



# Certified Law Enforcement Analyst (CLEA) Study Guide & Reading Resources

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May, 2021

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## About the CLEA Study Guide

This study guide is to be used as a supplement to materials used in preparing for the IACA Certification Exam. It is not meant to be the sole study tool for the exam. Questions on the exam may be worded differently than concepts provided in this study guide. This study guide is not all-inclusive and only provides general concepts that are covered on the exam. This study guide should also be used in combination with other references in addition to the IACA's *Exploring Crime Analysis (3<sup>rd</sup> edition)* book.

## Skill Set 1 – Crime Analysis Terms, Concepts and Processes

Know the fundamentals of crime analysis, including purpose, terminology, variations, functions and processes.

- History of crime analysis
- Crimes series, crime patterns, crime trends (from white paper)
- Crime analysis process
- Types of crime analysis
- Goals of crime analysis

## Skill Set 2 – Law Enforcement Models

Understand the current philosophies and models of policing such as problem-oriented policing, COMPSTAT, data-driven policing, intelligence-led policing and community policing. Know how crime analysis supports these models, and have a basic understanding of how they apply internationally.

- Intelligence-led policing
  - Predictive policing
- Data-driven policing
  - DDACTS
- Accountability model
  - COMPSTAT
- Community policing
- Problem-oriented policing
  - SARA Model
- Crime prevention models
- Regional data sharing
  - Fusion centers
  - HIDTA
- Centralized vs. decentralized models

### **Skill Set 3 – Criminal Behavior**

Understand patterns of criminal behavior and have the ability to apply that knowledge to analysis. Understand historical and contemporary theories of criminal behavior as they apply to offender motivation and target selection.

- Criminal event perspective
  - Crime Triangle
- Target selection
- Theories of crime
- Repeat offenders
  - 80/20 Rule
  - Recidivism
- Modus operandi
- Geography of crime
  - Environmental criminology
  - Routine Activity Theory
  - Rational Choice Theory
- Mental disorders
- Psychopathy
- Substance abuse

### **Skill Set 4 – Law Enforcement Data and Crime Analysis Data Sources**

Understand the primary types of law enforcement data as well as crime reporting standards, such as NIBRS and UCR. Understand the differences in crime analysis data sources and when to use each type for specific analysis or reporting purposes.

- Qualitative vs. quantitative data
- CAD
- RMS
- JMS
- Criminal Justice Systems
  - NCIC
  - UCR
  - NIBRS
  - NCVS
- Open source information

## Skill Set 5 – Internet Resources

Know how to use the Internet to conduct research and to find and use relevant open source information. Understand how the use and analysis of social media can assist with criminal investigations, crime prevention and community policing.

- The Internet
  - Surface web, deep web, dark web
- Intranet, extranet, and VPNs
- Advanced search operators
- Open source intelligence
- Government agencies
  - Law Enforcement Online
  - Homeland Security Information Network
  - National Insurance Crime Bureau
- Free software
- Free online training
- Social networking websites
- Metadata
- The dark web
  - The Onion Router (TOR)

## Skill Set 6 – Crime Analysis Data and Data Management

Have the ability to query data sources as well as an understanding of data storage, including relational database structure and data quality issues.

- Data integrity
- Database management systems
- Data cleaning
- Data storage
- ODBC
- Metadata
- Qualitative data analysis
- Automation
- IACA white papers (in References)
- Primary and secondary data

## Skill Set 7 – Applied Research Methods

Know how to conduct applied research and understand its application in problem-solving. Understand the scientific process of collection, collation, analysis and evaluation, and how crime analysis applies social science concepts using the SARA model.

- Methods of data collection
- Environmental surveys
- SARA model
- Secondary data
- Situational crime prevention
- Types of research

## Skill Set 8 – 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 and measures of variation. Know the different levels of measurement and their appropriate use to support tactical, strategic, operational and administrative analysis.

- Levels of measurement
- Frequency distribution
- Measures of central tendency
- Percentages
- Skewness
- Standard deviation
- Rates
- Percent change

## Skill Set 9 - Advanced Statistical Concepts

Understand the advanced concepts of bivariate analysis and inferential statistics, as well as their application to crime analysis.

- Correlation and regression analysis
- Statistical inference
- Samples and populations
- Probability samples
- Hypothesis testing
- Deductive and inductive reasoning
- P-values and statistical significance
- Means testing
- Statistical association

## Skill Set 10 – Qualitative Analysis

Have the ability to analyze 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.

- Crime Analysis Using Qualitative Data
  - Tactical
  - Strategic
  - Administrative
- Sources of Qualitative Information
- Qualitative Research Methods
- Critical Thinking in Qualitative Analysis
  - Deductive reasoning
  - Inductive reasoning
  - Abductive reasoning
  - Analogous reasoning
- Problem Types
- Surveys

## **Skill Set 11 – Spreadsheet Operations**

Know how to create electronic matrices or spreadsheets, manipulate the data and use statistical formulas to perform fundamental calculations such as frequency, percent, percent change, standard deviation, regression, forecasts, cross-tabulations and correlation. Know how to create charts and graphs and to export these objects to other applications.

- Formulas
- Charts
- Formatting dates and times
- Filtering
- Macros and automation
- Pivot tables

## **Skill Set 12 – Temporal Analysis**

Know how to calculate and analyze time of day, day of week, intervals, durations, tempos and temporal cycles of crime and criminal behavior as they apply to patterns, trends and series. Understand the use of temporal analysis in forecasting of identified crime trends and series.

- Tempo
- Intervals
- Time of day/day of week
- Seasonality
- Frequency analysis
- Exact time analysis
- Aoristic analysis
- Temporal distribution
- Temporal cycles
- Activity matrices
- Time series analysis/forecasting
- Temporal analysis applications in both strategic analysis and tactical analysis
- Charting

## **Skill Set 13 – Intelligence Analysis and Intelligence Charting**

Understand basic concepts of criminal intelligence analysis, including the terms, symbols and charting techniques used to depict information for investigative and intelligence products.

- History of intelligence analysis and intelligence charting
- Definition, forms, characteristics, and types of intelligence
- The intelligence cycle
- Intelligence chart types
- Intelligence reporting

## Skill Set 14 – GIS and Crime Mapping

Know how to use geographic information systems (GIS) to create maps and display crime data.

Understand crime mapping issues such as geocoding and data quality, as well as the importance of target audience when creating maps.

- Mapping basics/cartography/coordinate systems (basics only)
- Geocoding
- Feature types
- Thematic mapping
  - Single symbol maps
  - Buffers
  - Graduated mapping
- Data classifications relating to GIS
- Mapping for your audience
- Satellite images/orthophotos/pictometry
- Mapping software

## Skill Set 15 – Spatial Analysis and Forecasting

Know how to use spatial analysis tools to determine the nature of crime problems by performing hot spot analysis, analyzing spatial trends, calculating spatial distributions and making relevant forecasts.

- Point mapping
- Graduated symbols
- Hot streets
- Fuzzy mode analysis
- Choropleth mapping
- Standard deviation analysis
- Grid cell/kernel density analysis
- Nearest neighbor index
- CrimeStat III
- Risk terrain modeling
- Journey to crime

## Skill Set 16 – Effective Analytical Writing

Understand analytical writing techniques and how they are used to create crime analysis products such as bulletins and reports that are objective, articulate and relevant, and that are suitable for dissemination to various audiences.

- Writing styles
- Analytical writing
- Knowing your audience
- Determining relevant information
- Problem solving techniques
- Reasoning fallacies
- Executive summaries and analytical outlines
- Objectivity



## **Skill Set 17 – Analytical Products**

Have the ability to develop effective, directed and informative products. Know how to effectively communicate quantitative and qualitative data to support analytical findings.

- Tactical products
- Strategic products
- Administrative products
- Operational products
- Wanted bulletins
- Maps
- Charts
- Law enforcement sensitive
- Dissemination and feedback
- Know your audience
- Design and layout

## **Skill Set 18 – Applied Crime Series Analysis**

Know how to identify, analyze and disseminate information about crime patterns based on key characteristics such as MO, location, suspect description and target selection. Understand how to use both inductive and deductive reasoning methods to link crimes.

- Definition and goals of crime series analysis
- Critical thinking
- Types of reasoning
- Logical fallacies
- Crime series behavior
- Linkage analysis
- IZE method
- Behavior, space and time
- Next event prediction
- Crime series bulletins

## **Skill Set 19 – Organized Crime**

Understand the basic structure and motivations of organized crime groups. Distinguish between street-level organized crime and sophisticated commodity-based trafficking organizations and the relationships that may exist between them.

- Cross-jurisdictional crimes
- Terrorism
- Gang crime
- Street-level crime
- Retail crime
- Criminal networks
- Drug trafficking
- Human trafficking
- Fraud/Identity theft
- Biker gangs
- Cybercrime

## CLEA READING RESOURCES

While the IACA's textbook, Exploring Crime Analysis, is highly recommended for this exam, it is not required. There are many resources available to aid in preparation. The following list is an example of those resources:

Exploring Crime Analysis: Essential Skills 3<sup>rd</sup> edition  
IACA

Better Police with Microsoft Office: Crime Analysis, Investigation and Community Policing  
Mark Stallo & Christopher Bruce

Crime Analysis with Crime Mapping 4<sup>th</sup> edition  
Rachel Boba Santos

Crime Analysis: From First Report to Final Arrest  
Steve Gottlieb

Crime Pattern Definitions for Tactical Analysis  
Standards, Methods, & Technology (SMT) Committee White Paper 2011-01  
<https://iaca.net/white-papers/>

Definition and Type of Crime Analysis  
Standards, Methods, & Technology (SMT) Committee White Paper 2014-02 October 2014  
<https://iaca.net/white-papers/>

Intelligence Analysis for Problem Solvers  
John E Eck and Ronald V Clarke  
<https://popcenter.asu.edu/content/library>

Crime Analysis for Problem Solvers in 60 Small Steps (has multiple language versions)  
Ronald V Clarke & John E Eck  
<https://popcenter.asu.edu/content/library>

Introductory Guide to Crime Analysis and Mapping (version is from 2001)  
Rachel Boba  
<https://cops.usdoj.gov/RIC/Publications/cops-w0273-pub.pdf>