

# FES 3780: Analytical Approaches to Public Fire Protection

## Course Syllabus

### General Information

**Credit Hours:** 3

**Course Format:** Web-based Distance Learning.

**Instructor:** Dr. Bruce J. Moeller

**Bruce J. Moeller, PhD.** has a diverse public sector background spanning over 30 years, most recently serving as Chief of Staff and Assistant County Administrator in Pinellas County, Florida. Previously Moeller served as fire chief and then city manager for Sunrise, Florida. He also served as Director and Chief of Department for Broward County, Florida. Moeller initially began his public safety career in law enforcement after graduating from the Chicago Police Academy. He subsequently joined the fire service and was promoted through various line and chief officer roles. Chief Moeller has been a certified paramedic for over 20 years and has commanded various incidents of significance including Hurricane Andrew (1991), Value Jet #592 crash in the Florida Everglades (1996), South Florida Anthrax Panic (2001) and Hurricane Wilma (2006). Chief Moeller is a sought-after speaker at national conferences on topics including leading organizational change and effective public policy making. Moeller is active in a variety of national associations and serves on numerous boards and committees.

Dr. Moeller has a Bachelor's from Western Illinois University, Master's in Public Administration from Northern Illinois University and received his Doctor of Philosophy from Florida Atlantic University. He has taught undergraduate and graduate courses in public administration, management, labor relations, and organizational theory for several institutions and is currently affiliated with the University of Florida. Dr. Moeller is an author in public administration and fire rescue fields, and has contributed to *Disaster Management Handbook* published in 2008 by Taylor & Francis and ICMA's *Managing Fire Rescue Services* (2012).

**Office Hours:** As an on-line course, there are no regular 'office' hours. You can email me at any time through Canvas.

**Course Website:** <http://elearning.ufl.edu/>

**Course Communications:** Send me an email through the course email. Urgent messages can be sent to [bmoeller@ufl.edu](mailto:bmoeller@ufl.edu). I will strive to respond within 24 hours during the workweek and 48 hours on weekends.

### **Required Texts:**

- Center for Public Safety Excellence (2016). Community Risk Assessment: Standards of Cover, 6<sup>th</sup> Ed., Chantilly, VA. Available for purchase from the CPSE website. [\[click here\]](#)

- Fire Data Analysis Handbook, 2nd ed., (2004) U.S. Fire Administration. Download from the USFA Website. [\[HERE\]](#)
- Scottsdale, AZ - Standards of Cover and Deployment Plan. Available at <https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/Fire/SOC15.pdf>
- Huntington Beach, CA – Standards of Cover & Evaluation of Fire, Rescue, and EMS Delivery. Available at [http://www.huntingtonbeachca.gov/files/users/city\\_clerk/04-17-2017SC.pdf](http://www.huntingtonbeachca.gov/files/users/city_clerk/04-17-2017SC.pdf)
- Chico, CA – Community Risk Assessment and Standards of Response Coverage Study. Available at <http://www.chico.ca.us/fire/documents/ChicoDRAFTSOCDec2016Final.pdf>
- National Fire Protection Association. (2016). NFPA 1221: Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2016 Edition. Author, Batterymarch Park, MA. View for free, or purchase document, at nfpa.org. [\[HERE\]](#)
- National Fire Protection Association. (2016). NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2016 Edition. View for free, or purchase document, at nfpa.org. [\[HERE\]](#)
- Insurance Services Office (nd). Fire Suppression Rating Schedule. Uploaded and available under the “Files” section of our course website.

**Course Description:** This course examines the tools and techniques of rational decision making in fire and emergency services agencies, including data collection, statistics, probability, decision analysis, utility modeling, resource allocation, and cost-benefit analysis.

**Purpose of Course:** This course covers techniques & methods for making objective evaluations of fire protection and emergency medical services (EMS) in the community.

**Course Goals and/or Objectives:** By the end of this course, students will:

1. Discuss the uses of analytical approaches to rational decision making.
2. Differentiate techniques of analysis.
3. Select appropriate analytic tools to support critical thinking.
4. Discuss how the use of databases; histograms; inferential statistics and probabilities; and GIS are used in fire/EMS station location planning.
5. Apply a cost-benefit analysis process to justify essential budgetary needs.

Each of the above five goals represent one of five (5) Modules which make up this course. Each Module is approximately 3 weeks in length. However, there are quizzes, discussions or essays/assignments which are due each week of the semester. To do well, you must keep up with the course workload.

**How This Course Relates to the Student Learning Outcomes in the Fire & Emergency Services**

**program:** Identify and evaluate organizational problems associated with fire and emergency services. Illustrate knowledge and legal application of safety, health and environmental regulations at state and federal levels. Demonstrate strong verbal and written communication skills for leadership in fire and emergency services.

**Teaching Philosophy:** I am looking for students to demonstrate a working knowledge of the subject. You need to be creative when you complete your assignments but maintain a professional appearance of your work. Your work needs to be complete and in such a manner that someone can pick up your document and

understand what you are trying to convey. And most of all your work needs to be supported with research and cited in properly in APA format.

**Instructional Methods:** The course is designed for individual and group interactivity. We will use mixed methods in presentation of materials. This includes brief video lectures, readings, and peer discussions. It is important to contribute and complete any assigned work each week. This enhances a learning environment by networking with other students in the course. The assignments are individual based and intended to give you an opportunity to do perform a variety of activities similar to what you will be doing in role as a leader in the emergency services profession.

For this course, you need to select a fire-rescue agency to utilize through the semester. Do this immediately, as you will be looking for information and/or data from that agency for certain assignments. If you do not currently work with a fire-rescue department, check with your local community's agency. If you encounter a problem, please let the instructor know immediately.

## **Course Policies**

**Online Attendance & Participation:** The course is designed in module format. You should check the site several times a week. You are required to complete quizzes, discussion questions, and assignments within the time period designated on the module. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog [HERE](#).

**Quizzes:** There will be quizzes within each module.

**Online Discussions:** There are an online discussion required for each Module – and each has a due date. REMEMBER, the expectation is that you make an initial post within the first half of the three-week Module. You must review the [Online Discussion Rubric](#) from the 'Files' section of the course homepage.

**Written Assignments:** There are written essays or assignments required for each Module – and each has a due date. You must review the [Written Assignment Rubric](#) and [FES Style Guide](#) from the 'Files' section of the course homepage.

**Final Paper/Project:** There is a final paper/project for this course. You must review the [Final Paper-Project Rubric](#) and [FES Style Guide](#) from the 'Files' section of the course homepage.

### **Late Assignments and Discussion Posts**

- Assignments 48 hours late will receive a 10% deduction in their grade.
- Assignments more than 48 hours but less than 30 days late will receive a 20% deduction in their grade.
- Assignments more than 30 days late but submitted during the semester will receive a 50% deduction in their grade.
- Discussions up to 48 hours late will receive a 25% deduction in their grade.
- Discussions more than 48 hours later will receive a 50% deduction in their grade.

Please note that any student having less than 75% of their work complete for the semester cannot earn an "I" contract. If you have 75% of the work complete, you can propose an "I" contract to the instructor.

It is your responsibility to keep your instructor informed at all times. The instructor does have the right under extenuating circumstances with proper notification to assist the student by extending the above time requirements.

## **UF Policies**

**University Policy on Accommodating Students with Disabilities:** Students requesting accommodation for disabilities must first register with the Dean of Students Office ([HERE](#)). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**UF's Honesty Policy:** UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code." On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code ([HERE](#)) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of in this class.

**University Policy on Academic Misconduct:** Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code ([HERE](#)).

**Netiquette: Communication Courtesy:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats: all college level communication should have correct spelling and grammar • avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you" • avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING • avoid the use of emoticons • be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or offensive • be careful with personal information. See the University's Netiquette Guide for Online Courses [HERE](#).

## **Getting Help**

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

- Email: [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- Phone: (352) 392-HELP - select option 2
- Website: <https://lss.at.ufl.edu/help.shtml>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the

problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available [HERE](#) for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

Should you have any complaints with your experience in this course please visit [HERE](#) to submit a complaint.

## Course Schedule

	Introduction – online post Read Syllabus and review course content Assign Final Project
Week 1	Module One – Community Characteristics & Risk Assessment
	Assign Discussion and Assignment
Week 2	Community Characteristics & Risk Assessment
Week 3	Community Characteristics & Risk Assessment <b>Module One Discussion and Assignment due</b>
	Module Two – Current Deployment & Performance
Week 4	Assign Module Two – Discussion and Assignment
Week 5	Current Deployment & Performance
Week 6	Current Deployment & Performance <b>Module Two discussion and assignment due</b>
Week 7	Module 3 – Mathematical Modeling and GIS Assign Module Three discussion and assignment
Week 8	Mathematical Modeling and GIS <b>SPRING BREAK</b>
Week 9	Mathematical Modeling and GIS <b>Module Three discussion and assignment due</b>
Week 10	Module Four – Probability Assign Module Four discussion and assignment
Week 11	Probability
Week 12	Probability <b>Module Four discussion and assignment due</b>
Week 13	Module Five – Resource Allocation and cost-benefit analysis Assign Module Five discussion and assignment
Week 14	Resource Allocation and cost-benefit analysis

**Grading Policies**

The grade is based on a point system. You divide the total number of earned points into the total amount of points available to determine your grade. A grading rubric for the final project is under the Files Tab on the course.

Assignment	Points or percentage
Quizzes - 10 worth 10 points each	100 points
Grading Discussion Participation – 5 worth 30 points each	150 points
Essay Assignments – 4 worth 50 points each	200 points
Final Project - comprehensive and applied	100 points
<b>Total Grade</b>	<b>550 points</b>

**Grading Scale:**

A = 93.0 to 100%    C = 73.0 to 76.9  
 A- = 90.0 to 92.9    C- = 70.0 to 72.9  
 B+ = 87.0 to 89.9    D+ = 67.0 to 69.9  
 B = 83.0 to 86.9    D = 63.0 to 66.9  
 B- = 80.0 to 82.9    D- = 60.0 to 62.9  
 C+ = 77.0 to 79.9    F = below 60

Passing Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	.67

**Evaluation process**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Should you have any complaints with your experience in this course please visit <http://www.distance.ufl.edu/student-complaints> (Links to an external site.) to submit a complaint.