

# CRIMINOLOGY

## (AS) {CRIM}

### **120. Data Science I: Applications in Criminal Justice. Berk.**

Data Science I will introduce student to the collection, management, and analysis of data. Students will learn some basic programming in R, a leading programming language for the management and analysis of large and complex administrative data (big data). Unlike conventional introductory statistics courses that focus on analysis of data using commercial software packages, this course will emphasize data collection, management, analysis using basic computer programming and with real data common in criminal justice settings. Hands on experience will be emphasized. The textbook in Introductory Statistics with R, second edition, by Peter Dalgaard (Springer, 2009)

### **270. BIOSOCIAL CRIMINOLOGY. (A) Raine.**

Is there a "natural-born killer"? Why don't psychopaths have a conscience? And is it morally wrong for us to punish those who are biologically-wired for a life of crime? This interdisciplinary biosocial course argues that answers to these inscrutable questions can be found in the fledgling field of "neurocriminology". This new sub-discipline brings together the social, clinical, and neurosciences to help us better understand, predict, and prevent future crime. We will explore the biosocial bases to crime and violence, analyze controversial neuroethical, legal and philosophical issues surrounding neurocriminology, and take a field trip to prison. This interdisciplinary course presents perspectives from the fields of psychology, neuroscience, criminology, sociology, law, business, public health, psychiatry, anthropology, neuroimaging, neuroendocrinology, forensics, nutrition, and pediatrics. It is suitable for those without a background in biology or criminology. It is particularly relevant for majors in Criminology, Psychology, Nursing, and Biological Basis of Behavior.

### **402. (CRIM602) CRIM JUSTICE ANALYTICS. (C)**

### **535. Introduction to Quantitative Methods for Policy Analysis. (C) Owens.**

This course is an introduction to the basic mathematical tools and ideas that support quantitative policy analysis. By the end of the semester, students will be able to identify and explain measures of central tendency and variation for categorical and continuous variables; describe the statistical relationship between two variables; conduct and explain "foundational" statistical tests, including hypothesis testing and linear regression analysis; manipulate data sets and write simple statistical programs in Stata.

### **671. (PSYC671) Violence: A Clinical Neuroscience Approach. (A) Raine.**

Developed for both Psychology and Criminology graduates in particular, this interdisciplinary course outlines a clinical neuroscience approach to understanding violence in which the tools of neuroscience- neuroanatomy, neurophysiology, neurocognition, neuroendocrinology, neuropharmacology, molecular and behavioral genetics- are used to help inform the etiology and treatment of violence. Clinical components include psychopathy, proactive and reactive aggression, homicide domestic violence, conduct disorder, oppositional defiant disorder, antisocial personality disorder, crime, and delinquency as well as their comorbid conditions (schizophrenia, drug abuse, hyperactivity). The interaction between social, psychological, and neurobiological processes in predisposing to violence will be highlighted, together with neurodevelopmental perspectives on violence focusing on prospective longitudinal and brain imaging research. Key implications for the criminal justice system, neuroethics, forensics psychology, and intervention will also be outlined.

## **Undergraduate Courses**

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### **100. (SOCI233) Criminology. (C) Society Sector. All classes. Hyatt.**

This introductory course examines the multi-disciplinary science of law-making, law-breaking, and law-enforcing. It reviews theories and data predicting where, when, by whom and against whom crimes happen. It also addresses the prevention of different offense types by different kinds of offenders against different kinds of people. Police, courts, prisons, and other institutions are critically examined as both preventing and causing crime. This course meets the general distribution requirement.

### **150. Statistics for the Social Sciences. (A) Ridgeway.**

Statistical techniques and quantitative reasoning are essential tools for properly examining questions in the social sciences. This course introduces students to the concepts of probability, estimation, confidence intervals, and statistical inference. The course has an applied focus and will show students how to use the statistical concepts and methods to answer social science questions. The course will require the use of R, a free, open source statistical analysis program. CRIM150 has been approved for the quantitative data analysis requirement (QDA).

### **200. (SOCI200) Criminal Justice. (C) Society Sector. All classes. MacDonald.**

This course examines how the criminal justice system responds to crime in society. The course reviews the historical development of criminal justice agencies in the United States and Europe and the available scientific evidence on the effect these agencies have on controlling crime. The course places an emphasis on the functional creation of criminal justice agencies and the discretionary role decision makers in these agencies have in deciding how to enforce criminal laws and whom to punish. Evidence on how society measures crime and the role that each major criminal justice agency plays in controlling crime is examined from the perspective of crime victims, police, prosecutors, jurors, judges, prison officials, probation officers and parole board members. Using the model of social policy evaluation, the course asks students to consider how the results of criminal justice could be more effectively delivered to reduce the social and economic costs of crime.

### **260. Crime and Human Development. (C) Loeffler.**

One of the central research problems in criminology is the relationship between human development and the likelihood of committing crime. This course will examine the tools for measuring the onset of crime, its persistence, intermittency, and desistence. These tools include the study of birth cohorts of everyone born in a certain time and place, life course studies of juvenile delinquents and non-delinquents, trajectory analysis of people studied from pre-school through middle age, and interviews with 70 year old former delinquents who reflect on how their life-course affected the crimes they committed. This course will also examine the research findings that have been produced using these tools. Students will be asked to consider what these findings imply for major theories of crime causation as well as policies for crime prevention.

### **SM 280. (SOCI380, URBS280) Neighborhood Dynamics of Crime. (B) Loeffler.**

Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological criminology. Variation in socio-demographic structures (age, education ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.

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### **300. Law and Criminal Justice. (C) Laufer.**

This course explores constitutional criminal procedure or the law of the Fourth, Fifth, and Sixth Amendments to the United States Constitution. Topics included the laws and rules associated with search and seizure, arrest, interrogation, the exclusionary rule, and deprivation of counsel. Social science evidence that supports or raises questions about legal doctrine will be examined. No prerequisites are required.

### **320. Practical Data Analysis. (B) Heller.**

This course provides a hands-on introduction to data analysis for social science, with a focus on examples from the criminal justice system. Students will gain experience with the practical side of statistics by learning to explore, analyze, interpret, and present data - tasks which permeate both the academic and professional practice of criminology (and many other fields). The course will provide instruction on how to use Excel, Stata, and ArcGIS to answer questions of interest, as well as insight into how professionals use data in practice.

### **SM 601. (SOCI681) Pro-Seminar in Criminal Justice. (B) Owens.** Prerequisite(s): CRIM 600.

This course examines the scholarship on the causes and consequences of the development of the criminal justice system. The primary focus of the course is on the historical development and contemporary impact of key actors in the criminal justice system, such as the police, courts, and corrections, on society. The course will examine the social and economic effect of criminal justice policies and practices. The course emphasizes evidence from the available social science research in the United States, with some reference to research in other European nations.

### **330. Drugs and Gangs. (A) Owens.**

How do markets for illegal goods and services differ from the typical economic markets we participate in on a daily basis? Why is a gang different from other types of groups, and what makes "gang related" crime different from other types of criminal behavior? In this class we will study how illegal markets and illegal groups function, why individuals participate in them, and what federal, state, and local governments do to disrupt "organized" illegal activity.

Academic research and media reports on drug markets and gang activity will be evaluated according to economic theories of law, public finance, and organizational behavior. Upon completion of this course, students will be able to use empirical and qualitative evidence to critique existing and proposed policies aimed at reducing the social cost of drug use and gang activity.

### **SM 410. (CRIM610, SOCI410) Research Seminar in Experiments in Crime and Justice. (A) Loeffler.** Prerequisite(s): Any statistics or research methods courses leading to familiarity with Excel, SPSS, R, Stata, SAS, Matlab, or NumPy.

This seminar focuses on examining data from experiments in criminology including: randomized controlled trials of criminal justice policies, "natural" experiments in crime, and other quasi-experimental studies. A series of experiments conducted by Penn scholars and elsewhere will be examined. This seminar also guides criminology majors in writing a research proposal for their thesis. Students will learn about how to formulate a research question, develop a review of the literature, and how to apply necessary empirical methods. The final paper for this course will be a research proposal that can serve as the basis for the student's senior thesis and to satisfy the senior capstone requirement. Readings will come from the disciplines of criminology, sociology, psychology, economics, and urban planning.

## **Graduate Courses**

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### **SM 600. (SOCI680) Pro-Seminar in Criminology. (A) MacDonald.**

This course provides an overview of the leading criminological theories of crime. The central focus is on the major theories of crime developed over the past century from the disciplines of economics, psychology, and sociology. The course will focus on the application of social science research as a way to evaluate theories of crime. Special attention is devoted to the issues of measurement of crime and what is known from the available empirical data. In addition, the course will focus on how these theoretical perspectives relate to public policy responses to crime.

### **602. (CRIM402) Criminal Justice Data Analytics. (C) Ridgeway.**

This course covers the tools and techniques to acquire, organize, link and visualize complex data in order to answer questions about crime and the criminal justice system. The course is organized around key questions about police shootings, victimization rates, benchmarking justice system performance, identifying crime hotspots, calculating the cost of crime, and finding out what happens to crime when it rains. On the way to answer these questions, the course will cover topics including data sources, basic programming techniques, SQL, text mining, regular expressions, and geocoding. The course will use R, and open-source, object oriented scripting language with a large set of available add-on packages.

### **SM 603. Research Methods 2/Crime Analysis. (B) Heller.**

This course provides an overview of the application of social science research methods and data analysis to criminology. The course will place an emphasis on diagnostic and analytic tools for the data analysis. Students will learn basic statistical techniques for the analysis of social science data and how to interpret results as part of the rigorous practice of evidence-based Criminology. M.S. Studentw will perform semester-long, data-based crime analysis project using quantitative analysis to address a specific research question. Student projects culminate with an oral class presentation and the submission of a written thesis.

### **SM 604. Criminology in Practice. (E) Ridgeway.**

In this capstone course speakers from the University of Pennsylvania and other academic institutions and from non-profit research organizations discuss their research, while speakers from government and criminal justice policy and practice settings -the consumer of research- share their insights. Members of the cohort interact with all guest speakers.

### **634. Evidence-Based Crime Prevention. (A) Heller.**

This course considers the use of evidence to identify effective crime prevention policies. The course will teach students to think critically about what constitutes convincing evidence, use benefit-cost analysis in comparing policy alternatives, and write effective policy memos that can translate research into practice. We will develop these skills by studying the effects of different policy approaches to crime prevention including incarceration, policing, gun control, drug regulation, and place-based interventions, as well as education, social programs, and labor market policies. Emphasis will be on the methodological challenges to identifying "what works" and the empirical methods to overcome those challenges.

### **999. Independent Study and Research. (C) Both terms.**

Primarily for advanced students who work with individual faculty upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.

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### **SM 700. (SOCI700) Advanced Pro-Seminar in Criminology. (A) Staff.**

This second year doctoral course is a weekly discussion group designed to help students integrate their coursework from different disciplines around the unifying perspectives of criminology. It focuses on preparation for the doctoral comprehensive examination, detailed critiques of published research reports, and colloquia by leading guest lecturers presenting new research results. Students preparing for dissertation research on the causes and prevention of crime will report on their developing research ideas.

### **SM 701. Advanced Pro-Seminar in Criminal Justice. (B) Staff.**

This second year doctoral course is a weekly discussion group designed to help students integrate their coursework from different disciplines around the behavior and operation of criminal law systems. It focuses on preparation for the doctoral comprehensive examination, detailed critiques of published and unpublished research reports, and colloquia by leading guest lecturers presenting new research results. Students preparing for dissertation research on the behavior of criminal law will report on their developing research ideas.

### **800. Thesis Research Project. (C) Staff.**

### **700. RETURN ORIENT FOR VMDPHD.**