

## ***IACA CERTIFICATION SKILL SET***

### **Knowledge of Crime Analysis Basics**

Have an understanding and knowledge of the definition of crime analysis, as well as the types, functions, and processes of crime analysts and crime analysis.

### **Evaluate the Integrity of Information**

Have the ability to determine the validity, the reliability, and the credibility of verbal, written, numeric and graphic information encountered during the analysis process.

### **Knowledge of Criminal Behavior**

Understand the behavioral patterns (M.O.) and motivations of serial criminals, street criminals, organized crime groups, juveniles, domestic/family violence, and the impact of alcohol and narcotics on crime. Understand socio-economic, cultural, psychological, biological, environmental and historical theories/influences on criminal behavior. Have knowledge of victimology.

### **Understand Criminal Justice System**

Understand the relationship among law enforcement, courts and corrections at the local, state and federal level. Have knowledge of how people and cases progress through the system, of the professions and roles within the system, and of the function of crime analysis within this context.

### **Conduct Temporal Analysis**

Know how to calculate and analyze the times of day, days of week, intervals, durations, tempos, and temporal cycles of crime in general and of criminal behavior in short-term and long-term series, patterns, and trends. Understand the use of temporal analysis in making forecasts and predictions of incidents regarding identified crime trends and series.

### **Use Descriptive Statistics**

Know how to summarize and analyze qualitative and quantitative data using calculations such as frequencies, percent change, cross-tabulations, measures of central tendency (e.g., mean, median, mode) measures of variation (e.g., standard deviation, variance) and correlations. Understand the difference between, and appropriate usage of, ordinal, nominal, interval and ratio data. Know the appropriate levels of measurement used to support tactical, strategic, and administrative analysis.

### **Use Inferential Statistics**

Know the techniques for taking random samples and how the results of these samples can be inferentially applied to the populations from which they were drawn. Know the difference between inferential and descriptive statistics, and when inferential statistics are appropriate to crime analysis (e.g., citizen surveys, victimization studies, calls-for-service analysis).”

### **Conduct Demographic Analysis**

Have the ability to gather from various sources, analyze and summarize demographic information such as population, housing data, racial/ethnic makeup and age groups, and to understand the relationship and application possibilities of these variables to crime data in the context of community policing and problem solving.

### **Interpret Crime Statistics**

Have the ability to understand and compare local and national crime statistics (e.g., UCR and NIBRS data\*) using common data standards, codebooks, and data dictionaries. Understand the rules and standards, as well as the caveats and shortcomings, of these data sets.

\*Analysts from outside the United States will apply the stated standard to their national statistics.

### **Spatial Analysis**

Know the basic principles and techniques of geographic analysis, and how to create maps by using appropriate data sets. Know how to produce point symbol (pin), buffer, hot spot, choropleth and density maps. Be able to analyze maps to determine the nature of crime problems related to location, to use maps in forecasting and predicting incidents regarding crime trends and series, and to interpret maps for specific audiences. Have knowledge of crime mapping issues (e.g., geocoding, privacy, data quality).

### **Investigative/Intelligence Analysis Charting**

Know the terms, symbols, visual work products and charting techniques used to depict information for investigative and intelligence efforts (e.g., VIA charts, link charts and telephone toll analysis).

### **Reading Comprehension**

Have the ability to discern, synthesize, remember and summarize useful and logical information from a report, research document, or other written information source.

### **Writing Expository Narratives**

Possess the necessary writing skills to explain information, draw conclusions and/or make recommendations in a narrative format that is objective, succinct, pertinent, articulate and relevant.

### **Making Effective Presentations**

The ability to develop an effective, directed and informative verbal presentation that will be useful to the specific audience being addressed; the knowledge of visual aide software and operation; the ability to handle audience participation and time constraints, and to answer questions concisely and accurately.

### **Word Processing Skills**

Know how to use a computer to produce documents such as bulletins and reports, which are suitable for dissemination to various audiences, and to incorporate graphics into these documents (i.e., charts, maps, pictures, diagrams).

### **Spreadsheet Operations**

Use a computer to create an electronic matrix or spreadsheet, manipulate the data and/or records and use statistical formulas to answer fundamental questions including frequency, percent, percent change, sum, average, standard deviation, regression analysis, forecasting, and correlation. Know how to perform cross-tabulations, to create charts and graphs, and to export these objects to other applications.

### **Internet /Intranet Skills**

Know how the internet/intranet can be accessed, how to use internal and web-based e-mail, and how to use search engines. Know about online resources and crime analysis-related information that can be found on the Internet and on various intranets. Have the ability to find and use relevant “open source” information.

### **Applied Research Methods in Crime Analysis**

Know how to conduct applied research, through familiarity with basic research methods. Understand the scientific process of collection, collation, analysis and evaluation, and how crime analysis represents social science as applied research. Have an understanding of the concepts and the usage of SARA – the research model for conducting problem solving.

### **Evaluation of Qualitative Information**

Have the ability to analyze the content of qualitative information such as survey results, crime and arrest reports, narratives, and victim/witness/suspect statements. Have the ability to understand, categorize and summarize qualitative data, and to include relevant qualitative information in reports and briefings.

### **Critical Thinking Skills**

Have knowledge of the importance of thinking critically about the methods, procedures, tool and techniques employed in crime analysis. Know how the following elements of critical thinking apply to law enforcement analytical work: inductive and deductive reasoning, logic, problem-solving techniques, creativity, self-awareness, and self-regulation.