# Developing Competency-Based Emergency Management Degree Programs in Public Affairs and Administration

Naim Kapucu
*University of Central Florida*

**ABSTRACT**

Over the last decade, the world has experienced catastrophic disasters both natural and human-made. In 2001, terrorist attacks occurred on September 11th. Between 2004 and 2005, there were both the devastation of the tsunami in Sri Lanka and Hurricane Katrina in New Orleans. Perhaps not coincidentally, emergency management programs and course offerings have also increased significantly during the last several years. The nature of jobs of emergency managers have also become more complex with a strong orientation toward collaboration and networking. The core competencies required to effectively carry out their jobs are manifold and multifaceted. This article shares the experiences of developing an emergency management program within a public administration program that is based on core competencies identified in the emergency management literature.

---

The goal of the article is to document the experiences of designing and developing an academic emergency management program within a public administration program. In addition, the article addresses the supporting goal of identifying specific core competencies for emergency managers derived from an extensive literature review as the foundation of the academic program design and development process.

The Emergency Management field and the scope of its functions have significantly evolved and changed since the beginning of the 20th century (Bullock et al., 2006; Kapucu & Van Wart, 2006; Perry & Lindell, 2007; Rubin, 2007) and demand different competencies and skills for emergency managers today. Over the years, the effectiveness of emergency management tools, techniques, and strategies has waned, and to address this issue more up-to-date emergency management skills are required (Waugh & Tierney, 2007). Some of the obvious reasons for these changes are the overall increased scope and diverse nature of the disasters; heightened expectations and demands by societies and communities to serve them during catastrophic events; advancements and innovations in technology

demanding more sophistication; and the impact of globalization demanding networking with different societies across the world. Although this range can be extended, the basic factors mentioned earlier have contributed significantly to raise the performance standards of emergency management systems to ensure the effective response to natural or human-made disasters (Kapucu & Van Wart, 2006). This article sets out to highlight and address the core competencies of emergency managers that need to be developed and are required to tackle complex and dynamic environments of disasters.

Themes and issues pertaining to emergency management and homeland security have gained significant attention in the field of public administration over the last three decades. A major impact is that significant research has been published on emergency management and homeland security issues in mainstream public administration journals (Caruson & MacManus, 2008; Kapucu, 2006; Kapucu & Van Wart, 2006; McGuire & Silvia, 2010). In fact, the journal *Public Administration Review* (*PAR*) has devoted three issues to emergency and disaster management (in 1985 and 2002 on the implications of September 11 terrorist attacks; in 2007 on administrative failure in the wake of Hurricane Katrina). The most recent research has primarily focused on the 9/11 attacks and government response pertaining to this national tragedy, on the creation of the Department of Homeland Security (DHS), and on the poor response to Hurricane Katrina.

*Figure 1.*
Emergency Management College Programs by Year
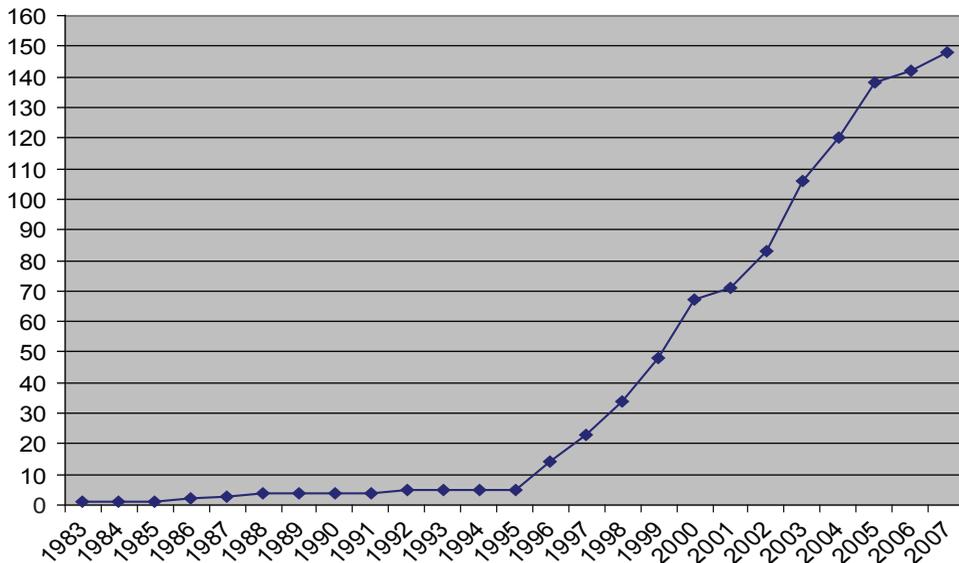


*Source.* FEMA EMI (2009).

Apart from acclaimed scholarly research, several academic programs (master's, certificates, minors, and concentrations) have been developed in schools or departments of public affairs and administration (see Figure 1).

According to FEMA EMI (2009), there are 173 college emergency management programs: 59 certificates, minors, diplomas, tracks, and foci; 39 associate degrees; 26 bachelor degrees; 42 masters-level programs; and 7 doctoral-level programs. Also, 32 emergency management programs are under investigation or development. This article shares our experiences in developing emergency management and homeland security programs within the Department of Public Administration at the University of Central Florida (UCF) to meet the demand of developing and acquiring core competencies that emergency managers will need to serve successfully in their jobs.

Emergency and Crisis Management Context

Emergency and crisis incidents are characterized by several factors that may hinder or prevent effective response for managing vexing problems faced in such a situation. First, during crisis emergency managers face circumstances that create uncertainty in roles and responsibilities, contextual knowledge, or situational awareness. Second, emergency managers are hard-pressed for time and are required to respond and react quickly due to the severity and importance of the emergency situation. The devastating consequences of disasters and crises such as casualties, damage to people and property, and so forth make it imperative to prepare for, respond to, and recover from disasters in the most effective and timely manner. Finally, emergency situations require fast and frugal decision making by emergency managers (Gigerenzer & Todd, 1999), which means that critical decisions are made under time pressure and uncertainty. In other words, "in crisis circumstances, the disparities between supply and demand of public resources are much bigger, the situation remains unclear and volatile, and the time to think, consult, and gain acceptance for decisions is highly restricted" (Boin, t'Hart, Stern, & Sundelius, 2005, p. 11). In addition to the traditional characteristics of disasters pertaining usually to natural calamities, it is likewise important for emergency management leaders and organizations to understand that because of the scope and severity of emergency situations experienced today involving added grave human-made threats, the rules of the game have changed. The four phases of emergency management (mitigation, preparedness, response, and recovery) are now a matter of multi-actor involvement and collaborative efforts (Comfort, 1999; Kapucu, 2009a; Kapucu, 2009b; Waugh & Streib, 2006). The emergency situations faced by respective and responsible agencies are to be addressed—and indeed, are only addressed, by nonhierarchical and collaborative structures (Klijn & Koppenjan, 2007).

Today, collaboration and networking in managing emergencies is a theme present in all government and nongovernment entities. The National Response

Plan (NRP, December 2004; the NRP was replaced by the National Response Framework [NRF] in January 2008) established a comprehensive, all-hazards approach to enhance the ability to manage domestic incidents. This plan strongly emphasized the coordination and integration of capabilities at all levels of government, private organizations, nonprofit organizations, and individual citizens. NRP acknowledged the important role of local governments because it called for handling all incidents at the lowest possible organizational and jurisdictional level. To support this area, a variety of coordination mechanisms are needed that link local responses to federal capabilities for intelligence gathering and incidence response. For example, Joint Field Offices (JFO) are temporary, federal facilities that are established locally to provide a central point for federal, state, local, and tribal representatives with responsibility for incident support and coordination. The NRP focused on several key concepts, all of which require sound attention to management: threat assessment strategies, incident reporting, vertical and horizontal communication and information sharing, training and exercising, mitigation strategies, organizing and planning to mobilize resources at different levels, response and recovery activities, and safety of personnel and the population.

Components of the NRF, which replaced the NRP, include assessment strategies, incident reporting, vertical and horizontal communication and information sharing, training and simulation, mitigation strategies, organization and planning to mobilize resources at different levels, response and recovery activities, and securing the safety of personnel and the population. NRF, similar to NRP, establishes a comprehensive, all-hazards approach to enhance the ability to manage disasters domestically. It emphasizes the engagement of all levels of government, private organizations, nonprofit organizations, and individual citizens in response to human-made and natural disasters.

Many reports, including those prepared by the National Academy of Public Administration (e.g., National Agenda for the Support of Intergovernmental Research 2006, and Advancing the Management of Homeland Security 2004), discuss management challenges, performance of response operations, and intergovernmental relations. Two frequently mentioned problems are interoperability and performance management. Problems in interoperability concern the need to create common languages, develop interoperable technical infrastructure, clarify expected outcomes, and lead by example. Performance measurement is an approach to defining outcomes and measuring progress toward achieving outcomes. Several reports discuss the need to establish national standards. Regardless of whether these standards exist or whether local entities formulate their own, performance is an essential management tool to guarantee objectives are being met. Beyond this, public administration can be of use through surveys and inventories of needs and capabilities that may exist. Thus, national-level plans exhibit and emphasize some important performance standards, capabilities, skills, and competencies that are required for managing emergencies in a collaborative setting.

Emergency Management Core Competencies

Before listing the core competencies needed in the emergency management field, it is imperative to understand the level and scope of analysis as well as the theoretical issues surrounding this task. Barbera et al. (2005) describe competency as a "specific capability required for effective performance, within the context of a job's responsibilities, which achieves the objectives of the organization" (p. 3). While this definition touches upon the term *specific capability*, it primarily addresses the basic knowledge, skills, and capabilities required to perform standard operations in a relatively reactive way. The proactive tenet is missing from the picture and is required to distinguish an eminent organization from its less effective counterparts (Perry & Lindell, 2007; Sylves, 2008; Waugh, 2000).

This issue is particularly important and critical when considering such a volatile and sensitive field as emergency management. Dealing with the protection of life and property is a fairly complex and sensitive process compared to other public-related issues, since every action should be taken at the right time, with thorough situational analysis, and with more responsibility and concern. Quite naturally and inevitably, such an approach requires emergency managers to acquire and build certain competencies that would not only enable but also empower them (Willett, 2008) to perform their job in a more effective, efficient, and proactive way. Based on the review of relevant literature, four levels of analysis were identified to establish a theoretical framework for core emergency management competencies: depth, scope, nature, and type (see Figure 2).

*Figure 2.*
Levels of Analysis of Emergency Management Competencies
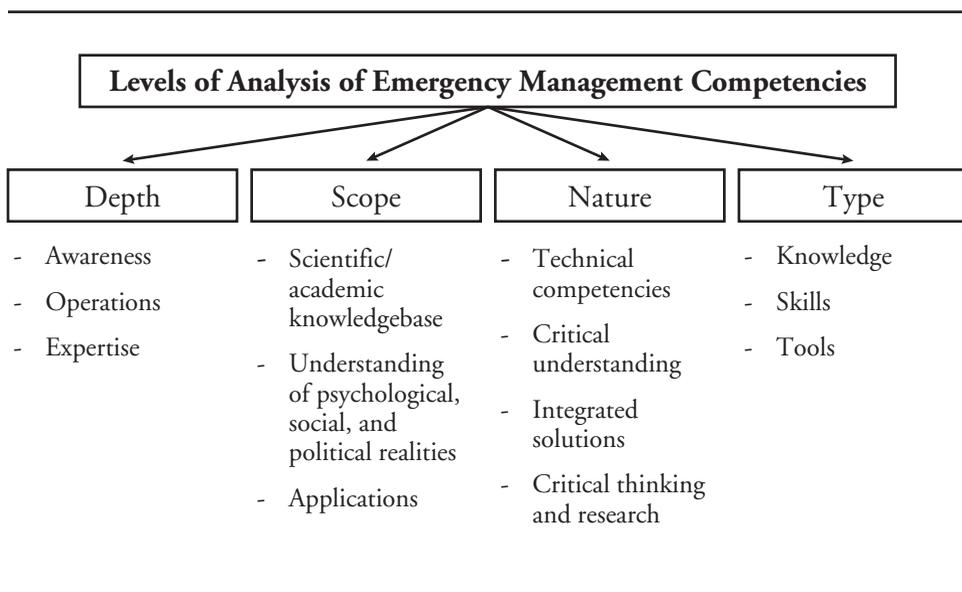
The first level addresses the *depth* of the competency and is analyzed in terms of three additional levels (Barbera et al., 2005): awareness, operations, and expertise. The awareness level covers the understanding of knowledge, skills, and abilities encompassed by a specific competency. This level would not be sufficient to adequately perform all functions within an organizational system. The operations level addresses knowledge, skills, and the necessary abilities to effectively perform assigned tasks, functions, and activities within an organizational system, including technicality of the process. Finally, the expert level envisions operations-level proficiency as well as knowledge, skills, and abilities required for judgmental and analytical processes and complex decision-making situations.

The second level of analysis is the *scope* of the competencies. Woodbury (2005) identifies three related factors for this level. At a smaller scope, an emergency manager's competency may be limited only to a scientific/academic knowledge base. At a larger scope, an emergency manager may have an additional understanding of psychological, social, and political environment and realities when performing his or her job. At the largest scope, being the implementation and application stage, emergency managers combine their competencies pertaining to the two scopes discussed and deliver their services. This last level envisions a deliberate synthesis of the first two levels and is the effective application of the four emergency management phases.

The third level of analysis discusses the *nature* of the competencies. According to Etkin (2006), there are four factors for this level: core competencies, critical understanding, integrated solutions, and critical research. The first factor, core competencies, is required for technicians and practitioners to perform emergency management functions. The second factor encompasses the critical understanding required by managers to address a problem at hand in a holistic perspective and to direct lower-level functions in that regard. The third factor entails the creation of integrated solutions by senior policy makers who address problems at a systemic level and come up with fundamental changes and implementations throughout the emergency management field. The fourth factor addresses critical research by relevant emergency management scholars who present research and studies to establish a better and sound base for implementation in light of past experiences.

The fourth and final level of analysis addresses the *type* of the competencies and can be classified into two forms: knowledge and skills (Brown, 2004). This is a more straightforward and rigid approach to classifying the types of competencies. Specifically, this classification helps to simplify the theoretical framework and carry out systems-level analysis. While the former suggests what emergency managers should know, the latter summarizes what they should do to perform their duties, functions, and responsibilities effectively.

Based on the literature review, the following core competencies in emergency management were identified:

- *Clarity of Role:* Responsibilities and duties are easy and manageable as long as they are clearly defined for respective emergency operation actors to perform their jobs effectively (especially for routine disasters, not for catastrophic ones). This is especially vital in managing emergencies, since uncertain conditions might prevail and relevant and reliable knowledge may be absent (American Society for Industrial Security, 2002; CDC, 2002; Kapucu & Van Wart, 2006; Willett, 2008).

- *Effective Organizational Management:* Emergency management should start from effective internal organizational management, including resource and personnel management, budgeting, strategic planning, and so on (Johnson, n.d.; Kapucu & Van Wart, 2008; Spiewak, 2005).

- *Technology and Research-Integrated Applications:* Emergency management should benefit from relevant technology education/training in order to address natural and human-made disasters effectively. This approach should be strengthened by contemporary developments and improvements in related sciences (Blanchard, 2001; Hite, 2003). Graduates of an emergency management academic program do not necessarily need to be experts in applying every technological tool used in managing emergencies, but they should have a solid understanding of how technology can be applied in all phases of comprehensive emergency management.

- *Interdisciplinary Approach to Problem Solving:* Emergency management should not be limited to emergency management operations only; it should also address social, political, legal, policy, and ethical issues related to mitigation, preparedness, response, and recovery. Likewise, the field should focus on and incorporate issues relating to other disciplines and entities when needed, ranging from health to public security, for example (Blanchard, 2005; Hite, 2003; Kiltz, 2009). Coordination of emergency management and homeland security with our complex medical and public health organizations is an essential element of comprehensive emergency management and highlights the interdisciplinary approach to problem solving.

- *Effective Leadership Through Communication and Analytical Skills:* Effective Emergency management is possible only through effective leaders who know the power of communication in affecting and convincing others. Effective leaders also possess strong judgmental and analytical skills needed to make quality decisions in times of uncertainty, time pressure, and limited information (American Society for Industrial Security, 2002; Blanchard, 2005; CDC, 2002; Johnson, n.d.; Kapucu, 2006; Kapucu & Van Wart, 2008; Marks, 2005; Van Wart & Kapucu, 2010; Witt, 2002).

- *Effective Networking, Coordination, Partnerships, and Collaboration:* Due to the nature and scope of disasters faced by communities today, it is impossible for local governments to respond effectively to disasters alone, and it is imperative to collaborate in terms of such parameters as information, resources, personnel, and the like. Such collaboration also necessitates coordination and interoperability skills to successfully perform assigned tasks and functions (American Society for Industrial Security, 2002; Blanchard, 2001; Kapucu, 2006; Van Wart & Kapucu, 2010).

- *Environment and Community-Sensitive Practices:* Effective leadership is inevitably possible only through thorough analysis and consideration of political, social, economic, and environmental factors and their incorporation into the general picture of the emergency situation faced. Any practice or solution that does not take into account community values and perspectives would ultimately be inefficient or ineffective (Blanchard, 2005; Kapucu, 2008).

- *All-Hazards, Holistic, and Proactive Approach to Emergency Situations:* Emergency management needs an all-hazards and holistic approach that not only addresses issues in an environment-sensitive way but also tries to solve problems progressively during all phases of the emergency management cycle. This implies a proactive rather than reactive approach supported by general-picture analyses[1] (Blanchard, 2001; Hite, 2003; Kiltz, 2009; Waugh & Tierney, 2007). Graduates of emergency management programs should have a solid understanding of risk management and its component parts such as hazards and vulnerability analysis, risk assessment, risk communication, risk-based decision making, and monitoring and measurement. The National Infrastructure Protection Plan (NIPP) lays out a risk management framework and supporting definitions that are widely applicable at all levels of government and across all sectors.

- *Knowledge, Training, and Experience-Based Critical Decision Making:* Since Emergency management is an applied and practical field, ample resources should be invested in developing knowledge and theory-based training, along with empowering the inexperienced and employing the experienced personnel so that emergency operations do not suffer from lack of experience while conducting and managing emergency management operations (Blanchard, 2001; Johnson, n.d.; Marks, 2005; Kiltz, 2009).

- *Horizontal, Egalitarian, and Trustful Relationships:* This factor is especially important when networking and collaborative efforts are considered. A collaborative initiative would be ineffective and most probably fail when inter-actor trust and acceptance are lacking as

well as when imbalanced power relationships exist between actors. This is true for both intra- and interorganizational relationships in emergency management (FEMA Working Group, 2007; Kapucu, 2006; Kapucu, Augustin, & Garayev, 2009).

• *Rule-Oriented Though Flexible Structures, Operations, and Thinking:* Any emergency operation should follow a certain chain of command and rules described by organizational norms and culture, though such practice should be easily avoided when and if needed for achieving a higher goal for the organization or public. Flexible structures and innovative thinking do not imply disorderly actions, but instead imply alternative approaches to solve problems (American Society for Industrial Security, 2002; CDC, 2002; Willett, 2008).

Development of Emergency Management Graduate Certificate Program at UCF

This section describes the program development at UCF based on the competencies identified in the emergency management literature. Table 1 provides a core competencies and course offering table for the graduate certificate program, while Table 2 provides core competencies and course offerings in the emergency management undergraduate minor program.

The minor in Emergency Management and Homeland Security was approved during the 2002–2003 academic year. Since 2003, undergraduate students have taken the courses as electives, and some have even completed the minor. From the spring 2006 semester to the fall 2007 semester, the active student population for this program grew by 53%, demonstrating student interest in the subject. As of fall 2009 the program had 55 active students in the minor and 48 students in the graduate certificate program. Appendix A provides a description of the Graduate Certificate in Emergency Management and Homeland Security program, and Appendix B provides the description of the Minor in Emergency Management and Homeland Security.

In 2008, the Department of Public Administration at UCF developed a new Graduate Certificate in Emergency Management and Homeland Security that is patterned after the existing Undergraduate Minor in Emergency Management and Homeland Security. This certificate aims to prepare graduate students in the administration of emergency management and homeland security programs. Before the program was approved, a survey of current and potential students was conducted in a two-step process to gauge the interest in an Emergency Management and Homeland Security Graduate Certificate. First, 32 prospective graduate students attending the 2007 Graduate Fair were surveyed to determine potential interest in the program. Second, all current students taking courses from the Public Administration Department (approximately 180) were also surveyed, out of which 49 students responded (total of 81 respondents to the

Table 1.

*Emergency Management Core Competencies and UCF Graduate Certificate in Emergency Management and Homeland Security Matrix*

Competency columns (left to right):
1. Clarity of Role
2. Effective Organizational Management
3. Technology and Research Integrated Applications
4. Interdisciplinary Approach to Problem Solution
5. Effective Leadership Through Communication and Analytical Skills
6. Effective Networking, Coordination, Partnerships, and Collaboration
7. Environment and Community-Sensitive Practices
8. All-Hazards, Holistic, and Proactive Approach to Emergency Situations
9. Knowledge, Training, and Experience-Based Critical Decision Making
10. Horizontal, Egalitarian, and Trustful Relationships
11. Rule-Oriented Though Flexible Structures, Operations, and Thinking

| Group | Course | Title | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ELECTIVE COURSES — Management and Policy Emphasis** | INR 6071 | Seminar in Weapons of Mass Destruction | | | ✓ | ✓ | | | | | ✓ | | ✓ |
| | INR 6136 | Seminar in American Security Policy | ✓ | ✓ | | ✓ | | | | | ✓ | | ✓ |
| | HSA 5198 | Health Care Decision Sciences and Knowledge Management | ✓ | | | ✓ | | | | ✓ | ✓ | | |
| | CCJ 6021 | Criminal Justice Responses to Terrorism | | | | ✓ | | | | ✓ | ✓ | | |
| | PAD 6387 | Transportation Policy | | | ✓ | | | ✓ | | | ✓ | | |
| | PAD 6037 | Public Organizations Management | ✓ | ✓ | | ✓ | | ✓ | | | | | |
| | PAD 5142 | Nonprofit Organization | | ✓ | | | | ✓ | ✓ | | | ✓ | |
| **ELECTIVE COURSES — Planning Emphasis** | CGN 6655 | Regional Planning, Design, and Development | | ✓ | | | | | ✓ | ✓ | | | |
| | PUR 6403 | Crisis Public Relations | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| | PAD 6353 | Environmental Program Management Research | | | | ✓ | | | ✓ | ✓ | ✓ | | |
| | PAD 5356 | Managing Community and Economic Development | | ✓ | | ✓ | | ✓ | ✓ | | | ✓ | |
| | PAD 5338 | Land Use and Planning Law | | | | | | | ✓ | ✓ | | | |
| | PAD 5336 | Urban Design | | ✓ | ✓ | | | | ✓ | | ✓ | ✓ | |
| **CORE COURSES** | PAD 6825 | Cross-Sector Governance | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | |
| | PAD 6716 | Information Systems for Public Managers and Planners | | | ✓ | | | ✓ | | | ✓ | | ✓ |
| | PAD 6397 | Managing Emergencies and Crises | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | PAD 6399 | Foundations of Emergency Management and Homeland Security | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ |

Table 2.

*Emergency Management Core Competencies and UCF Emergency Management and Homeland Security Minor Matrix*

| | Code | Course | Clarity of Role | Effective Organizational Management | Technology and Research Integrated Applications | Interdisciplinary Approach to Problem Solution | Effective Leadership Through Communication and Analytical Skills | Effective Networking, Coordination, Partnerships, and Collaboration | Environment and Community-Sensitive Practices | All-Hazards, Holistic, and Proactive Approach to Emergency Situations | Knowledge, Training, and Experience-Based Critical Decision Making | Horizontal, Egalitarian, and Trustful Relationships | Rule-Oriented Though Flexible Structures, Operations, and Thinking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ELECTIVE COURSES | HSA 4938 | Health Issues in Disasters | | ✓ | | ✓ | | | | ✓ | ✓ | | |
| | DSC 4013 | Homeland Security and Criminal Justice | ✓ | | | ✓ | | ✓ | | ✓ | ✓ | | ✓ |
| | DSC 4012 | Conflict and Terrorism | | | | ✓ | | ✓ | | ✓ | | | ✓ |
| CORE COURSES | PAD 4390 | Hazard Mitigation and Preparedness | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | PAD 4395 | Disaster Response and Recovery | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| | PAD 4712 | Information Systems for Public Managers and Planners | | | ✓ | | | | | ✓ | ✓ | | ✓ |
| | PAD 4392 | Emergency Management and Homeland Security | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | PAD 4110 | Intergovernmental Administration | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |

exploratory survey). There was an overwhelmingly positive response in support of the proposed certificate: 66% indicated they would take the certificate alone, and 63% indicated they would take the courses as part of their degree program. Respondents were also asked to indicate a preference for the proposed courses, and the responses in addition to student comments can be found in Appendix C.

The rationale for the development of the Graduate Certificate in Emergency Management and Homeland Security is to meet a growing need in our community to learn about new collaborative responses to emergencies. Emergency Management and Homeland Security is currently one of the fastest-growing occupational

fields in the United States (FEMA EMI, 2009). The Bureau of Labor Statistics projects a 28% increase between 2002 and 2012 and strong industry growth in the government, private, and nonprofit sector (Berman, 2004; Horrigan, 2004; Tossi, 2004). In addition, in the special issue of the *Annals of the American Academy of Political and Social Science*, "Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina" (Waugh, 2006), the author identified Florida's emergency management system as a model for the entire United States. The program has received the support of the faculty of the Department of Public Administration and the Public Administration Advisory Board. The Public Administration Advisory Board includes several emergency managers from the Central Florida region. The advisory board members are also regular guest speakers in emergency management classes. Each class visits an emergency operation center during the term to observe emergency management in a natural setting and communicate with experienced emergency managers. The Center for Public and Nonprofit Management serves as the research arm of the Department of Public Administration. The center's advisory council also includes several emergency managers and nonprofit executives. The center guides our research initiatives, which also benefits our emergency management programs at UCF. Moreover, due to the interdisciplinary nature of emergency management and homeland security issues, the program invites guest speakers from different disciplines with emergency management background (i.e., Engineering, Institute for Simulation and Training, Political Science, Global Perspectives, and Education), service-learning activities are coordinated with emergency management and homeland security agencies in the region, and interdisciplinary research is linked to the classroom environment for the certificate program.

The program has been developed based on our experience with the Minor in Emergency Management and Homeland Security in the Department of Public Administration (see Appendix B). The Graduate Certificate in Emergency Management and Homeland Security is designed to provide an interdisciplinary graduate education for persons engaged in or seeking professional careers in emergency management and homeland security and focusing on managing security threats or crises, natural or human-made threats, and managing disasters or emergencies through coordination of the public, private, and nonprofit sectors. In our curriculum, in addition to covering recent national trends in policy and practice in the field of emergency management and homeland security, the program focuses on the national, state, and local emergency management and public safety systems (international organizations with disaster management missions and some international emergency management cases are also included in courses). FEMA's Professional Development Series (PDS) is built into the curriculum as well. Students who complete FEMA's PDS receive a certificate of completion for their participation in the series.

The Graduate Certificate Program in Emergency Management and Homeland Security is affiliated with the Master of Public Administration (MPA) program, the Master of Nonprofit Management (MNM), and supported by the Department of Public Administration. The Department of Public Administration currently has 12 full-time faculty members who specialize in the major aspects of public and nonprofit management and policy analysis. The MPA program consists of 42 graduate hours and is accredited by the National Association of Schools of Public Affairs and Administration. The MNM consists of 33 credit hours and is taught online primarily by full-time faculty members. The department faculty has written numerous articles, individually and with students, addressing emergency management and homeland security issues. The Graduate Certificate Program in Emergency Management and Homeland Security is administered by the Graduate Program of Public Administration and follows the policies, rules, and procedures related to the graduate program at the Department of Public Administration. The most complete, up-to-date program requirements and brief course descriptions for the graduate certificate program can be found in UCF graduate catalog at www.graduate.ucf.edu. The most current information about the minor can be found in the official UCF undergraduate catalog at www.catalog.sdes.ucf.edu/current/minors.

Thus, with an up-to-date curriculum and diverse modes of learning opportunities in the program, it is fair to emphasize that several areas of research, training, and technical assistance in the Central Florida region can be served through the emergency management and homeland security programs at the Department of Public Administration in College of Health and Public Affairs, UCF.

Conclusion

Emergency management has become a field requiring multiple competencies. In very general terms, emergency management competencies can be summarized in two categories: intra-organizational and interorganizational. While the former includes important issues as organizational management, technological competency, and comprehensive and supported decision making, the latter incorporates issues relating to leadership, networking, coordination, and collaboration. Competency in both areas requires careful analysis and identification of strong interdependence of actors as well as the need for innovative organizational strategies to create solutions to contemporary problems in the emergency management field.

Emergency management programs should be developed based on the core competencies identified by the literature and practitioners. Also, it is important to provide interdisciplinary perspectives based on the interdisciplinary and complex nature of emergency management and homeland security issues. I am hopeful that the article will provide a starting point for other academic institutions that are in the process of, or plan to embark on the design and development of emergency management academic programs within the broad domain of public administration.

References

American Society for Industrial Security (2002, May 29–31). *Proceedings of the 2002 academic practitioner symposium.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Barbera, J. A., Macintyre, A. G., Shaw, G., Seefried, V., Westerman, L., & deCosmos, S. (2005). *VHA–EMA emergency response and recovery competencies survey, analysis, and report.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Berman, J. (2004). Industry output and employment projections to 2012. *Monthly Labor Review, 127*(2), 58–79. Retrieved from www.bls.gov/opub/mlr/2004/02/art4full.pdf

Blanchard, B. W. (2001). *FEMA higher education project manager discusses the new generation of emergency managers.* Retrieved from http://training.fema.gov/EMIWeb/edu/highpapers.asp

———. (2005, October 7). *Emergency management competencies and curricula.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Boin, A., t'Hart, P., Stern, E., & Sundelius, B. (2005). *The politics of crisis management: Public leadership under pressure.* New York: Cambridge University Press.

Brown, A. (2004). *Disaster/emergency management core functions and competencies.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Bullock, J. A., Haddow, G. D., Coppola, D., Erdem, E., Westerman, L., & Yeletaysi, S. (2006). *Introduction to homeland security.* Burlington, VT: Elsevier Inc.

Caruson, K., & MacManus, S. A. (2008). Disaster vulnerabilities: How strong a push towards regionalism and intergovernmental cooperation? *American Review of Public Administration, 38*(3), 286–306.

Centers for Disease Control and Prevention (CDC). (2002). *Bioterrorism and emergency readiness: Competencies for all public health workers.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Comfort, L. K. (1999). *Shared risk: Complex systems in seismic response.* New York: Pergamon Press.

Etkin, D. (2006, September). *Emergency management core competencies.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

FEMA Emergency Management Institute (EMI), (2009). *The college list.* Retrieved from http://training.fema.gov/EMIWeb/edu/collegelist

FEMA Working Group. (2007). *Principles of emergency management.* Retrieved from http://training.fema.gov/EMIWeb/IS/IS230/Principles%20of%20EM.pdf

Gigerenzer, G., & Todd, P. M. (1999). Fast and frugal heuristics: The adaptive toolbox. In G. Gigerenzer, P. M. Todd, & the ABC Research Group, *Simple heuristics that make us smart* (pp. 3–34). New York: Oxford University Press.

Hite, M. C. (2003). *The emergency manager of the future: Summary of a workshop.* Retrieved from http://training.fema.gov/EMIWeb/edu/highpapers.asp

Horrigan, M. W. (2004). Employment projections to 2012: Concepts and context. *Monthly Labor Review, 127*(2), 3–21. Retrieved from www.bls.gov/opub/mlr/2004/02/art1full.pdf

Johnson, M. S. (n.d). *Region five training and development advisory committee: Concept paper.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Kapucu, N. (2006). Interagency communication networks during emergencies: Boundary spanners in multiagency coordination. *American Review of Public Administration, 36*(2), 207–225.

———. (2008). Collaborative emergency management: Better community organizing, better public preparedness and response. *Disasters: The Journal of Disaster Studies, Policy, and Management, 32*(2), 239–262.

———. (2009a). Interorganizational coordination in complex environments of disasters: The evolution of intergovernmental disaster response systems. *Journal of Homeland Security and Emergency Management, 6*(1), Article 47.

———. (2009b). Public Administrators and cross-sector governance in response to and recovery from disasters. *Administration and Society, 41*(7), 910–914.

Kapucu, N., Augustin, M.-E., & Garayev, V. (2009). Interstate partnerships in emergency management: Emergency management assistance compact (EMAC) in response to catastrophic disasters. *Public Administration Review, 69*(2), 297–313.

Kapucu, N., & Van Wart, M. (2006). The emerging role of the public sector in managing extreme events: Lessons learned. *Administration and Society, 38*(3), 279–308.

Kapucu, N., & Van Wart, M. (2008). Making matters worse: An anatomy of leadership failures in managing catastrophic events. *Administration and Society, 40*(7), 711–740.

Kiltz, L. (2009). Developing critical thinking skills in homeland security and emergency management courses. *Journal of Homeland Security and Emergency Management, 6*(1), 1–21.

Klijn, E. H., & Koppenjan, J. F. (2007). Governing policy networks. In G. Morcol (Ed.), *Handbook of Decision Making.* New York: Taylor and Francis.

Marks, C. A. (2005, April 29). *Professional competencies for the master's level emergency manager: Knowledge systems necessary for the emergency manager of the 21st century.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

McGuire, M., & Silvia, C. (2010). The effect of problem severity, managerial and organizational capacity, and agency structure on intergovernmental collaboration: Evidence from local emergency management. *Public Administration Review, 70*(2), 279–88.

Perry, R. W., & Lindell, M. K. (2007). Disaster response. In William L. Waugh, Jr., & Kathleen Tierney (Eds.), *Emergency management: Principles and practice for local government* (2nd ed.), pp. 159–181. Washington DC: ICMA.

Rubin, C. (Ed.). (2007). *Emergency management: The American experience 1900–2005.* Fairfax, VA: Public Entity Risk Institute.

Spiewak, D. L. (2005). *Top 10 core competencies and courses as selected by practicing emergency managers.* Retrieved from http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp

Sylves, R. T. (2008). *Disaster policy and politics: Emergency management and homeland security.* Washington, DC: CQ Press.

Tossi, M. (2004). *Labor force projections to 2012: The graying of the U.S. workforce.* Retrieved from http://www.bls.gov/opub/mlr/2004/02/art3full.pdf

Van Wart, M., & Kapucu, N. (2010). Crisis management competencies: The case of emergency managers in the U.S. *Public Management Review, 13*(4), 489–511.

Waugh, W. L., Jr. (2000). *Living with hazards, dealing with disasters: An introduction to emergency management.* Armonk, NY: M.E. Sharpe.

Waugh, W. L., Jr. **(Ed.). (2006). Shelter from the storm: Repairing the national emergency management system after Hurricane Katrina. Special issue of** *Annals of the American Academy of Political and Social Science.* Thousand Oaks, CA: Sage Publications.

Waugh, W. L., Jr. & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review, 66*(Suppl.), 131–140.

Waugh, W. L., Jr. & Tierney, K. (2007). *Emergency management: Principles and practice for local government* (2nd ed.). Washington, DC: ICMA.

Willett, S. L. (2008). *Building a better crisis leader: We CAN do more.* Retrieved from http://training. fema.gov/EMIWeb/edu/highpapers.asp

Witt, J. L. (2002). *Stronger in the broken places: Nine lessons for turning crisis into triumph.* New York: Time Books.

Woodbury, G. L. (2005). Critical curriculum for emergency management leaders: Three essential themes. *Journal of Emergency Management, 3*(2), 72–92.

Naim Kapucu, PhD, is an associate professor in the Department of Public Administration at the University of Central Florida (UCF) and the director of the Center for Public and Nonprofit Management. He coordinates the emergency management and homeland security programs at UCF. His main research interests are crisis management, decision making in a complex environment, and network governance. His work has been published in *Public Administration Review, Administration & Society, Journal of Public Administration Research and Theory, American Review of Public Administration,* and *Disasters.* He can be reached at nkapucu@mail.ucf.edu.

*UCF Graduate Certificate in Emergency Management and Homeland Security*

The Department of Public Administration offers a Graduate Certificate in Emergency Management and Homeland Security, which consists of 18 semester hours at the graduate level, including four required core courses and two electives; one from a planning tract and one from a management/policy tract. This certificate will prepare graduate students in the administration of emergency management and homeland security programs.

<div align="center">Curriculum</div>

**Credit Hour Requirements (Total 18 credit hours)**

**Core Courses (12 credit hours)**

| | | |
|---|---|---|
| PAD 6399 | Foundations of Emergency Management and Homeland Security | 3 hrs |
| PAD 6397 | Managing Emergencies and Crises | 3 hrs |
| PAD 6716 | Information Systems for Public Managers and Planners | 3 hrs |
| PAD 6825 | Cross-Sectoral Governance | 3 hrs |

**Restricted Electives (6 credit hours)**
- Select one (1) course from Group 1
- Select one (1) course from Group 2

Group 1—Planning Emphasis

| | | |
|---|---|---|
| PAD 5336 | Urban Design | 3 hrs |
| PAD 5338 | Land Use and Planning Law | 3 hrs |
| PAD 5356 | Managing Community and Economic Development | 3 hrs |
| PAD 6353 | Environmental Program Management Research | 3 hrs |
| PUR 6403 | Crisis Public Relations | 3 hrs |
| CGN 6655 | Regional Planning, Design, and Development | 3 hrs |

Group 2—Management and Policy Emphasis

| | | |
|---|---|---|
| PAD 5142 | Nonprofit Organizations | 3 hrs |
| PAD 6037 | Public Organizations Management | 3 hrs |
| PAD 6387 | Transportation Policy | 3 hrs |
| CCJ 6021 | Criminal Justice Responses to Terrorism | 3 hrs |
| HSA 5198 | Health Care Decision Sciences and Knowledge Mgmt | 3 hrs |
| INR 6136 | Seminar in American Security Policy | 3 hrs |
| INR 6071 | Seminar in Weapons of Mass Destruction | 3 hrs |

*UCF Emergency Management and Homeland Security Minor Program*

The minor in emergency management and homeland security provides students with an opportunity to comprehensively study the disaster management cycle, including emergency planning, mitigation, response, and recovery. In an age of dense population, increased terrorism, unpredictable weather, and high public expectations of risk reduction and public leadership, this is an exciting area of study. Students who complete a minor in emergency management and homeland security gain additional insight and knowledge that will help them find positions in various federal, state, and local government or nonprofit organizations. Some of these may include the Environmental Protection Agency, Occupational Health and Safety Administration, the Orange County Emergency Management Division, the Federal Emergency Management Agency, the Department of Homeland Security, and state and local homeland security agencies.

Curriculum

**Credit Hour Requirements (Total 18 credit hours)**

**Core Courses (15 credit hours)**

| | | |
|---|---|---|
| PAD 4110 | Intergovernmental Administration | 3 hrs |
| PAD 4392 | Emergency Management and Homeland Security | 3 hrs |
| PAD 4712 | Information Systems for Public Managers and Planners | 3 hrs |
| PAD 4395 | Disaster Response and Recovery | 3 hrs |
| PAD 4390 | Hazard Mitigation and Preparedness | 3 hrs |

**Restricted Electives (select one) (3 credit hours)**

| | | |
|---|---|---|
| DSC 4012 | Conflict and Terrorism | 3 hrs |
| DSC 4013 | Homeland Security and Criminal Justice | 3 hrs |
| HSA 4938 | Health Issues in Disasters | 3 hrs |

The University of Central Florida is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the associate, baccalaureate, master's, and doctoral levels.

APPENDIX C

*Survey on Graduate Certificate in Emergency Management and Homeland Security*

The Department of Public Administration is planning to offer a Graduate Certificate in Emergency Management and Homeland Security in a future semester. Your response to these questions will be used in developing and offering this certificate.

The certificate, if offered, will be **18 credit hours** (6 courses), with four core courses and two electives chosen from a list. The courses can be taken:

- Independently,
- as a graduate certificate in Emergency Management and Homeland Security, or
- as electives for the Master of Public Administration or Master of Nonprofit Management degrees.

| If offered, how interested are you in taking the following courses either independently or as part of a certificate or degree program? N = 81 | Very Interested | Somewhat Interested | Neutral | Not very Interested | Not Interested |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** |
| **Foundations of Emergency Management and Homeland Security (EM/HS)** Course topics: <br> • Contemporary EM/HS issues <br> • Historical development of EM/HS <br> • Applicable national policies and institutions | 38% | 38% | 11% | 5% | 6% |
| **Managing Emergencies and Crises** Course topics: <br> • Crisis management, disaster recovery, and continuity of operational issues. <br> • Evolution of U.S. disaster policy management <br> • Disaster types and common myths | 54% | 32% | 4% | 2% | 4% |
| **Information Systems for Public Managers and Planners** Course topics: <br> • Introduction to state-of-the-art hardware and software <br> • Computer employment and systems concepts. <br> • Public sector management and operations | 43% | 30% | 12% | 9% | 2% |
| **Cross-Sector Governance** Course topics: <br> • Structure and dynamics of cross-sector governance <br> • Management of intergovernmental relations <br> • Historical and theoretical perspectives | 36% | 40% | 11% | 7% | 4% |

**Would you take these courses? (N = 73 responses)**
(Note: Total = 110% because some students selected more than one course venue.)
**As an independent course 14%; As part of a certificate program 52%; and As part of a degree program 41%.**

STUDENT COMMENTS
(Comments are from fall 2007 active students)
**Student comment:** I think these are needed classes at this time. They should have a lot of emphasis on mitigation and teaching techniques as this is the most common activity, though not as flashy as response activities.
**Student comment:** This would be interesting to take as electives for the MPA.
**Student comment:** I would be very interested in a Graduate Certificate in Emergency Management and Homeland Security. Thank you for considering expanding the UCF MPA program!
**Student comment:** Interesting issues
**Student comment:** Excellent idea—I would be interested.
**Student comment:** I would be willing and happy to take it as any, but a certificate program would be a very good asset to those trying to enter the nonprofit world especially those international ones with emergency response abilities. The History of EM and HS would be essential to understanding but the Managing Emergencies and Crises class would be my choice—I would sign up now if I could. ☺
**Student comment:** I would be interested in learning more about the Masters Degree program from the University of Central Florida.
**Student comment:** Attached is the Homeland Security/Emergency Management survey. It is too bad the program is beginning now as I have already completed most of my course electives. As a twenty-three year fire protection member, this course of instruction would definitely add a nice touch to my course track.
**Student comment:** I think this would be an amazing program! It's definitely long overdue. The only concern I would have would be the potential redundancy with the EM minor currently offered. I'm sure that this would be a more in-depth look at EM, and in that case I'm all for it. I'd sign up right now if it was currently offered! I think offering it as a certificate program, that could be used toward the MPA would be the best opportunity. I know of many people in the field who would love to "start off" their graduate studies with a certificate program. Please keep me in mind if you have any further questions. I am a recent PA graduate (with EM minor) and work in the Fire Service and may be able to answer any questions you may have.