



University of Maryland University College

**Baccalaureate Degree Program in Fire Science
Department of Business and Professional Programs**

PROGRAM ASSESSMENT PLAN
Program Outcomes and Learning Assessment Criteria

Summer 2007

Baccalaureate Degree Program in Fire Science

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PROGRAM OVERVIEW

The Fire Science program is designed for fire science professionals seeking state-of-the-art knowledge to support advancement to chief executive management and senior leadership positions. The program also serves professionals in related fields such as public safety, law enforcement, government, health services, insurance, and private-industry emergency response, as well as in military fire departments in the United States and abroad. Developed in conjunction with the National Fire Academy of the Federal Emergency Management Agency, the curriculum provides an understanding of safe and successful fire incident command, the interagency coordination necessary for fire prevention, and arson investigation. Coursework includes analytical approaches to fire protection and investigation, personnel management, disaster planning, hazardous materials management, fire protection structures and systems, role of the fire service within the community and political structure, and the phenomena of fire propagation. The online delivery of the curriculum is especially supportive of the professionals in the fire service discipline with different and changing work schedules and environments. Successful students may utilize experience and knowledge gained through the course of study to advance to graduate programs in fire science, emergency services management, homeland security, and leadership, as well as to fulfill discipline-specific certification requirements for the International Fire Service Congress, National Board on Fire Service Professional Qualifications, Commission on Chief Fire Officer Designation, and similar certifications.

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PROGRAM OF STUDY

The program of study for the Baccalaureate Degree Program in Fire Science is as follows:

GENERAL EDUCATION REQUIREMENTS

Communications	12 credit hours
Arts and Humanities	6 credit hours
Behavioral and Social Sciences	6 credit hours
Biological and Physical Sciences	7 credit hours
Mathematics	3 credit hours
Interdisciplinary or Emerging Issues	7 credit hours

CROSS-CURRICULAR PERSPECTIVE REQUIREMENTS

Historical Perspective	3 credit hours
International Perspective	3 credit hours
Civic Responsibility Perspective	3 credit hours

REQUIRED COURSES

FSCN 302	Advanced Fire Administration	3 credit hours
FSCN 304	Fire-Personnel Management	3 credit hours
FSCN 305	Fire-Prevention Organization and Management	3 credit hours
FSCN 403	Managerial Issues in Hazardous Materials	3 credit hours
FSCN 412	Political and Legal Foundations of Fire Protection	3 credit hours
	Supplemental major courses	15 credit hours

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PROGRAM OF STUDY (continued)

MINOR AND ELECTIVE COURSES

43 credit hours

Minor and/or elective courses are to be taken in the last 60 hours along with required major courses. Refer to the current UMUC School of Undergraduate Studies Catalog for the minor and/or elective course requirements.

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DEVELOPMENT OF PROGRAM OUTCOMES

The table below identifies the curricular influences that support the program outcomes specific to the Baccalaureate Degree Program in Fire Science.

SOURCES/RESOURCES PROVIDING CURRICULAR FOUNDATION FOR PROGRAM OUTCOMES		
Baccalaureate Degree Program in Fire Science		
SOURCE	DESCRIPTION	WEB ADDRESS OR DOCUMENT NAME (if applicable)
Core Learning Areas of the UMUC School of Undergraduate Studies	<p>All UMUC degree programs are required to imbed identified Core Learning Areas into the program of study. The Core Learning Areas are:</p> <ul style="list-style-type: none"> • Written Communication (COMM) • Technology Fluency (TECH) • Information Literacy (INFO) • Quantitative Literacy (QUAN) • Critical Thinking (THIN) • Scientific Literacy (SCIE) <p>The expanded definition for each Core Learning Area was considered in creating the respective program outcome.</p>	UMUC <u>Institutional Plan for the Assessment of Student Learning</u>
Federal Emergency Management Agency (FEMA)/National Fire Academy (NFA)	FEMA/NFA provides guidelines for the fire service Degree at a Distance Program.	http://www.usfa.dhs.gov/training/nfa/higher_ed/degree_programs/distance/ http://www.usfa.dhs.gov/training/nfa/higher_ed/model/
National Fire Protection Association (AFPA)	AFPA provides national guidelines for administrative and managerial knowledge and skill levels.	http://www.theproboard.org/
UMUC Academic Program Review – Fire Science	2005 Academic Program Review including Recommendations Section.	UMUC Academic Program Review – Fire Science

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PROGRAM OUTCOMES

The program outcomes specific to the Baccalaureate Degree Program in Fire Science are delineated below. The program outcomes describe the expectations for all graduates of the Baccalaureate Degree Program in Fire Science.

CORE LEARNING AREA	PROGRAM OUTCOMES Baccalaureate Degree Program in Fire Science
	Upon completion of the Baccalaureate Degree Program in Fire Science, graduates will be able to:
COMM	Create written communication appropriate for the purpose and which meets standards of style and grammatical correctness.+
	Develop effective written communications consistent with the fire service and related professional environment.*
TECH	Evaluate technological concepts related to computers and components of information systems.+
	Apply information management concepts to fire protection administration*
INFO	Address recognized research needs by retrieving, evaluating, and using information appropriately.+
	Conduct research using library resources, information technology, analytical tools, and the scientific method to predict and control fire problems and advance the body of knowledge in fire service.*
QUAN	Apply mathematical and numerical reasoning skills.+
	Apply quantitative skills to describe and predict the utilization of resources to meet organizational goals.*
THIN	Analyze the legal and political implications and aspects of the fire department's role in public safety.*
SCIE	Identify key concepts and principles of natural sciences.+
	Develop a comprehensive hazardous materials management program, from planning to post-incident analysis.*

+ Denotes a program outcome specific to core skills, knowledge, and values gained from completion of the general education requirements. This program outcome is common across all UMUC baccalaureate degree programs.

* Denotes a program outcome specific to core skills, knowledge, and values gained from completion of requirements in the baccalaureate degree program. This program outcome is unique to each UMUC baccalaureate degree program.

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ALIGNMENT OF PROGRAM OUTCOMES WITH LEARNING OBJECTIVES AND ASSESSMENT METHODS

The following grid aligns the program outcomes of the Baccalaureate Degree Program in Fire Science with: 1) learning objectives from the designated program coursework and 2) specific methods used to assess student learning within the degree program.

CURRICULAR ALIGNMENT Baccalaureate Degree Program in Fire Science			
CORE LEARNING AREA	PROGRAM OUTCOMES	LEARNING OBJECTIVE(S) AND CORRELATING COURSEWORK	METHOD(S) OF ASSESSMENT
COMM	Create written communication appropriate for the purpose and which meets standards of style and grammatical correctness.+	Plan and write a research-based essay that makes effective use of resources found in databases available from UMUC's Office of Information and Library Services as well as resources located through Web search engines. (WRTG 101)	Research Paper
		Research, compile, and document relevant, credible information and use it to support ideas presented in your writing. (WRTG 393)	Research Paper
		Collect, select, analyze, interpret, and organize data, and use it appropriately in business communications, including a long formal report. (WRTG 394)	Research Paper
		Conduct a systematic audience analysis and apply it to a report, essay, or research paper. (WRTG 391)	Research Paper
	Develop effective written communications consistent with the fire service and related professional environment.*	Describe various ways of analyzing and presenting data for use in community fire protection master planning. (FSCN 302)	Research Paper

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CURRICULAR ALIGNMENT			
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CORE LEARNING AREA	PROGRAM OUTCOMES	LEARNING OBJECTIVE(S) AND CORRELATING COURSEWORK	METHOD(S) OF ASSESSMENT
TECH	Evaluate technological concepts related to computers and components of information systems.+	Analyze issues faced by information system professionals, including security, ethical, and privacy problems. (IFSM 201)	Exam (Course/Chapter)
	Apply information management concepts to fire protection administration*	List the steps of a Computer-Aided Dispatch System (CAD); identify the steps involved to install a computerized system in a public fire department. (FSCN 302)	Exam (Course/Chapter)
INFO	Address recognized research needs by retrieving, evaluating, and using information appropriately.+	Select relevant print and electronic sources to answer research questions. (LIBS 150)	Exam (Course/Chapter)
	Conduct research using library resources, information technology, analytical tools, and the scientific method to predict and control fire problems and advance the body of knowledge in fire service.*	Describe the types of fire prevention research being conducted; and identify organizations conducting fire prevention research. (FSCN 305)	Research Paper
QUAN	Apply mathematical and numerical reasoning skills.+	Solve linear, quadratic, higher-order polynomial, fractional, radical, exponential, logarithmic, and absolute value equations and inequalities. (MATH 107)	Exam (Course/Chapter)
		Develop problem solving skills. (MATH 105 or MATH 106)	Exam (Course/Chapter)
	Apply quantitative skills to describe and predict the utilization of resources to meet organizational goals.*	Demonstrate quantitative methods to determine funding priorities within organizational objectives. (FSCN 302)	Research Paper
THIN	Analyze the legal and political implications and aspects of the fire department's role in public safety.*	Explain the importance of the due process clause of the Fourteenth Amendment to the fire service. (FSCN 412)	Essay/Writing Task

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CURRICULAR ALIGNMENT			
Baccalaureate Degree Program in Fire Science			
CORE LEARNING AREA	PROGRAM OUTCOMES	LEARNING OBJECTIVE(S) AND CORRELATING COURSEWORK	METHOD(S) OF ASSESSMENT
SCIE	Identify key concepts and principles of natural sciences.+	Recognize the differences and the interrelationships among physics, chemistry, the earth sciences, and astronomy. (NSCI 100)	Exam (Course/Chapter)
		Explain the significance of DNA in determining the composition, characteristics, reproduction, and behavior of an organism. (BIOL 101)	Exam (Course/Chapter)
	Develop a comprehensive hazardous materials management program, from planning to post-incident analysis.*	Describe multi-agency contingency planning and state its importance in managing a hazardous materials incident; list the components of on-scene medical and environmental monitoring. (FSCN 403)	Exam (Course/Chapter)

+ Denotes a program outcome specific to core skills, knowledge, and values gained from completion of the general education requirements. This program outcome is common across all UMUC baccalaureate degree programs.

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