis of variance, chi square analysis, regression and correlation analysis, time series and index number construction. As in MIS 361, a major feature is the group project where students apply techniques learned in class to real world situations. Three lecture hours per week. Required of and limited to Business Administration Juniors, except Aviation Science concentration.

Prerequisite: MIS 361.

MIS 433 Production and Operations Management 3 credits

Management of production and service operations. Design of products, scheduling, dispatching, simplification methods, maintenance, quality and cost control, selection of plant and equipment, and plant layout. Three lecture hours per week. Required of and limited to Business Administration Seniors, except Aviation Science concentration.

Prerequisites: ACC 106, MIS 362.

MIS 440 Principles of Quality Management (Spring) 3 credits

An introduction to the theory and practice of quality management, history, terminology, and techniques. The course will integrate the philosophy, techniques, and research in the field. It will consider aspects of quality management in the design, development, manufacture, purchasing, distribution, marketing, servicing, and other operational support functions, both internal and external to the firm. Key principles of quality management to include leadership, strategic planning, human resources, process management, and customer satisfaction will be examined through lectures, case study approach, and industry site visits. Three lecture hours per week.

Prerequisites: MIS 362, MGT 231.

MIS 467 Applied Forecasting Methods: A Computer Approach 3 credits

An examination of short- and long-term forecasting methods, and their application in planning, decision-making and control. The application is directly related to the subject areas of Budgeting, Production, Sales Management, Marketing, Finance, Accounting, Procurement and Industrial Relations. Emphasis will be placed on problem solving, class discussion, and computer application. A forecasting project through computer experience is required for this course. Three lecture hours per week. Required of Business Administration Seniors, MIS concentration.

Prerequisites: MIS 362, MAT 108, MAT 208.

MIS 470 Global Operations Management (Fall) 3 credits

An examination of operations management and its application to human, capital, material, equipment, information, and technology resources planning, allocation, and utilization in the context of diverse social, cultural and economic environments influencing the globalization of marketplace, organization, systems integration, and strategic planning. Three hours per week.

Prerequisite: MIS 433.

MIS 484N Management Information Systems I (Fall) 3 credits

Systematic insight into the problem of identifying an organization's recurring information requirements, which facilitate the decision-making process. Particular emphasis will be given to the analysis of problem situations and the designs of attendant information systems necessary to meet these problems. No extensive computer experience is necessary. Three lecture hours per week. Required of Business Administration majors, MIS concentration, and open to others by permission of the Department Chairperson.

Prerequisites: MIS 362, MAT 108, MAT 208.


**MIS 485 Advanced Quantitative Models (Fall) 3 credits**

The application of advanced models and algorithms to the financial, marketing, management, and accounting problems of the firm. Topics include integer and dynamic programming, marginal analysis, queuing theory, game theory, minimal spanning tree problems, Markov processes, and calculus-based solution procedures. Three lecture hours per week. Required of Business Administration majors, MIS concentration, and open to others by permission of the Department Chairperson.

Prerequisite: MIS 362, MIS 467.

**MIS 486 Management Information Systems II (Spring) 3 credits**

This is an advanced level course which will extend the student's knowledge acquired earlier in management information systems design, planning, organization, analysis, implementation, and maintenance. Three lecture hours per week.

Prerequisites: MIS 484 and MIS 485.

**MIS 487 Advanced Quantitative Models II (Spring) 3 credits**

The continued application of advanced models and algorithms to the financial, marketing, management, and accounting problems of the firm. Topics include simplex and goal linear programming, survey information, utility theory, stochastic inventory control models, MRP, network models, and transportation and assignment algorithms. Three lecture hours per week. Elective limited to MIS concentration Seniors and others with permission of Department Chairperson.

Prerequisite: MIS 485.

**MIS 490 Aviation Administration 3 credits**

Aviation Administration pulls together the diverse skills learned in Management Theory & Practice, Principles of Marketing, and Financial Management and applies them to specific general aviation and commercial aviation situations. The course makes use of cases, outside projects and aviation oriented guests to add realism and perspective to basic business precepts. Current problem areas joining both general aviation and commercial aviation are addressed. A student who has received credits for MGT 490 may not also receive credits for MIS 490.

Prerequisites: MGT 231, MKT 241N, FIN 322.

