Defining and Prioritizing Upper Arlington Fire Division's Core Competencies

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CERTIFICATION STATEMENT

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ABSTRACT

This research project dealt with the Upper Arlington Fire Division's (UAFD) inability to perform all roles in a safe and efficient manner. Over the past two decades, UAFD added many new roles and functions to its operational plan without explicitly stating what these new functions were. The lack of clearly defined functions or competencies led to a training program with gaps between what was operationally needed and what the training program provided.

The purpose of the project was to identify the functions and core competencies of UAFD that personnel should be required to perform. Using the descriptive research method, the author attempted to answer four questions. 1. What training is mandated by Governmental and Professional Standards that applies to the UAFD? 2. What methods can be used to determine core competencies of the Upper Arlington Fire Division? 3. What training competencies are critical to the operation of the Upper Arlington Fire Division? 4. What should core competencies be based on?

A literature review of government regulations, professional standards, professional journal articles, and departmental programs and procedures was undertaken. Internal focus groups were used to construct a list of department functions. Two surveys were employed to prioritize functions and determine frequency of training.

Regulations revealed UAFD must explicitly list all organizational functions and adequately train personnel in each function using professional standards as a guide. A list of seventy-six core functions was established.

Departments must develop their comprehensive training plan based on an explicit list of organizational functions, input from personnel, government regulations, and professional

standards. Adequate resources must be allocated to implement the training plan. A training plan must be prioritized

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INTRODUCTION

Statement of the Problem

The Upper Arlington Fire Division (UAFD) was called upon to fulfill many different roles while responding to emergencies. Over the past 20 years, new roles have been added to UAFD's traditional roles. In addition, federal, state and professional standards mandated that fire departments maintain adequate levels of training to fulfill these roles. The problem was the Upper Arlington Fire Division could not execute every role in a safe, efficient manner. UAFD had problems that ranged from choosing an incorrectly sized handline at a house fire to crews being unable to setup their hazardous material decontamination equipment in a timely manner. These should be core competencies of the Division. UAFD attempted to comply with mandated training, but this alone was not adequate.

For example, hazardous material decontamination was one essential function of the department. NFPA 1001 mandated that personnel holding firefighter II certification must hold hazardous material operations level certification. UAFD provided an operations level refresher course periodically, as called for by the standard. However, as new personnel were hired and new equipment was put into service, only a handful of personnel continued to possess the knowledge and skills required to operate safely and effectively as hazardous materials decontamination operators.

The UAFD had a proud tradition of providing excellent emergency services. Much of the training provided to personnel was excellent. The weakness was in a lack of specifically identified core competencies that cover all areas of operations and act as a basis for the overall strategy of the Training Division.

The descriptive research method was used for this research paper.

Purpose of the Study

The purpose of this study was to identify the core competencies and organizational functions of the Upper Arlington Fire Division that all personnel must meet and maintain. Once identified, these were used by UAFD leadership as a basis to develop a training strategy that provided personnel with the knowledge, skills and attitude required to execute all core competencies.

Research Questions

The following questions were answered by this descriptive research:

1. What training is mandated by Governmental and Professional Standards that applies to the UAFD?
2. What methods can be used to determine core competencies of the Upper Arlington Fire Division?
3. What core competencies are critical to the operation of the Upper Arlington Fire Division?
4. What should core competencies be based on?

BACKGROUND AND SIGNIFICANCE

The Upper Arlington Fire Division provided fire prevention, public safety education, fire, rescue and emergency medical services for a city of 9 square miles, 34,000 citizens, and nearly 1000 commercial properties. In addition, the Upper Arlington Fire Division had automatic aid agreements with all surrounding jurisdictions increasing their response area to most of the northwest quadrant of Franklin County, Ohio. Total incidents numbered 4986 in 2005.

UAFD was manned by 61 career firefighter/EMT's, three administrative assistants, and a part-time public education coordinator. Minimum line manning each shift consisted of two 3 person medics, a four person engine/rescue, a four person ladder company and a battalion chief. Each shift included a minimum of six paramedics, two company officers, one chief officer and two driver/operators.

Operational responsibilities included fire suppression, emergency medical care, technical rescue, hazardous materials decontamination, and ladder operations. Over the last 20 years, operational responsibilities had increased. In the late 1980s, UAFD added hazardous material decontamination to their list of organizational functions. As part of the North West Area Strike Team, UAFD and Norwich Township Fire Department provided hazardous materials decontamination services for all of Franklin County, outside of Columbus. They were also a resource for communities in surrounding counties who experienced a hazardous materials emergency. So, it was essential that they were proficient in hazardous materials decontamination. In the 1990s, UAFD added technical rescue capabilities beyond basic auto extrication. They carried equipment for high angle rescue, water rescue, confined space rescue, heavy machinery rescue, ice rescue, and elevator rescue. Eleven UAFD firefighters were certified as rescue technicians. Since the late 1980s, the number of structure fires was down

nationally. Thiel, Stern, Kimball, & Hankin (2003) state that from 1987 – 2001 there has been a 31 percent decrease in the incidence of structure fires throughout the United States. Fires UAFD responded to increased during that same time period making the need for firefighters with competent basic firefighting skills all the more important. UAFD knew of a few incidents where charging a hose line with water was delayed when pump operators, with various levels of experience, were unable to troubleshoot simple problems at the pump. In another incident an engine company deployed an 1 ¾" hose line as the initial attack line on a large house under construction that was fully involved in fire upon their arrival.

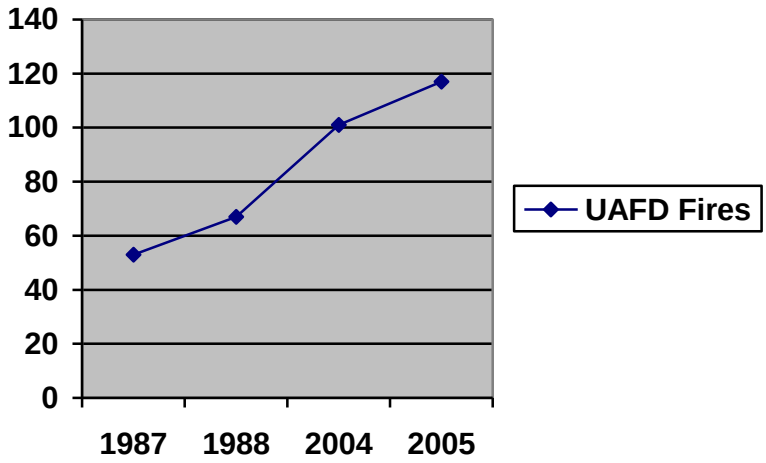

Figure 1
Change in number of fire incidents from 1987 to 2005

When new capabilities were added, UAFD typically sent a group of firefighters to receive outside training and certification in the new discipline. Those trained firefighters returned to the job and passed along what they have learned using the train-the-trainer concept. Some of this training happened on a divisional level, but much of the training was handled at the company level. In the first year or two after initial certification was received, UAFD observed that

readiness levels were at their highest. As more time passed, the readiness level began to drop off. First, attrition replaced experienced firefighters with inexperienced firefighters. Second, readiness levels decreased in many areas because core competencies had not been identified. This lack of knowing exactly what competencies were critical to their mission resulted in training that was unfocused and distributed unevenly throughout the ranks. For example, if a young firefighter happened to work with the officer in charge of the hazardous material decontamination program, he/she would likely become proficient with the knowledge and skills needed to maintain a high readiness level in the area of hazardous materials decontamination. If however, you worked for the officer in charge of personal protective equipment, the training you received in hazardous materials decontamination was much less frequent and not as thorough. The source of this problem was a lack of specifically identified core competencies that formed the basis of UAFD's overall training strategy.

Another example of inconsistency between crews involved the rescue of a man who had fallen off of a fifty foot cliff. One crew attempted to set up an elaborate rope rescue system, while another crew simply packaged the patient and walked him out using an unmarked trail. Neither crew was aware of what the other was doing. This incident demonstrated the lack of a well managed incident command system and initiating complex procedures simply because they were trained in them.

Defining the core competencies and organizational functions of the Upper Arlington Fire Division would provide several benefits. Once identified, UAFD will be able to measure and evaluate which competencies they currently meet and prioritize when deficiencies will be addressed through the division's training program. The Upper Arlington Fire Division would be better able to distribute resources and funds that address core competencies and away from areas

that are less essential. Firefighters and officers would know if their training has prepared them to meet all of the challenges they will face as members of the UAFD. Training would be focused and measurable and what is measured, usually improves.

LITERATURE REVIEW

NFPA 1001 (2002) - Standard for fire fighter professional qualifications stated that "the authority having jurisdiction shall establish instructional priority and the training content to prepare individuals to meet the job performance requirements." NFPA 472 (2002), NFPA 1002 (2003), and NFPA 1006 (2003) standards on professional qualifications made the same statement and each went on to identify the minimum job performance requirements (JPR) for that standards job title.

This made it clear that each agency had the responsibility to define and prioritize its own core competencies based on the needs of the agency. Professional qualifications standards were a good guide, but an agencies core competencies needed to be based on its own priorities and functions. In fact, a jurisdictions core competency may exceed the requirements of the professional qualifying standard. NFPA 1001 (2002)

So what do fire departments base their training content on? Cayse (2001) suggested a seven step needs assessment model that would identify what training was required and lacking.

1. Using your department mission statement and types of fire companies and equipment, identify all the functions members are required to fill.
2. Research all laws and standards that apply to the departments types of responses.
3. Determine the minimum training time required for each specific function your members must perform.

4. Identify training deficiencies and their extent based on the current training program and the laws and standards that cover functional areas.
5. Examine in-house records for apparent training deficiencies. These include injury reports, legal actions, and accidents.
6. Survey members for their views on the current training program.
7. Analyze the results looking for trends. Start with the minimum legal requirements that you must meet and then address other areas recognized in the assessment.

Barr and Eversole (2003) in their chapter on training and education discussed the "need to clearly define and delineate exactly what your organization does. What service does it provide, what degree or level with those services, and all functions that you perform as an organization." They also recommended using the organizations mission statement as a starting point.

The Upper Arlington Fire Division responded to most calls not covered by another department of the city. This would seem to open the door wide for defining core competencies and/or functions.

Barr and Eversole (2003) addressed this by saying "another organization might respond to every call for help that is outside the scope of any other … department within that community. What did that mean? You need to clearly define that which you intend to respond to and mitigate or at least maintain and support until it is mitigated."

They went on to define a three tier system for prioritizing training.

1. Must Know – these are governmental mandates that all fire fighters are subject to.

2. Need to Know – these are professional qualification standards aligned to the functions of your organization. Certification is stressed.
3. Nice to Know – this is explained as knowledge that may be useful, but is not essential to fulfilling the job function or operation. Also described as professional development.

Federal Emergency Management Agency (2002) needs assessment for the U.S. fire service revealed several statistics and conclusions that are directly relevant to the Upper Arlington Fire Division's core competencies.

1. An estimated 40% of fire department personnel involved in hazardous material response lack formal training in those duties.
2. An estimated 53% of fire department personnel involved in technical rescue service lack formal training in those duties.
3. It is likely that every fire department will need to have some familiarity with every type of fire and every type of emergency at least in their role as a source of mutual aid or a component of regional response to a major incident.
4. Complex incidents will require core competencies outside of most fire departments abilities. Fire departments must develop relationships with outside agencies/businesses to supplement their deficiencies.

Another important concept in developing core competencies was clarity. A competency must be "distilled down to its essence, the very nugget of what it is. Morse (1999) "A hazy idea of a concept cannot help but give a hazy description to others."

Caffarella (1994) said a needs assessment can be a powerful tool to justify and focus the planning effort, but it is only one of many ways ideas are formulated for educational programs. She also said a formal needs assessment is not the major way ideas are generated for educational programs and may not be necessary in terms of time and money spent. Program ideas can come from different sources such as personal observations, hunches, and experience.

Thiel, Stern, Kimball, & Hankin (2003) in their report on trends in firefighter training identified several issues directly relevant to the Upper Arlington Fire Division. First, "the need to expand training to include technical rescue, hazardous materials, and EMS has increased the types of training hazards to which firefighters can be exposed." Second, "in order to meet the demands of expanding fire service roles, advanced and technical evolutions have increased, thus reducing the amount of time available to perform basic training evolutions on such subjects as hose, ladder, and tool work." Finally, "new technologies will inevitably become part of the training tools used by firefighters. These technologies can enhance, but not substitute for actual live" hands-on training evolutions.

Reeder (2006) wrote about the difficulty in covering all of the topics that must be part of a training program. He suggested starting by defining basic skill levels and focusing training on continuously improving these skills. Reeder emphasized focusing on "core skills… required to complete basic parts of a job" because we must be proficient at the basics before we can master the complex. He recommended using NFPA 1000 series standards, department SOP's and job descriptions to develop job performance requirements.

Ohio Administrative Code, BWC (2006) specifically addressed training in incident management, hazardous materials, and technical rescue. It stated employers shall have a written plan or SOP

covering the department's capabilities in each of these areas. The code went on to explicitly state "employees shall be trained in accordance of such plan".

The Occupational Safety and Health Administration (2006) part 1910 on the training and education of fire brigades stated brigade members will be provided with training in all duties which they are expected to perform and this training must be provided by instructors with a comprehensive knowledge of the subject. It went on to state that training should be frequent enough for members to safely and satisfactorily (a minimum of quarterly for structural firefighters) perform their duties.

UAFD SOP 1 (2004) stated minimum job requirements for a firefighter in the UAFD included completion of a 240 hour firefighter level 1 & 2 certification and certification as an EMT-B in the state of Ohio.

Ohio Administrative Code Chapter 4765 listed 40 hours of continuing education credits each three year cycle to maintain EMT-B certification and 92 hours of continuing education credits each three year cycle to maintain EMT-P certification.

The Literature Review attempted to define core competency, identified core competencies mandated by law, regulations, and standards pertaining to fire service organizations, and understand the methods used by others in the fire service to determine core competencies.

Core competency is a defined level of expertise that is fundamental to a particular job. The regulations and standards shaping the fire service uniformly state fire departments need to explicitly state their capabilities and provide comprehensive training to their personnel with enough frequency to maintain competency.

The majority of the literature on how to define an organization's core competencies included some form of a needs assessment. Some authors described a formal, time intensive process to uncover the functions, needs, and competencies of an organization. Another author wrote that this formal process usually takes too many resources and that most programs rely more on personal observations, hunches, and experience to define program goals. While authors may differ in the methods they used to determine core competencies, all agree that the process starts by clearly identifying the roles and functions of the organization. Once functions are clarified, the authors agree that some process of prioritization must take place. Core competencies can then be established, after functions are identified and prioritized. UAFD will use the process outlined in the procedures section to identify roles and functions before prioritizing these functions.

PROCEDURES

The procedures used to prepare this research paper included research questions, a literature review, three focus groups and two surveys of UAFD staff. Once a problem statement was established, four research questions were developed. 1. What training is mandated by Governmental and Professional standard that applies to the UAFD? 2. What methods can be used to determine core competencies of the Upper Arlington Fire Division? 3. What core competencies are critical to the operation of the Upper Arlington Fire Division? 4. What should core competencies be based on?

A literature review was performed to help answer questions 1, 2, and 4. The review included NFPA & OSHA standards pertinent to firefighter training and professional qualifications, Ohio Administrative Code chapters on EMS and BWC relevant to firefighter training, UAFD SOP's on job requirements, publications from inside and outside the fire service

that include information about needs assessment, adult training programs, fire service training programs, and core competencies.

Three focus groups and two questionnaires were developed to answer questions 3, and 4. The focus group used the nominal group process method to establish the essential roles and functions of UAFD. The first survey was answered by officers and firefighters of the Upper Arlington Fire Division to determine criticality of the list of roles and functions developed in the focus groups. The second survey was answered by officers and firefighters of the Upper Arlington Fire Division to determine the difficulty level of each competency area identified by the focus groups.

Step one was holding three focus groups consisting of all UAFD line personnel to answer two questions. First, what were the roles of the UAFD. Identified roles included EMS, Fire Suppression, Public Education, Rescue, Customer Service, and Fire Prevention. What the various functions of each role are, was the second question to be answered. For example, the role of Fire Suppression includes the functions: pump operations, hose streams, hose lays, water supply, ect. For each identified role, focus group participants were asked to name one function critical to the operations of the UAFD. This process was continued until each group ran out of suggestions.

With a complete list of roles and functions, two questionnaires were developed to allow UAFD personnel to measure the criticality and difficulty of the core functions identified as essential to the services provided by the UAFD. The results were configured into various tables and charts that allowed the core functions to be prioritized.

Definition of Terms

Authority Having Jurisdiction. "The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure (National Fire Protection Association, [NFPA] 1006, 2003, page 5)

Core Competency. "A defined level of expertise that is essential or fundamental to a particular job" (Websters's New Millennium Dictionary, 2005).

Criticality. "The quality, state, or degree of being of the highest importance" (American Heritage Dictionary, 2000)

Limitations of the Study

The scope of this research project was limited to fire, rescue and EMS operational functions in an effort to make the study more focused and manageable. Areas such as officer development, fire prevention, customer service, risk management and public education deserve significant consideration in any comprehensive training plan.

The surveys in this project did not include responses from the fire chief or battalion chiefs in an effort to get responses that reflected what personnel in the field faced everyday.

This study identified core functions and competencies of the Upper Arlington Fire Division, but it did not address divisional competency levels or give performance measurements for the identified functions.

RESULTS

The three focus groups totaled 50 members of the Upper Arlington Fire Division. Each group was asked to define the critical roles of UAFD. Firefighting, EMS, Rescue, Fire Prevention, Public Education, and Customer Service were identified as the essential roles of

UAFD. This list was narrowed to Firefighting, EMS, and Rescue in order to make the study more manageable.

The focus groups were then asked to name a general task area within the defined roles that was "essential to the successful operation of the Upper Arlington Fire Division". Following is that list.

Table 1

UAFD organizational functions/training areas

Salvage	Vehicle stabilization
Overhaul	Elevator emergency
Communication	Building Familiarization
Pump Operations	Report Writing/Documentation
Extinguishment	Billing
Ventilation	HIPAA
Search and Rescue	Protocol Review
Water Supply	Communication with ER staff
Accountability	Scene Size-up & Safety
Forcible Entry	Primary Patient Assessments
Incident Command System	Triage
Ladders	ECG
RIT	Pharmacology
Utilities	Body Substance Isolation
Emergency Driving	CPAP
Pre Plans	CPR
FDC and Standpipes	Mega Code
SCBA & PPE	Patient/Staff Communication
Fire Alarm Response	Airway Management
Hand Tools	QA
Hose Lays	Splinting/Bandaging
High-rise Operations	Spanish
Evidence Preservation	Spinal Immobilization
Reports/Documentation	Secondary assessments
Foam	Respiratory Emergencies
Master Streams	Cardiac Emergencies
Ropes	Seizures
Thermal Imager	OB/GYN

Alarm Systems	Hyper/Hypo thermia
FF Safety	Behavioral Emergencies
Extrication	Anaphylaxis
Con-space Rescue	CVA/Stroke
Water Rescue	Diabetic Emergencies
High Angle Rescue	Overdoses
Ice Rescue	Sexual Assault
Trench collapse	Burns
Musculoskeletal injuries	Avulsions/Amputations
Asthma	Cricothyroidotomy

These essential organizational functions were then compiled into two surveys that rated the criticality and difficulty of each function. Each survey was administered to forty members of the Upper Arlington Fire Division. Thirty-four criticality surveys and 39 difficulty surveys were returned. Below is a sample of the criticality survey (Figure 2). This survey measured how critical firefighter/fire officer's thought each function/training area was to the operation of the UAFD. Each area was rated on a 1-5 scale with 1 being the most critical and 5 being the least critical. Results showed that functions such as extinguishment, search & rescue, FF safety, and airway management received the lowest scores and therefore were seen as the most critical areas. Spanish, HIPAA, Billing and Foam were seen as the least critical and received the highest scores.

Rate how critically important each training area is to the operation of the Upper Arlington Fire Division.

Scale (1 to 5)

1. **Most critical to the operation of UAFD. Can't fulfill the mission of UAFD without it.**
2.
3. **Important to the operation of UAFD. Makes operations run smoothly and well.**
4.
5. **Nice to know, but not essential to the operation of UAFD.**

Training Areas
Salvage
Overhaul
Communication

Figure 2
Criticality Survey

The second survey used an identical layout as the first, but measured how difficult firefighters/fire officer's thought each function was to obtain proficiency in and how difficult that proficiency was to maintain. Each task area was rated on a 1-5 scale with 1 being the most difficult to obtain and maintain proficiency in and 5 being the least difficult to obtain and

maintain proficiency in. Pharmacology, cardiac emergencies, high-angle rescue, and respiratory emergencies were rated as the most difficult areas to obtain and maintain proficiency in. HIPAA, body substance isolation, billing and hand tools were rated the least difficult to obtain and maintain proficiency in. Below is a sample of the difficulty survey (Figure 3).

Rate the difficulty in obtaining and maintaining proficiency in the following training areas.

Scale (1 to 5)

1. **Obtaining proficiency takes time and effort. Once obtained, maintaining proficiency requires continuous effort. (Ex. Paramedic certification)**
2.
3. **Obtaining proficiency requires time and effort. Maintaining proficiency requires periodic review. (Ex. Performing a fire inspection on a commercial building)**
4.
5. **Obtaining and maintaining proficiency takes minimal time and effort. (Ex. Hydrant flushing, activities you would let a rookie FF perform unsupervised)**

Training Areas
Salvage
Overhaul
Communication

Figure 3
Difficulty Survey

Results were tabulated into tables listing the number of responses for each training area and scale number. The term training area was used in place of organizational functions to simplify the concept for survey participants. An example is shown below (Table 2).

Table 2
Criticality Survey Raw Data

Training Area	1	2	3	4	5
Salvage	3	5	21	4	1
Overhaul	4	5	21	2	2
Communication	18	8	7	0	1

These tables of raw data were then weighted based on the 1-5 scale to allow a single score, rating overall criticality or difficulty for each training area to be calculated. An example of a resulting table is shown below (Table 3).

Table 3
Criticality Weighted Score Data

Training Area	1	2	3	4	5	Score
Salvage	3	**10**	**63**	**16**	**5**	97
Overhaul	4	**10**	**63**	**8**	**10**	95
Communication	18	**16**	**21**	**0**	**5**	60

The two weighted data tables were then converted to charts to show how each training area rated on overall criticality and difficulty. The first chart below, shows how each of the 76 training areas rates for difficulty in obtaining and maintaining proficiency. A lower score correlates to a higher degree of difficulty. Each training area number is cross referenced to a specific training area listed in the training areas table (Table 1).

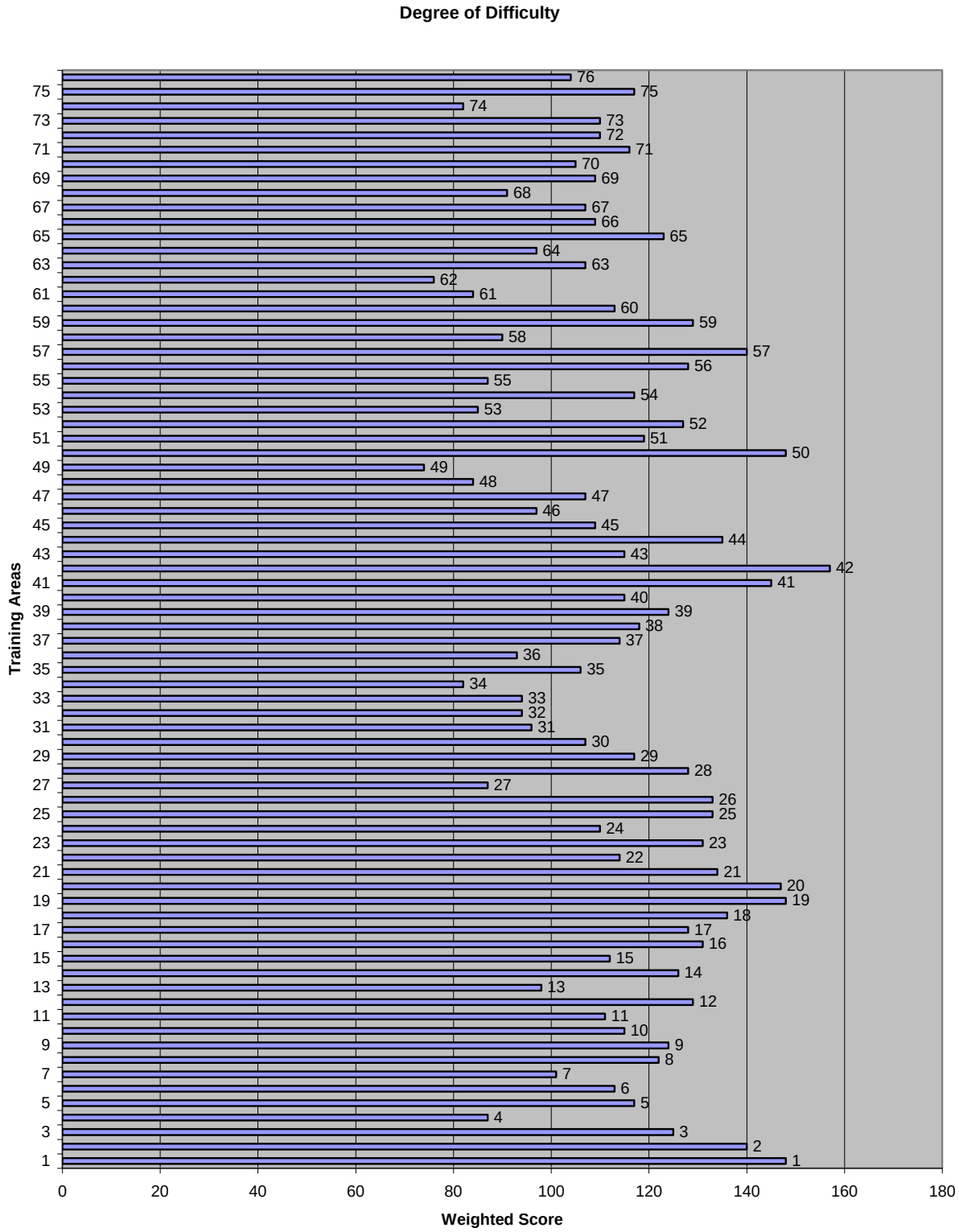

Figure 4
Difficulty in maintaining training area proficiency

The second chart below, illustrates how critical each training area was to the overall operation of the Upper Arlington Fire Division as judged by the respondents. Again, a lower score correlates to a higher degree of criticality.

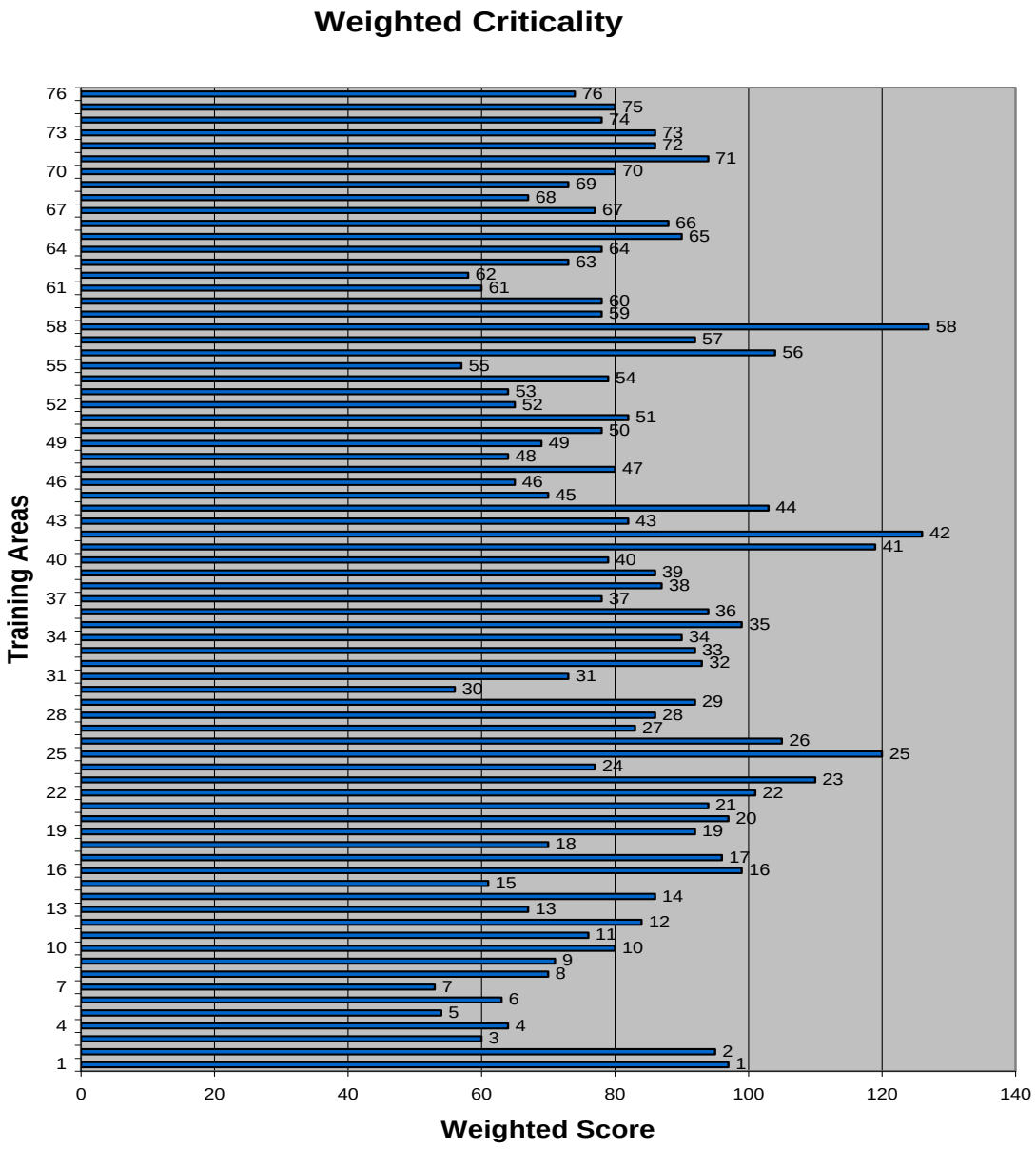

Figure 5
Criticality of each training area to UAFD operations

Once the weighted scores for difficulty and criticality were calculated, these two scores were plotted on the x and y axis of a scatter chart. The resulting chart below (Figure 6) was split into four quadrants. Each dot on the chart represents a specific training area. The chart prioritizes UAFD's core competencies based on how critical they are to UAFD operations and the frequency of training needed to maintain proficiency. The specific results are detailed in Appendix 12 – Priority Quadrant (sorted) which lists the designated quadrant of each training area.

The lower left quadrant [quadrant 1] is comprised of those training areas respondents thought were both highly critical to the operations of the Upper Arlington Fire Division and the most difficult in which to obtain and maintain proficiency.

The lower right quadrant [quadrant 2] is comprised of training areas that were also considered critical to the operation of UAFD by respondents. However, the difficulty in obtaining and maintaining proficiency is rated as less difficult by respondents.

The upper left quadrant [quadrant 3] encompassed training areas thought by respondents to be less critical to the operation of UAFD, but especially difficult to obtain and maintain proficiency in.

The upper right quadrant [quadrant 4] involved training areas that were considered both less critical to UAFD operations and less difficult to obtain and maintain proficiency.

The terms core competency, training area, and organizational functions are used interchangeably throughout this project.

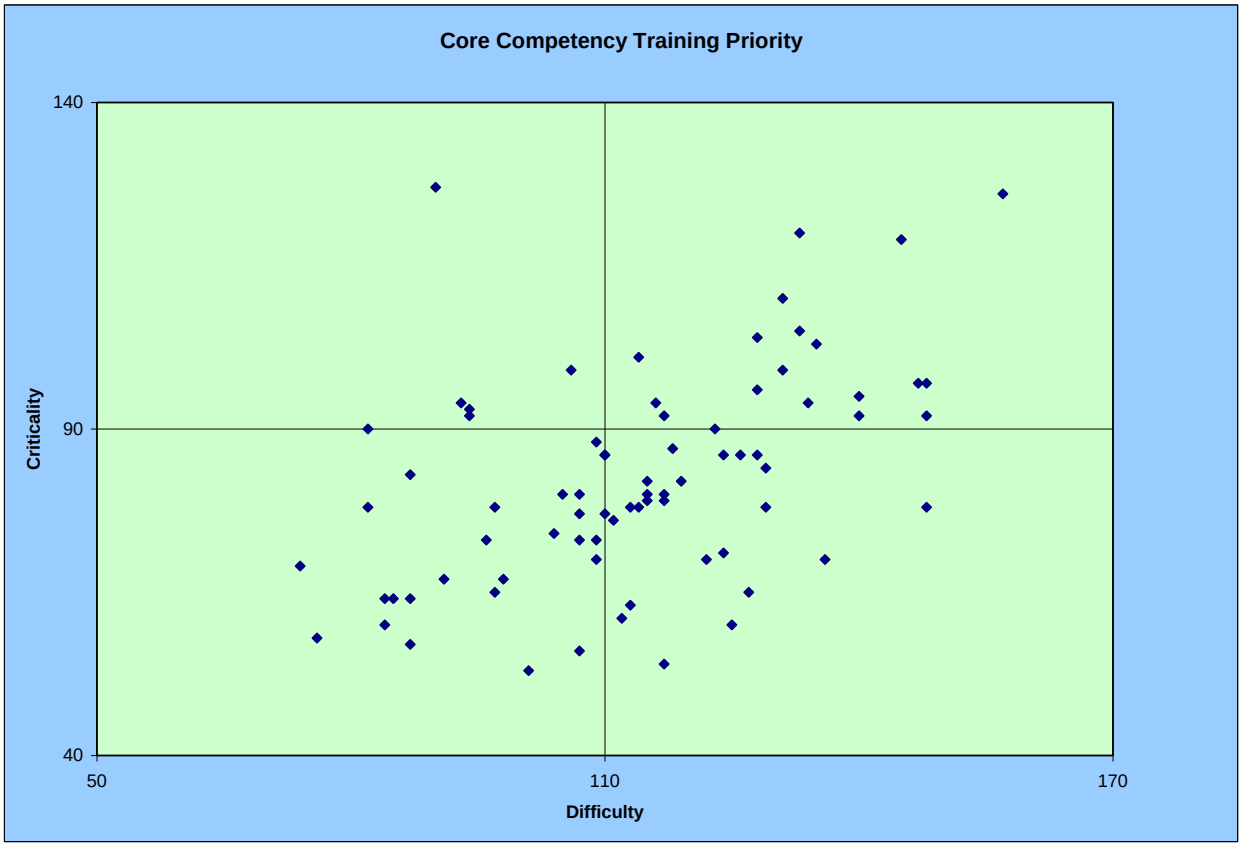

Figure 6
Chart prioritizing core competencies

DISCUSSION

Through a review of industry standards, articles in professional magazines, government studies and regulations, fire service textbooks, adult learning texts and two surveys the author attempted to discover how to define the core competencies of the Upper Arlington Fire Division (UAFD). That research led to several conclusions.

Government and its agencies mandate certain training. Fire departments are required to provide training in the organization's functional areas so that firefighters are adequately prepared to safely perform these functions in an emergency, Ohio Administrative Code, BWC (2006). UAFD increased the number of functional areas over the past 20 years causing training demands to increase.

An organization's functions must be clearly defined and stated in writing, Barr and Eversole (2003), Ohio Administrative Code, BWC (2006), and Morse (1999). This was an essential first step in determining what the core competencies of the organization were. UAFD did not have all organizational functions clearly defined in writing. This led to differing opinions as to what the level of service provided should be for certain organizational functions such as rope rescue. Another problem associated with undefined organizational functions was the inability of UAFD to provide a comprehensive training plan that covered all of the needs of the department. Once functions are determined, they can be prioritized and an effective plan can be developed to meet the training needs of the organization relative to the identified organizational functions. NFPA 1001 (2002)

Professional standards act as a guide in formulating both core competencies and a training program to address the fire department's training needs, but reliance on these standards

alone can not provide a comprehensive list of a fire department's core competencies. More information was needed from the organization itself. Caffarella (1994)

Some form of needs assessment model was identified by several sources as a method to determine what the organization's functions were and what the training program was or was not doing to meet the training needs. Cayse (2001), Reeder (2006), Barr, Eversole (2003) An important part of these assessments was discovering what the organization itself identified as core functions or competencies.

Initially, the author had planned to survey outside departments to determine how they developed their training programs and what other departments defined as their core competencies. After talking with Dr. Bill Ashley, Executive Director of the Ohio Fire Executive Program, about the format of the survey, the author became convinced that there was a greater need to survey the internal members of UAFD to determine what they identified as the most critical functions of the division.

The results of the three focus groups gave the author a list of critical functions for the division. UAFD members were surveyed on how critical each was to the operations of the division and how difficult proficiency was to maintain in each specific area. The results lay out important information on areas in which UAFD needs trained and the frequency of that training.

The results of the survey clearly showed that functions thought to be highly critical and difficult to maintain proficiency in should move to the forefront of the division's training program. Priority of training would move from there to highly critical functions easier to maintain, then to less critical functions difficult to maintain, and finally to functions easier to maintain and less critical. Each function should be broken down into job performance requirements (JPR) as defined by professional standards, governmental regulations and

divisional needs. Once each function has been broken down into its JPR, division members could be assessed for competency and areas of weakness addressed through the divisional training program working first from the most basic JPR's of the function up to the more complex JPR's.

The overall implication of the results for the Upper Arlington Fire Division was UAFD could develop an overall training program based on a prioritized list of functions or competencies identified through governmental regulations, professional standards and divisional operations.

RECOMMENDATIONS

The analysis of data collected through the literature review, focus groups and surveys exposed some weaknesses in UAFD's overall approach to its training program. The Upper Arlington Fire Division's overall professionalism, preparedness and safety would improve if the following recommendations were implemented.

1. The literature review overwhelmingly recommended fire departments identify and express in writing the functions they intend to perform and the level at which they will perform those functions.
2. Fire departments must dedicate the resources necessary to properly train adequate numbers of personnel in all identified functions. Fire service roles have expanded, increasing the number of complex training evolutions. Therefore, safety on the training ground must be demanded. If a fire department does not properly train and equip personnel to safely perform a function that function should not be part of the department's defined capabilities or the department's potential liability is increased.

3. The fire department's list of defined functions, pertinent governmental regulations, profession standards, and input from the fire department's personnel should all be utilized when developing a comprehensive training program.
4. A department's training plan should be prioritized based on data collected about the criticality (priority) and difficulty (frequency) of identified departmental functions.
5. A comprehensive training plan is not a static document and should be periodically reviewed and modified based on evolving conditions and priorities. This is not an excuse to avoid the process of devising a comprehensive training plan. Going through the process gives a department a view of its training needs that has the depth and breadth from which it can make intelligent adjustments along the way.

The Upper Arlington Fire Division would benefit in many ways from going through the process of defining core competencies. Once a comprehensive training plan is established, UAFD would be in a better position to campaign for the resources needed to implement the training plan. If done well, the process would effectively define the essential functions of the division; establish what and when training is needed, why that training is critical, and what resources will be needed to accomplish the goals of the training plan.

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APPENDIX 2 – TRAINING AREA TABLE

1	Salvage
2	Overhaul
3	Communication
4	Pump Operations
5	Extinguishment
6	Ventilation
7	Search and Rescue
8	Water Supply
9	Accountability
10	Forcible Entry
11	Incident Command System
12	Ladders
13	RIT
14	Utilities
15	Emergency Driving
16	Pre Plans
17	FDC and Standpipes
18	SCBA & PPE
19	Fire Alarm Response
20	Hand Tools
21	Hose Lays
22	High-rise Operations
23	Evidence Preservation
24	Reports/Documentation
25	Foam
26	Master Streams
27	Ropes
28	Thermal Imager
29	Alarm Systems
30	FF Safety
31	Extrication
32	Con-space Rescue
33	Water Rescue
34	High Angle Rescue
35	Ice Rescue
36	Trench collapse
37	Vehicle stabilization
38	Elevator emergency
39	Building Familiarization
40	Report Writing/Documentation
41	Billing
42	HIPAA
43	Protocol Review
44	Communication with ER staff
45	Scene Size-up & Safety
46	Primary Patient Assessments
47	Triage
48	ECG
49	Pharmacology
50	Body Substance Isolation
51	CPAP
52	CPR
53	Mega Code
54	Patient/Staff Communication
55	Airway Management
56	QA
57	Splinting/Bandaging
58	Spanish
59	Spinal Immobilization
60	Secondary assessments
61	Respiratory Emergencies
62	Cardiac Emergencies
63	Seizures
64	OB/GYN
65	Hyper/Hypo thermia
66	Behavioral Emergencies
67	Anaphylaxis
68	CVA/Stroke
69	Diabetic Emergencies
70	Overdoses
71	Sexual Assault
72	Burns
73	Avulsions/Amputations
74	Cricothyroidotomy
75	Musculoskeletal injuries
76	Asthma

APPENDIX 3 – DIFFICULTY SURVEY

Firefighter _____ Company Officer _____ Chief Officer _____ Medic ____

Rate the difficulty in obtaining and maintaining proficiency in the following training areas

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Scale (1 to 5)

6. **Obtaining proficiency takes time and effort. Once obtained, maintaining proficiency requires continuous effort. (Ex. Paramedic certification)**
7.
8. **Obtaining proficiency requires time and effort. Maintaining proficiency requires periodic review. (Ex. Performing a fire inspection on a commercial building)**
9.
10. **Obtaining and maintaining proficiency takes minimal time and effort. (Ex. Hydrant flushing, activities you would let a rookie FF perform unsupervised)**

Training Areas
Salvage
Overhaul

Communication
Pump Operations
Extinguishment
Ventilation
Search and Rescue
Water Supply
Accountability
Forcible Entry
Incident Command System
Ladders
RIT
Utilities
Emergency Driving
Pre Plans
FDC and Standpipes
SCBA & PPE
Fire Alarm Response
Hand Tools
Hose Lays
High-rise Operations
Evidence Preservation
Reports/Documentation

Foam
Master Streams
Ropes
Thermal Imager
Alarm Systems
FF Safety
Extrication
Con-space Rescue
Water Rescue
High Angle Rescue
Ice Rescue
Trench collapse
Vehicle stabilization
Elevator emergency
Building Familiarization
Report Writing/Documentation
Billing
HIPAA
Protocol Review
Communication with ER staff
Scene Size-up & Safety

Primary Patient Assessments
Triage
ECG
Pharmacology
Body Substance Isolation
CPAP
CPR
Mega Code
Patient/Staff Communication
Airway Management
QA
Splinting/Bandaging
Spanish
Spinal Immobilization
Secondary assessments
Respiratory Emergencies
Cardiac Emergencies
Seizures
OB/GYN

Hyper/Hypo thermia
Behavioral Emergencies
Anaphylaxis
CVA/Stroke
Diabetic Emergencies
Overdoses
Sexual Assault
Burns
Avulsions/Amputations
Cricothyroidotomy
Musculoskeletal injuries
Asthma

APPENDIX 4 – CRITICALITY SURVEY

Firefighter ____ Company Officer ____ Chief Officer ____ Medic ____

Rate how critically important each training area is to the operation of the Upper Arlington Fire Division.

Scale (1 to 5)

6. **Most critical to the operation of UAFD. Can't fulfill the mission of UAFD without it.**
7.
8. **Important to the operation of UAFD. Makes operations run smoothly and well.**
9.
10. **Nice to know, but not essential to the operation of UAFD.**

Training Areas
Salvage
Overhaul
Communication
Pump Operations
Extinguishment
Ventilation

Search and Rescue
Water Supply
Accountability
Forcible Entry
Incident Command System
Ladders
RIT
Utilities
Emergency Driving
Pre Plans
FDC and Standpipes
SCBA & PPE
Fire Alarm Response
Hand Tools
Hose Lays
High-rise Operations
Evidence Preservation
Reports/Documentation
Foam
Master Streams
Ropes
Thermal Imager

Alarm Systems
FF Safety
Extrication
Con-space Rescue
Water Rescue
High Angle Rescue
Ice Rescue
Trench collapse
Vehicle stabilization
Elevator emergency
Building Familiarization
Report Writing/Documentation
Billing
HIPAA
Protocol Review
Communication with ER staff
Scene Size-up & Safety
Primary Patient Assessments
Triage
ECG

Pharmacology
Body Substance Isolation
CPAP
CPR
Mega Code
Patient/Staff Communication
Airway Management
QA
Splinting/Bandaging
Spanish
Spinal Immobilization
Secondary assessments
Respiratory Emergencies
Cardiac Emergencies
Seizures
OB/GYN
Hyper/Hypo thermia
Behavioral Emergencies
Anaphylaxis
CVA/Stroke

Diabetic Emergencies
Overdoses
Sexual Assault
Burns
Avulsions/Amputations
Cricothyroidotomy
Musculoskeletal injuries
Asthma

APPENDIX 5 – CRITICALITY WEIGHTED SCORE DATA

Training Area	**1**	**2**	**3**	**4**	**5**	Score
Salvage	3	**10**	**63**	**16**	**5**	97
Overhaul	4	**10**	**63**	**8**	**10**	95
Communication	18	**16**	**21**	**0**	**5**	60
Pump Operations	16	**16**	**24**	**8**	**0**	64
Extinguishment	20	**18**	**12**	**4**	**0**	54
Ventilation	14	**24**	**21**	**4**	**0**	63
Search and Rescue	21	**14**	**18**	**0**	**0**	53
Water Supply	9	**28**	**33**	**0**	**0**	70
Accountability	12	**18**	**33**	**8**	**0**	71
Forcible Entry	7	**20**	**45**	**8**	**0**	80
Incident Command System	10	**18**	**36**	**12**	**0**	76
Ladders	7	**16**	**51**	**0**	**10**	84
RIT	13	**18**	**36**	**0**	**0**	67
Utilities	8	**8**	**54**	**16**	**0**	86
Emergency Driving	15	**26**	**15**	**0**	**5**	61
Pre Plans	4	**14**	**42**	**24**	**15**	99
FDC and Standpipes	4	**10**	**57**	**20**	**5**	96
SCBA & PPE	13	**16**	**36**	**0**	**5**	70
Fire Alarm Response	5	**16**	**45**	**16**	**10**	92
Hand Tools	6	**6**	**51**	**24**	**10**	97
Hose Lays	6	**10**	**45**	**28**	**5**	94
High-rise Operations	6	**4**	**45**	**36**	**10**	101
Evidence Preservation	4	**8**	**36**	**32**	**30**	110
Reports/Documentation	12	**16**	**30**	**4**	**15**	77
Foam	1	**10**	**33**	**36**	**40**	120
Master Streams	3	**12**	**39**	**36**	**15**	105
Ropes	7	**18**	**45**	**8**	**5**	83
Thermal Imager	6	**20**	**39**	**16**	**5**	86
Alarm Systems	2	**26**	**36**	**28**	**0**	92
FF Safety	18	**20**	**18**	**0**	**0**	56
Extrication	10	**20**	**39**	**4**	**0**	73
Con-space Rescue	6	**8**	**54**	**20**	**5**	93
Water Rescue	6	**10**	**51**	**20**	**5**	92
High Angle Rescue	7	**10**	**48**	**20**	**5**	90
Ice Rescue	5	**8**	**48**	**28**	**10**	99
Trench collapse	6	**10**	**45**	**28**	**5**	94

Vehicle stabilization	9	**20**	**39**	**0**	**10**	78
Elevator emergency	7	**12**	**54**	**4**	**10**	87
Building Familiarization	8	**20**	**24**	**24**	**10**	86
Report Writing/Documentation	10	**20**	**27**	**12**	**10**	79
Billing	3	**6**	**30**	**40**	**40**	119
HIPAA	2	**6**	**24**	**44**	**50**	126
Protocol Review	9	**16**	**39**	**8**	**10**	82
Communication with ER staff	3	**14**	**39**	**32**	**15**	103
Scene Size-up & Safety	12	**20**	**33**	**0**	**5**	70
Primary Patient Assessments	13	**28**	**15**	**4**	**5**	65
Triage	8	**22**	**33**	**12**	**5**	80
ECG	13	**24**	**27**	**0**	**0**	64
Pharmacology	12	**22**	**27**	**8**	**0**	69
Body Substance Isolation	8	**22**	**39**	**4**	**5**	78
CPAP	9	**14**	**39**	**20**	**0**	82
CPR	15	**16**	**30**	**4**	**0**	65
Mega Code	16	**14**	**30**	**4**	**0**	64
Patient/Staff Communication	9	**18**	**39**	**8**	**5**	79
Airway Management	18	**18**	**21**	**0**	**0**	57
QA	4	**12**	**33**	**40**	**15**	104
Splinting/Bandaging	5	**12**	**57**	**8**	**10**	92
Spanish	2	**4**	**30**	**36**	**55**	127
Spinal Immobilization	9	**18**	**42**	**4**	**5**	78
Secondary assessments	9	**14**	**42**	**8**	**5**	78
Respiratory Emergencies	15	**18**	**27**	**0**	**0**	60
Cardiac Emergencies	16	**18**	**24**	**0**	**0**	58
Seizures	12	**10**	**42**	**4**	**5**	73
OB/GYN	9	**10**	**51**	**8**	**0**	78
Hyper/Hypo thermia	7	**10**	**48**	**20**	**5**	90
Behavioral Emergencies	6	**16**	**45**	**16**	**5**	88
Anaphylaxis	9	**16**	**48**	**4**	**0**	77
CVA/Stroke	14	**18**	**30**	**0**	**5**	67
Diabetic Emergencies	11	**18**	**39**	**0**	**5**	73
Overdoses	8	**16**	**48**	**8**	**0**	80
Sexual Assault	6	**8**	**57**	**8**	**15**	94
Burns	7	**12**	**54**	**8**	**5**	86
Avulsions/Amputations	8	**6**	**63**	**4**	**5**	86
Cricothyroidotomy	10	**14**	**45**	**4**	**5**	78
Musculoskeletal injuries	10	**6**	**60**	**4**	**0**	80

Asthma	11	**14**	**45**	**4**	**0**	74

APPENDIX 6 – DIFFICULTY WEIGHTED SCORE DATA

Training Area	**1**	**2**	**3**	**4**	**5**	Score
Salvage	0	**6**	**33**	**64**	**45**	148
Overhaul	0	**4**	**54**	**52**	**30**	140
Communication	0	**18**	**48**	**44**	**15**	125
Pump Operations	7	**36**	**36**	**8**	**0**	87
Extinguishment	2	**22**	**39**	**44**	**10**	117
Ventilation	1	**18**	**66**	**28**	**0**	113
Search and Rescue	5	**24**	**48**	**24**	**0**	101
Water Supply	1	**12**	**57**	**52**	**0**	122
Accountability	1	**12**	**54**	**52**	**5**	124
Forcible Entry	0	**20**	**69**	**16**	**10**	115
Incident Command System	1	**16**	**78**	**16**	**0**	111
Ladders	1	**6**	**60**	**52**	**10**	129
RIT	4	**30**	**51**	**8**	**5**	98
Utilities	1	**10**	**57**	**48**	**10**	126
Emergency Driving	4	**22**	**36**	**40**	**10**	112
Pre Plans	0	**14**	**45**	**52**	**20**	131
FDC and Standpipes	0	**12**	**51**	**60**	**5**	128
SCBA & PPE	0	**14**	**36**	**56**	**30**	136
Fire Alarm Response	0	**4**	**33**	**76**	**35**	148
Hand Tools	1	**4**	**27**	**80**	**35**	147
Hose Lays	1	**4**	**51**	**68**	**10**	134
High-rise Operations	1	**20**	**60**	**28**	**5**	114
Evidence Preservation	0	**14**	**42**	**60**	**15**	131
Reports/Documentation	3	**22**	**48**	**32**	**5**	110
Foam	1	**8**	**45**	**64**	**15**	133
Master Streams	1	**2**	**66**	**44**	**20**	133
Ropes	7	**42**	**21**	**12**	**5**	87
Thermal Imager	0	**16**	**48**	**44**	**20**	128
Alarm Systems	0	**18**	**63**	**36**	**0**	117
FF Safety	6	**20**	**39**	**32**	**10**	107
Extrication	6	**34**	**30**	**16**	**10**	96
Con-space Rescue	7	**24**	**51**	**12**	**0**	94
Water Rescue	8	**24**	**45**	**12**	**5**	94

High Angle Rescue	13	**28**	**27**	**4**	**10**	82
Ice Rescue	3	**30**	**36**	**32**	**5**	106
Trench collapse	8	**22**	**51**	**12**	**0**	93
Vehicle stabilization	3	**14**	**57**	**40**	**0**	114
Elevator emergency	1	**12**	**69**	**36**	**0**	118
Building Familiarization	3	**12**	**54**	**20**	**35**	124
Report Writing/Documentation	4	**14**	**54**	**28**	**15**	115
Billing	0	**6**	**36**	**48**	**55**	145
HIPAA	0	**4**	**27**	**56**	**70**	157
Protocol Review	2	**18**	**57**	**28**	**10**	115
Communication with ER staff	2	**8**	**33**	**72**	**20**	135
Scene Size-up & Safety	6	**16**	**42**	**40**	**5**	109
Primary Patient Assessments	6	**26**	**36**	**24**	**5**	97
Triage	5	**16**	**66**	**20**	**0**	107
ECG	11	**30**	**27**	**16**	**0**	84
Pharmacology	16	**32**	**9**	**12**	**5**	74
Body Substance Isolation	1	**2**	**42**	**48**	**55**	148
CPAP	2	**14**	**54**	**44**	**5**	119
CPR	2	**10**	**48**	**52**	**15**	127
Mega Code	13	**18**	**42**	**12**	**0**	85
Patient/Staff Communication	3	**12**	**57**	**40**	**5**	117
Airway Management	8	**32**	**39**	**8**	**0**	87
QA	1	**12**	**51**	**44**	**20**	128
Splinting/Bandaging	2	**2**	**30**	**96**	**10**	140
Spanish	15	**18**	**21**	**16**	**20**	90
Spinal Immobilization	0	**12**	**51**	**56**	**10**	129
Secondary assessments	2	**18**	**57**	**36**	**0**	113
Respiratory Emergencies	11	**28**	**33**	**12**	**0**	84
Cardiac Emergencies	11	**36**	**21**	**8**	**0**	76
Seizures	2	**26**	**57**	**12**	**10**	107
OB/GYN	6	**28**	**39**	**24**	**0**	97
Hyper/Hypo thermia	1	**14**	**57**	**36**	**15**	123
Behavioral Emergencies	2	**26**	**48**	**28**	**5**	109
Anaphylaxis	2	**26**	**51**	**28**	**0**	107
CVA/Stroke	10	**24**	**36**	**16**	**5**	91
Diabetic Emergencies	3	**18**	**63**	**20**	**5**	109
Overdoses	3	**24**	**54**	**24**	**0**	105
Sexual Assault	2	**20**	**48**	**36**	**10**	116
Burns	2	**22**	**54**	**32**	**0**	110

Avulsions/Amputations	2	**22**	**57**	**24**	**5**	110
Cricothyroidotomy	13	**28**	**27**	**4**	**10**	82
Musculoskeletal injuries	1	**14**	**69**	**28**	**5**	117
Asthma	2	**28**	**54**	**20**	**0**	104

APPENDIX 7 – DIFFICULTY SURVEY RAW DATA

Training Area	1	2	3	4	5
Salvage	0	3	11	16	9
Overhaul	0	2	18	13	6
Communication	0	9	16	11	3
Pump Operations	7	18	12	2	0
Extinguishment	2	11	13	11	2
Ventilation	1	9	22	7	0
Search and Rescue	5	12	16	6	0
Water Supply	1	6	19	13	0
Accountability	1	6	18	13	1
Forcible Entry	0	10	23	4	2
Incident Command System	1	8	26	4	0
Ladders	1	3	20	13	2
RIT	4	15	17	2	1
Utilities	1	5	19	12	2
Emergency Driving	4	11	12	10	2
Pre Plans	0	7	15	13	4
FDC and Standpipes	0	6	17	15	1
SCBA & PPE	0	7	12	14	6
Fire Alarm Response	0	2	11	19	7
Hand Tools	1	2	9	20	7
Hose Lays	1	2	17	17	2
High-rise Operations	1	10	20	7	1
Evidence Preservation	0	7	14	15	3
Reports/Documentation	3	11	16	8	1
Foam	1	4	15	16	3
Master Streams	1	1	22	11	4
Ropes	7	21	7	3	1
Thermal Imager	0	8	16	11	4
Alarm Systems	0	9	21	9	0
FF Safety	6	10	13	8	2
Extrication	6	17	10	4	2
Con-space Rescue	7	12	17	3	0
Water Rescue	8	12	15	3	1

High Angle Rescue	13	14	9	1	2
Ice Rescue	3	15	12	8	1
Trench collapse	8	11	17	3	0
Vehicle stabilization	3	7	19	10	0
Elevator emergency	1	6	23	9	0
Building Familiarization	3	6	18	5	7
Report Writing/Documentation	4	7	18	7	3
Billing	0	3	12	12	11
HIPAA	0	2	9	14	14
Protocol Review	2	9	19	7	2
Communication with ER staff	2	4	11	18	4
Scene Size-up & Safety	6	8	14	10	1
Primary Patient Assessments	6	13	12	6	1
Triage	5	8	22	5	0
ECG	11	15	9	4	0
Pharmacology	16	16	3	3	1
Body Substance Isolation	1	1	14	12	11
CPAP	2	7	18	11	1
CPR	2	5	16	13	3
Mega Code	13	9	14	3	0
Patient/Staff Communication	3	6	19	10	1
Airway Management	8	16	13	2	0
QA	1	6	17	11	4
Splinting/Bandaging	2	1	10	24	2
Spanish	15	9	7	4	4
Spinal Immobilization	0	6	17	14	2
Secondary assessments	2	9	19	9	0
Respiratory Emergencies	11	14	11	3	0
Cardiac Emergencies	11	18	7	2	0
Seizures	2	13	19	3	2
OB/GYN	6	14	13	6	0
Hyper/Hypo thermia	1	7	19	9	3
Behavioral Emergencies	2	13	16	7	1
Anaphylaxis	2	13	17	7	0
CVA/Stroke	10	12	12	4	1
Diabetic Emergencies	3	9	21	5	1

Overdoses	3	12	18	6	0
Sexual Assault	2	10	16	9	2
Burns	2	11	18	8	0
Avulsions/Amputations	2	11	19	6	1
Cricothyroidotomy	13	14	9	1	2
Musculoskeletal injuries	1	7	23	7	1
Asthma	2	14	18	5	0

APPENDIX 8 – CRITICALITY SURVEY RAW DATA

Training Area	1	2	3	4	5
Salvage	3	5	21	4	1
Overhaul	4	5	21	2	2
Communication	18	8	7	0	1
Pump Operations	16	8	8	2	0
Extinguishment	20	9	4	1	0
Ventilation	14	12	7	1	0
Search and Rescue	21	7	6	0	0
Water Supply	9	14	11	0	0
Accountability	12	9	11	2	0
Forcible Entry	7	10	15	2	0
Incident Command System	10	9	12	3	0
Ladders	7	8	17	0	2
RIT	13	9	12	0	0
Utilities	8	4	18	4	0
Emergency Driving	15	13	5	0	1
Pre Plans	4	7	14	6	3
FDC and Standpipes	4	5	19	5	1
SCBA & PPE	13	8	12	0	1
Fire Alarm Response	5	8	15	4	2
Hand Tools	6	3	17	6	2
Hose Lays	6	5	15	7	1
High-rise Operations	6	2	15	9	2
Evidence Preservation	4	4	12	8	6
Reports/Documentation	12	8	10	1	3
Foam	1	5	11	9	8
Master Streams	3	6	13	9	3
Ropes	7	9	15	2	1
Thermal Imager	6	10	13	4	1
Alarm Systems	2	13	12	7	0
FF Safety	18	10	6	0	0
Extrication	10	10	13	1	0
Con-space Rescue	6	4	18	5	1
Water Rescue	6	5	17	5	1
High Angle Rescue	7	5	16	5	1

Ice Rescue	5	4	16	7	2
Trench collapse	6	5	15	7	1
Vehicle stabilization	9	10	13	0	2
Elevator emergency	7	6	18	1	2
Building Familiarization	8	10	8	6	2
Report Writing/Documentation	10	10	9	3	2
Billing	3	3	10	10	8
HIPAA	2	3	8	11	10
Protocol Review	9	8	13	2	2
Communication with ER staff	3	7	13	8	3
Scene Size-up & Safety	12	10	11	0	1
Primary Patient Assessments	13	14	5	1	1
Triage	8	11	11	3	1
ECG	13	12	9	0	0
Pharmacology	12	11	9	2	0
Body Substance Isolation	8	11	13	1	1
CPAP	9	7	13	5	0
CPR	15	8	10	1	0
Mega Code	16	7	10	1	0
Patient/Staff Communication	9	9	13	2	1
Airway Management	18	9	7	0	0
QA	4	6	11	10	3
Splinting/Bandaging	5	6	19	2	2
Spanish	2	2	10	9	11
Spinal Immobilization	9	9	14	1	1
Secondary assessments	9	7	14	2	1
Respiratory Emergencies	15	9	9	0	0
Cardiac Emergencies	16	9	8	0	0
Seizures	12	5	14	1	1
OB/GYN	9	5	17	2	0
Hyper/Hypo thermia	7	5	16	5	1
Behavioral Emergencies	6	8	15	4	1
Anaphylaxis	9	8	16	1	0
CVA/Stroke	14	9	10	0	1
Diabetic Emergencies	11	9	13	0	1
Overdoses	8	8	16	2	0
Sexual Assault	6	4	19	2	3
Burns	7	6	18	2	1

Avulsions/Amputations	8	3	21	1	1
Cricothyroidotomy	10	7	15	1	1
Musculoskeletal injuries	10	3	20	1	0
Asthma	11	7	15	1	0

APPENDIX 9 – WEIGHTED SCORES TABLE

Difficulty Score	Criticality Score		Training Areas
148	97	1	Salvage
140	95	2	Overhaul
125	60	3	Communication
87	64	4	Pump Operations
117	54	5	Extinguishment
113	63	6	Ventilation
101	53	7	Search and Rescue
122	70	8	Water Supply
124	71	9	Accountability
115	80	10	Forcible Entry
111	76	11	Incident Command System
129	84	12	Ladders
98	67	13	RIT
126	86	14	Utilities
112	61	15	Emergency Driving
131	99	16	Pre Plans
128	96	17	FDC and Standpipes
136	70	18	SCBA & PPE
148	92	19	Fire Alarm Response
147	97	20	Hand Tools
134	94	21	Hose Lays
114	101	22	High-rise Operations
131	110	23	Evidence Preservation
110	77	24	Reports/Documentation
133	120	25	Foam
133	105	26	Master Streams
87	83	27	Ropes
128	86	28	Thermal Imager
117	92	29	Alarm Systems
107	56	30	FF Safety
96	73	31	Extrication
94	93	32	Con-space Rescue
94	92	33	Water Rescue
82	90	34	High Angle Rescue
106	99	35	Ice Rescue
93	94	36	Trench collapse
114	78	37	Vehicle stabilization

118	87	38	Elevator emergency
124	86	39	Building Familiarization
115	79	40	Report Writing/Documentation
145	119	41	Billing
157	126	42	HIPAA
115	82	43	Protocol Review
135	103	44	Communication with ER staff
109	70	45	Scene Size-up & Safety
97	65	46	Primary Patient Assessments
107	80	47	Triage
84	64	48	ECG
74	69	49	Pharmacology
148	78	50	Body Substance Isolation
119	82	51	CPAP
127	65	52	CPR
85	64	53	Mega Code
117	79	54	Patient/Staff Communication
87	57	55	Airway Management
128	104	56	QA
140	92	57	Splinting/Bandaging
90	127	58	Spanish
129	78	59	Spinal Immobilization
113	78	60	Secondary assessments
84	60	61	Respiratory Emergencies
76	58	62	Cardiac Emergencies
107	73	63	Seizures
97	78	64	OB/GYN
123	90	65	Hyper/Hypo thermia
109	88	66	Behavioral Emergencies
107	77	67	Anaphylaxis
91	67	68	CVA/Stroke
109	73	69	Diabetic Emergencies
105	80	70	Overdoses
116	94	71	Sexual Assault
110	86	72	Burns
110	86	73	Avulsions/Amputations
82	78	74	Cricothyroidotomy
117	80	75	Musculoskeletal injuries
104	74	76	Asthma

APPENDIX 10 – DIFFICULTY SCORE SORTED HIGH TO LOW

Difficulty Score		Training Area #	Training Areas
74		49	Pharmacology
76		62	Cardiac Emergencies
82		34	High Angle Rescue
82		74	Cricothyroidotomy
84		48	ECG
84		61	Respiratory Emergencies
85		53	Mega Code
87		4	Pump Operations
87		27	Ropes
87		55	Airway Management
90		58	Spanish
91		68	CVA/Stroke
93		36	Trench collapse
94		32	Con-space Rescue
94		33	Water Rescue
96		31	Extrication
97		46	Primary Patient Assessments
97		64	OB/GYN
98		13	RIT
101		7	Search and Rescue
104		76	Asthma
105		70	Overdoses
106		35	Ice Rescue
107		30	FF Safety
107		47	Triage
107		63	Seizures
107		67	Anaphylaxis
109		45	Scene Size-up & Safety
109		66	Behavioral Emergencies
109		69	Diabetic Emergencies
110		24	Reports/Documentation
110		72	Burns
110		73	Avulsions/Amputations
111		11	Incident Command System

112		15	Emergency Driving
113		6	Ventilation
113		60	Secondary assessments
114		22	High-rise Operations
114		37	Vehicle stabilization
115		10	Forcible Entry
115		40	Report Writing/Documentation
115		43	Protocol Review
116		71	Sexual Assault
117		5	Extinguishment
117		29	Alarm Systems
117		54	Patient/Staff Communication
117		75	Musculoskeletal injuries
118		38	Elevator emergency
119		51	CPAP
122		8	Water Supply
123		65	Hyper/Hypo thermia
124		9	Accountability
124		39	Building Familiarization
125		3	Communication
126		14	Utilities
127		52	CPR
128		17	FDC and Standpipes
128		28	Thermal Imager
128		56	QA
129		12	Ladders
129		59	Spinal Immobilization
131		16	Pre Plans
131		23	Evidence Preservation
133		25	Foam
133		26	Master Streams
134		21	Hose Lays
135		44	Communication with ER staff
136		18	SCBA & PPE
140		2	Overhaul
140		57	Splinting/Bandaging
145		41	Billing
147		20	Hand Tools
148		1	Salvage

148		19	Fire Alarm Response
148		50	Body Substance Isolation
157		42	HIPAA

APPENDIX 11 – CRITICALITY SCORE SORTED HIGH TO LOW

Criticality Score	Training Area #	Training Areas
53	7	Search and Rescue
54	5	Extinguishment
56	30	FF Safety
57	55	Airway Management
58	62	Cardiac Emergencies
60	3	Communication
60	61	Respiratory Emergencies
61	15	Emergency Driving
63	6	Ventilation
64	48	ECG
64	53	Mega Code
64	4	Pump Operations
65	52	CPR
65	46	Primary Patient Assessments
67	68	CVA/Stroke
67	13	RIT
69	49	Pharmacology
70	18	SCBA & PPE
70	45	Scene Size-up & Safety
70	8	Water Supply
71	9	Accountability
73	69	Diabetic Emergencies
73	31	Extrication
73	63	Seizures
74	76	Asthma
76	11	Incident Command System
77	67	Anaphylaxis
77	24	Reports/Documentation
78	50	Body Substance Isolation
78	74	Cricothyroidotomy
78	64	OB/GYN
78	60	Secondary assessments
78	59	Spinal Immobilization
78	37	Vehicle stabilization

79	54	Patient/Staff Communication
79	40	Report Writing/Documentation
80	10	Forcible Entry
80	75	Musculoskeletal injuries
80	70	Overdoses
80	47	Triage
82	51	CPAP
82	43	Protocol Review
83	27	Ropes
84	12	Ladders
86	73	Avulsions/Amputations
86	39	Building Familiarization
86	72	Burns
86	28	Thermal Imager
86	14	Utilities
87	38	Elevator emergency
88	66	Behavioral Emergencies
90	34	High Angle Rescue
90	65	Hyper/Hypo thermia
92	29	Alarm Systems
92	19	Fire Alarm Response
92	57	Splinting/Bandaging
92	33	Water Rescue
93	32	Con-space Rescue
94	21	Hose Lays
94	71	Sexual Assault
94	36	Trench collapse
95	2	Overhaul
96	17	FDC and Standpipes
97	20	Hand Tools
97	1	Salvage
99	35	Ice Rescue
99	16	Pre Plans
101	22	High-rise Operations
103	44	Communication with ER staff
104	56	QA
105	26	Master Streams
110	23	Evidence Preservation
119	41	Billing

120	25	Foam
126	42	HIPAA
127	58	Spanish

APPENDIX 12 – PRIORITY QUADRANT (SORTED)

Training Area #	Training Areas	Quadrant #
55	Airway Management	1
67	Anaphylaxis	1
76	Asthma	1
73	Avulsions/Amputations	1
66	Behavioral Emergencies	1
72	Burns	1
62	Cardiac Emergencies	1
74	Cricothyroidotomy	1
68	CVA/Stroke	1
48	ECG	1
31	Extrication	1
30	FF Safety	1
34	High Angle Rescue	1
53	Mega Code	1
64	OB/GYN	1
49	Pharmacology	1
46	Primary Patient Assessments	1
4	Pump Operations	1
24	Reports/Documentation	1
61	Respiratory Emergencies	1
13	RIT	1
27	Ropes	1
45	Scene Size-up & Safety	1
7	Search and Rescue	1
63	Seizures	1
47	Triage	1
9	Accountability	2
50	Body Substance Isolation	2
39	Building Familiarization	2
3	Communication	2
51	CPAP	2
52	CPR	2
69	Diabetic Emergencies	2
38	Elevator emergency	2

15	Emergency Driving	2
5	Extinguishment	2
10	Forcible Entry	2
65	Hyper/Hypo thermia	2
11	Incident Command System	2
12	Ladders	2
75	Musculoskeletal injuries	2
70	Overdoses	2
54	Patient/Staff Communication	2
43	Protocol Review	2
40	Report Writing/Documentation	2
18	SCBA & PPE	2
60	Secondary assessments	2
59	Spinal Immobilization	2
28	Thermal Imager	2
14	Utilities	2
37	Vehicle stabilization	2
6	Ventilation	2
8	Water Supply	2
32	Con-space Rescue	3
35	Ice Rescue	3
58	Spanish	3
36	Trench collapse	3
33	Water Rescue	3
29	Alarm Systems	4
41	Billing	4
44	Communication with ER staff	4
23	Evidence Preservation	4
17	FDC and Standpipes	4
19	Fire Alarm Response	4
25	Foam	4
20	Hand Tools	4
22	High-rise Operations	4
42	HIPAA	4
21	Hose Lays	4
26	Master Streams	4
2	Overhaul	4
16	Pre Plans	4

56	QA	4
1	Salvage	4
71	Sexual Assault	4
57	Splinting/Bandaging	4