Miami Dade College

Course Description

CCJ2840 | Introduction to Criminal Justice Research with AI | 3.00 credits

This course provides an introduction to core research methods utilized in the field of Criminology and Criminal Justice. Students will learn foundational research concepts, including research design, data collection methods, and data analysis techniques. A key focus will be on the ethical and effective use of Artificial Intelligence (AI) tools to assist in various stages of the research process, such as data cleaning, analysis, and interpretation. Students will gain practical experience in applying these methods through hands-on projects and develop critical thinking skills necessary for evaluating research findings and understanding the social implications of criminal justice research. Recommended: Students are encouraged to take ENC1101 or CCJ1020 prior to registration.

Course Competencies:

Competency 1: The student will demonstrate proficiency in foundational research methodologies by:

1. Analyzing various research designs applicable to criminology and criminal justice.
2. Comparing quantitative and qualitative data collection techniques.
3. Evaluating the strengths and limitations of different sampling strategies.
4. Applying ethical considerations in research design and implementation.
5. Constructing research questions and hypotheses relevant to criminal justice issues.
6. Developing strategies for ensuring validity and reliability in research studies.
7. Synthesizing literature reviews to identify gaps in current knowledge.

Competency 2: The student will utilize Artificial Intelligence (AI) tools in the research process by:

1. Implementing AI-assisted data cleaning techniques to prepare datasets for analysis.
2. Applying machine learning algorithms for pattern recognition in large datasets.
3. Leveraging natural language processing for content analysis of qualitative data.
4. Employing predictive modeling techniques to forecast criminal justice trends.
5. Integrating AI-powered visualization tools to present research findings effectively.
6. Assessing the limitations and potential biases of AI-assisted research methods.
7. Developing protocols for responsible AI use in criminal justice research.

Competency 3: The student will apply advanced data analysis techniques to criminal justice research by:

1. Conducting descriptive and inferential statistical analyses using appropriate software.
2. Interpreting multivariate regression models to examine relationships between variables.
3. Performing time series analysis to identify trends and patterns in criminal behavior.
4. Utilizing geospatial analysis techniques to map crime patterns and hotspots.
5. Implementing network analysis to study criminal organizations and relationships.
6. Applying sentiment analysis to social media data related to criminal justice issues.
7. Developing data-driven recommendations for criminal justice policy and practice.

Competency 4: The student will critically evaluate research findings and their implications by:

1. Assessing the methodological rigor of published studies in criminology and criminal justice.
2. Analyzing the potential impact of research findings on criminal justice policies.
3. Identifying limitations and potential sources of bias in research studies.
4. Synthesizing conflicting research results to form evidence-based conclusions.
5. Developing strategies for translating research findings into practical applications.

6. Evaluating the ethical implications of research outcomes on various stakeholders.
7. Proposing future research directions based on identified gaps and emerging trends.

Learning Outcomes

- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Demonstrate knowledge of ethical thinking and its application to issues in society