

**CJ632 Geographic Perspectives on Crime  
Syllabus  
Spring semester, 2006**

**Contents**

**INTRODUCTION** ..... 2  
**COURSE OBJECTIVES** ..... 3  
**THE INSTRUCTOR** ..... 3  
    Contacting the instructor.....4  
**THE CLASS**..... 4  
    Locations and times.....4  
    Course texts.....5  
    Additional texts.....5  
**ASSESSMENT** ..... 5  
    Attendance .....6  
**ASSESSMENT POLICY** ..... 6  
    Written assignment rationale.....6  
    Written assignment deadlines and penalties .....7  
    Grading policy.....7  
**STUDY GUIDES**..... 7  
**RELEVANT UNIVERSITY POLICIES** ..... 8  
    Joining the class..... 8  
    Withdrawing from class..... 8  
**THE GIS MAPPING WORKBOOKS** ..... 8  
**CLASS SCHEDULE**..... 9

## Introduction

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The purpose of this course is to familiarize you with the geographic concepts and techniques used in the study of crime and justice. You will find that some of the techniques are different from those generally used in social statistics and may be quite new to you. In fact, a few that we will be looking at have rarely been used in criminal justice, and include new applications of Geographic Information Systems (GIS) and Geographic Information Science (GISc).

The concepts, on the other hand, are largely a new way of looking at established relationships. Many of these geographic concepts have been around since the establishment of the Urban Ecological school at the University of Chicago. Others were developed in geography and have only recently been applied to criminal justice topics.

The advantage of all of this is that you will be learning techniques that are only just now filtering into the criminal justice literature. At the successful completion of the course you will be conversant with new and innovative techniques that are both powerful and useful for crime analysis, yet rarely explored in the field. This will most definitely put you at a significant advantage in the research arena.

The course will briefly explore techniques that can map crime at the national and state level (as a general introduction), then will primarily focus on examination of the spatial patterns of crime within the city. Theoretical work will give you a grounding in the ideas that environmental criminologists apply to explain spatial patterns of offending and victimization in the urban environment. You will also find the theoretical work of significant help in comp exams, as the theoretical aspects explored in this class are relevant across a range of scales and apply to many types of offending. We will not be discussing obscure theoretical concepts that only appear in esoteric and archaic articles, but the fundamental theoretical work that underpins the majority of environmental criminology.

In support of this theoretical work, we will undertake a practical introduction to the use of GIS to map and analyze crime patterns. The practical work will be based in the computer lab. We will use a range of data sets so that you will be able to map your own criminal justice data. We will primarily use ArcGIS, the chosen mapping system of the Philadelphia Police Department and the City of Philadelphia. It is also the most popular mapping package used in criminal justice in the US. We will also examine the mechanisms to get your own data into and out of the GIS from/to Excel and SPSS, because an important part of the course is for you to develop the ability to import your own data and produce meaningful spatial analyses. The theoretical work will help you better understand the spatial patterns you see. In the end, you will not only be able to talk about spatial patterns of crime, but you will also be able to understand and map spatial patterns of crime.

## Course objectives

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This course will help graduate students develop a practical understanding of the core theories that underpin environmental criminology and to introduce them to the use of Geographic Information Science (GISc) and Geographic Information Systems (GIS) in the spatial analysis of crime. Much of the course is practically oriented and focuses on computer lab work which will provide training in the use of GIS to manipulate not only a range of data sets available from the instructor but also the student's own data. A statistical background is not necessary, though students who have undertaken basic statistics or who have a quantitative leaning will find that the additional of a geographic element significantly adds to their analytic ability. Dexterity with spatial analysis is becoming an essential area of criminal justice research, and people with these skills are highly sought-after by practitioners and academia. The spatial analytical techniques will also be of value to students in other fields such as geography, urban studies and the health sciences.

## The Instructor

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### **Dr Jerry Ratcliffe**

I am now an Associate Professor in the Department of Criminal Justice at Temple University, but when I left school in Scotland I joined the Metropolitan Police in London (UK), where I was a police officer for 11 years. I served as a uniform police officer doing patrol work primarily but also as a divisional information and intelligence officer, and I finished up in Central London working with a department called the Royalty and Diplomatic Protection Department. This group is responsible for the armed protection of the government and foreign officials – including the American Ambassador. In this capacity I worked with other officers on armed response and anti-terrorism patrols in the heart of London in the middle of a bombing campaign by the provisional IRA. I also developed the first crime mapping system at Charing Cross Police District.



I took a break from the police and was studying Geography and GIS at the University of Nottingham when I had a winter mountaineering accident while ice-climbing in the Scottish highlands. The injury was bad enough that I had to leave the police, but I stayed on at University to complete my BS as well as a PhD in the area of spatial and temporal crime analysis.

Post-PhD I worked for about 4 years in Australia, first as a lecturer in criminal intelligence at the New South Wales Police College, and then as a senior research analyst conducting crime research for the Australian government at the Australian Institute of Criminology. I was also the coordinator of Australia's National Strategic Intelligence Course, and taught the senior crime analysts who

provide criminal intelligence analysis to government ministers and police commissioners.

I was at Temple for a visiting position in the academic year 2001/02 and have been at Temple University in a permanent capacity as Associate Professor since summer 2003.

### **CONTACTING THE INSTRUCTOR**

My office can be found on the 5<sup>th</sup> floor of Gladfelter Hall, room 527. My office hours are on Mondays and Wednesdays, from 2 to 3.30pm. These are just before my undergraduate class (3.40 to 5pm). While I will endeavor to be there during office hours, occasionally research or administrative activity will take me away. It is best to therefore get in contact with and make an appointment so that I will definitely be available to meet you. My office phone number is 215 204 7702 or you can send me an e-mail (which I check a few times each day) to [jhr@temple.edu](mailto:jhr@temple.edu). If I am around feel free to speak to me, and I am 'open for business' if sitting at my desk and the door is open.

Please bear in mind that because I work with a number of police agencies both in the US and overseas, I may not respond instantly to your enquiry or e-mail. Do NOT leave anything (assignments, class changes etc) to the last minute. I endeavor to respond to all e-mails within 48 hours, but do not be surprised if you want something from me for the same afternoon and then wonder why I have not responded.

### **The class**

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#### **LOCATIONS AND TIMES**

The formal lecture sessions will be held in both the main seminar room of the Criminal Justice department (room GH553) as well as the computer lab (room GH513).

Class times: **Wednesdays, 6.00pm to 8.30pm.**

I will also use the Blackboard system to post essential data, additional information, assignment details and additional readings that you will need to complete assignments. You should therefore familiarize yourself with this system as soon as possible. Late return of assignments will not be acceptable because you left it to the last minute and then found you could not log on!

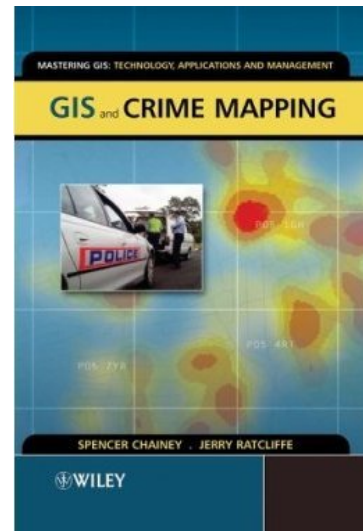
Any student who has a need for accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. Prior to speaking to me however, you should also contact Disability Resources and Services at 215-204-1280 (they are at 100 Ritter Annex near the subway station). They may be able to provide support and resources that can assist in all of your classes, and not just this one.

## COURSE TEXTS

**Chainey, S and Ratcliffe, JH (2005) 'GIS and Crime Mapping', Wiley and Sons: London.**

I know there is nothing worse than an instructor that sets his own book as the course text, but in this case, the text was pretty much written to cover the main aspects of this course. Anyway, the other books in the field are fairly awful (ask me for copies if you don't believe me). Therefore a worthy investment for your GIS and crime education will be this fine text ☺

It is also a bargain from Amazon.com at \$55 for the paperback. Please don't buy the hardback: at \$125 it is daylight robbery. And no, the authors have no say in setting the price. However \$55 is good for 450 pages, some of which are color!

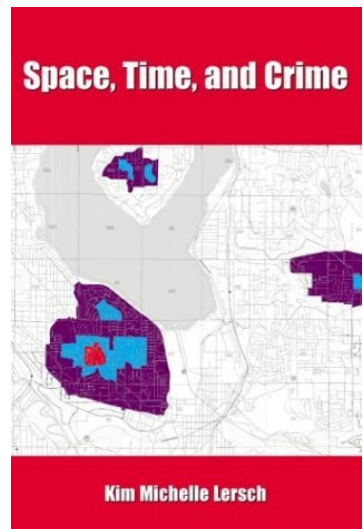


**Lersch, K. M. (2004) 'Space, Time, and Crime', Carolina Academic Press: Durham, NC.**

This second text does quite a reasonable job of covering much of the theory in relation to space and crime. The temporal side is a bit weak, but that will be covered more in class. The text is well researched and recent, so the literature is only a couple of years out of date.

Amazon hold the book for \$30, when I checked in October 05.

In addition, a digital copy of **Harries, K. (1999) Mapping Crime: Principles and Practice** (Washington DC: US Department of Justice) is available on the subject Blackboard site in pdf format, and is assigned as reading chapters. All readings are available on Blackboard.



## ADDITIONAL TEXTS

There are a number of other readings that will be required, and can be downloaded from Blackboard. They will be available digitally in portable document format (pdf format). If you wish to take them home, then you will need the free pdf reader software installed on your home computer. This is available to download from [www.adobe.com](http://www.adobe.com).

## Assessment

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Assessment at University, is (as the police have also been described) a “necessary evil”. This course is assessed in a number of ways, as summarized in the following table.

Item	Contribution to final grade
1. Attendance and contribution	5%
2. Completion of workbook maps	15%
3. Annotated bibliographies etc.	10%
4. Mid-term examination	35%
5. Final project	35%

## ATTENDANCE

For graduate classes, attendance is compulsory and I expect to be informed if you will be absent (jhr@temple.edu or at 215-204-7702). Missing two or more classes will draw into question your commitment to the class and will place your grade in severe doubt. In that instance I reserve the right to ignore the marking rubric above and grade as I deem fit. Even if you miss a class, you will still be expected to completed the readings and assigned work.

## Assessment policy

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Please read this section carefully. It describes my assessment policy.

1. Please be aware that completion of all the assessed items is **compulsory**. Failure to attend and take any required examinations, or failure to submit any assessed work in a timely manner will result in you failing the course.
2. Non-attendance at any test, multiple-choice test or otherwise (if due to medical or other compelling reason) must be advised to the instructor **prior to the test**, and accompanied by documentation (such as a medical note from a doctor). The instructor reserves the right to accept (or not) the offered explanation.
3. Missing a test without informing the instructor will result in a fail for the course.
4. It is the student's responsibility to bring a pencil to any multiple choice tests.
5. Unless otherwise advised, there are no make-up tests or extra credit for any class.
6. Any evidence of cheating or plagiarism is rewarded with an instant F. See the Blackboard site for this course for Temple University's policy on cheating and plagiarism.

## WRITTEN ASSIGNMENT RATIONALE

Many students taking this course are interested in further careers within the legal profession or law enforcement. If you are required to produce a brief of evidence for court, or to submit a statement for a prosecution, you will have to produce these items on time – no excuses. This is the reality of the working world into which many of you will move. To prepare you for this, I take a dim view of written work submitted late, and grade accordingly.

The secret to avoiding any problems is of course to complete the work early. If this happens, any last minute traumas that may affect your life will at least not affect your University career. I can not stress this enough – follow the five P's: Prior Preparation Prevents Poor Performance.

### **WRITTEN ASSIGNMENT DEADLINES AND PENALTIES**

With regard to written assignments, there is always a deadline which will be posted on the assignment and on Blackboard.

Assignments that are submitted late will lose 5% of the final mark for each 24 hours (or part thereof) of a working day that the assignment is late. This includes days where I am not in attendance and where the class is not sitting. If I am unavailable in my office to receive your assignment, then you must rush it in person to the main office (Room 512) of the Criminal Justice Department and leave it for me, after asking one of the office staff to note the date and time on the assignment, and initial it.

Unless advised otherwise, written assignments that are more than one week late will not be graded and you will be deemed to have failed not just the assignment but also the course.

### **GRADING POLICY**

Undergraduate classes are initially based on assignment to a bell curve of student grades, combined with a minimum standard level. In other words, if everybody performs really badly and below what I deem to be a minimum standard, then grades will reflect this. The more positive reverse is also possible. On a more positive side, prior to any final examination I will review everyone's grades and post the grading scheme for the final exam **in advance**. This means that students with a borderline grade can see what they must achieve prior to the test, to go up to the next level (if possible).

Graduate student assignments are marked on the basis of a reasonable expectation of good graduate students at one of the most well-known and respected graduate programs in criminal justice in the US.

### **Study guides**

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It goes without saying that your written work will have to be of a high standard. To aid you in the preparation of your written submissions, I have prepared two documents that outline general techniques for the writing of assignments, and referencing. I expect you to read these documents, especially the referencing guide. Academic writing requires close attention to detail and you will lose marks for referencing that does not adhere to the style outlined in the guide.

Both of these guides are available on the Blackboard site.

## Relevant University policies

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### **JOINING THE CLASS**

You should have already signed up to the class to get this syllabus. The class number is capped and the class is often fully subscribed. If you are therefore not on the class list, you can not join until someone drops out. If they don't drop out, you don't get to join the class. All of this can be done through your student advisor. I do not sign slips to join the class, as I would not be in a position to determine if the class is full or not. You must speak to your student advisor.

### **WITHDRAWING FROM CLASS**

During the first two weeks of a session, a student may withdraw from a course with no record of the class appearing on the transcript. Withdrawal is accomplished with a Schedule Revision (Drop/Add) form, which the student must obtain, and which is processed through a registration office. From weeks three to nine, a student may withdraw from a course with the permission of an advisor. The course will be recorded on your transcript with the notation of 'W'. Withdrawal is accomplished with a Schedule Revision (Drop/Add) form, which the student must obtain, and which is processed through a registration office.

## The GIS mapping workbooks

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- 1 Basic intro map, using thematic mapping

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- 2 Getting data from Excel into ArcMap, joining to shapefiles, using inset maps

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- 3 Using multiple layers, setting transparency layers, making charts and graphs

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- 4 Using point data, spatial joins, normalizing map displays, exporting data to SPSS and Excel

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- 5 Buffering, and calculating location quotients

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- 6 Working with CrimeStat statistical package, standard deviational ellipses, and kernel density surfaces

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- 7 Geocoding and individual buffers for location quotient analysis

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- 8 GeoDa, and calculating global and local statistically significant Moran's I

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- 9 Ordinary and spatial regressions in GeoDa

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- 10 Mapping temporal patterns in Excel, and importing into ArcMap

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- 11 Creating temporal animation maps using archsd.exe program

## Class schedule

The class outline shown below is provisional and I reserve the right to change it as we go. The deadline for all activities is 5pm of the following Wednesday (the **start** of class) unless advised otherwise (either in class or in this document).

Week	Topic	Readings/tasks after the class
<b>Jan 18</b> (1)	<b>Introduction to crime mapping</b>  Introduction to the class; overview of the syllabus; the science of crime mapping; and your introduction to ArcView 9.1 – the crime mapping system!	<ol style="list-style-type: none"> <li>1: Complete GIS map from Workbook 1 (Burglary rate of US states).</li> <li>2. Read Harries, K. (1999) <i>Mapping Crime: Principles and practice</i> (Washington DC: US Department of Justice), chapter 1.</li> <li>3. Read Weisburd, D., and McEwen, T. (1997) Introduction: Crime mapping and crime prevention. In D. Weisburd and T. McEwen (eds) <i>Crime mapping and crime prevention</i>, Vol. 8, New York: Criminal Justice Press.</li> <li>4. Read LaVigne, N. G., &amp; Groff, E. R. (2001). The evolution of crime mapping in the United States. In A. Hirschfield &amp; K. Bowers (Eds.), <i>Mapping and Analysing Crime Data</i> (pp. 203-221). London: Taylor &amp; Francis.</li> <li>5: Acquire the set texts.</li> </ol>
<b>Jan 25</b> (2)	<b>The basics of GIS</b>  GIS & crime mapping; geographic reference; points, lines & polygons; layers; census geography, crime events and the criminal justice system.	<ol style="list-style-type: none"> <li>1. Complete GIS map from Workbook 2.</li> <li>2. Read Chainey and Ratcliffe, chapters 1-3.</li> <li>3. Read Lersch, chapter 1.</li> <li>4. Write a brief definition of each item in class handout.</li> </ol>
<b>Feb 1</b> (3)	<b>Spatial theories of crime: intro</b>  Useless and useful criminology(!); an overview of routine activities, rational choice, territoriality, crime pattern theory, geographic profiling	<ol style="list-style-type: none"> <li>1. Complete GIS map from Workbook 3 (skills with multiple layers, charts, and saving as an external file type).</li> <li>2. E-mail map in a Word document to JHR.</li> <li>3. Read set Chainey and Ratcliffe, chapter 4.</li> <li>4. Write an annotated bibliography of Clarke, R. V. (2004). Technology, criminology and crime science. <i>European Journal on Criminal Policy and Research</i> 10(1): 5-63.</li> </ol>

<p><b>Feb 8</b> (4)</p>	<p><b>Social ecology and neighborhood change</b> Zonal model; neighborhood change model; defining communities; viable census data sources.</p>	<ol style="list-style-type: none"> <li>1. Complete GIS map from Workbook 4 (spatial joins to census units, exporting to Excel and SPSS).</li> <li>2. Read Lersch, chapter 2.</li> <li>3. Read Chainey and Ratcliffe, chapter 11.</li> <li>4. Read Chainey and Ratcliffe, chapter 12. Essential for good cartography.</li> <li>5. Write definitions of: <i>social disorganization</i>; <i>social disorganization theory</i>; <i>community instability</i>; <i>informal social control</i>; <i>collective efficacy</i>. Write in a form that can be used in a literature review of a paper (see instructor for details). Length of each should be about 3 sentences.</li> </ol>
<p><b>Feb 15</b> (5)</p>	<p><b>Crime pattern theory</b> How crime pattern theory may explain crime clustering in certain areas; geographic profiling; Location quotients.</p>	<ol style="list-style-type: none"> <li>1. Complete GIS map from Workbook 5 (Robberies, subway stations and location quotients).</li> <li>2. Read Lersch, chapter 3.</li> <li>3. Read Chainey and Ratcliffe, chapter 10.</li> <li>4. Write an annotated bibliography of Brantingham, P., and Brantingham, P. (1995). Criminology of place: Crime generators and crime attractors. <i>European Journal of Criminal Policy and Research</i> 3(3): 5-26.</li> </ol>
<p><b>Feb 22</b> (6)</p>	<p><b>Routine activity theory</b></p>	<ol style="list-style-type: none"> <li>1. Complete GIS map from Workbook 6 (CrimeStat and robbery hotspots in Philadelphia).</li> <li>2. Read Chainey and Ratcliffe, chapter 6, for an appreciation of the problems of determining when a hotspot is hot or not!</li> <li>3. Write a one-two page précis (extended annotated bibliography) of Cohen, L. E., &amp; Felson, M. (1979). Social change and crime rate trends: A Routine Activity Approach. <i>American Sociological Review</i>, 44, 588-608. [double space, letter paper, size 12 font (Times or Garamond), sensible margins]</li> </ol>

<b>Mar 1</b> (7)	<b>Rational choice perspective</b>	<ol style="list-style-type: none"> <li>1. Complete GIS workbook 7 (Geocoding MacDonald's' restaurants and assessing the robbery risk)</li> <li>2. E-mail the complete map, including legend etc to JHR as a Word document.</li> <li>3. Read individually assigned (theoretically-relevant) reading, and write annotated bibliography for group EndNote reference. E-mail bibliography to JHR.</li> <li>4. Task: Prepare for the mid-term exam.</li> </ol>
<b>Mar 8</b>	<b>Spring break</b>	<ol style="list-style-type: none"> <li>1. Prepare for the mid-term exam on your return...☺</li> </ol>
<b>Mar 15</b> (8)	<b>Mid term exam, and some spatial statistics!</b>  Discussion of the final project;	<ol style="list-style-type: none"> <li>1. Complete GIS workbook 8 (GeoDa and Moran's I)</li> <li>2. Read Chainey and Ratcliffe, chapter 5.</li> </ol>
<b>Mar 22</b> (9)	<b>Spatial regression models</b>  Understanding community problems; data that feeds into many regression models; the problems with OLS.	<ol style="list-style-type: none"> <li>1. Complete GIS workbook 9 (GeoDa and spatial regression models)</li> <li>2. Read Lersch, chapter 4.</li> <li>3. Read Chainey and Ratcliffe, chapter 7.</li> <li>4. Complete individual analytical task assigned in class.</li> </ol>
<b>Mar 29</b> (10)	<b>Temporal analysis</b>  Seasonal patterns; weekly patterns; temporal data types; aoristic analysis.	<ol style="list-style-type: none"> <li>1. Complete GIS workbook 10 (Temporal robbery patterns)</li> <li>2. Read Chainey and Ratcliffe, chapter 8.</li> <li>3. Read Ratcliffe, JH (in press) A temporal constraint theory to explain opportunity-based spatial offending patterns, <i>Journal of Research in Crime and Delinquency</i>.</li> </ol>
<b>Apr 5</b> (11)	<b>CompStat</b>  Visit the Philadelphia Police Department CompStat meeting, at the police academy, 8501 State Road, Philadelphia, PA, 19036.  Thursday morning 8am.	<ol style="list-style-type: none"> <li>1. Attend CompStat meeting. See JHR for directions. Dress: Smart (shirt and tie, gentlemen). Building will probably be freezing, so also dress warm.</li> <li>2. Read Chainey and Ratcliffe, chapter 9.</li> <li>3. Read Lersch, chapters 6 &amp; 7.</li> </ol>

<b>Apr 12</b> (12)	<b>Temporal crime patterns</b> Hourly temporal patterns; animations; repeat victimization and near repeats; dissemination of mapping.	1. Complete GIS workbook 11 (hourly temporal pattern animation) 2. Read Chainey and Ratcliffe, chapter 13. 3. Write an annotated bibliography of an individually assigned temporally-relevant paper for the group EndNote library.
<b>Apr 19</b> (13)	<b>The world of crime mapping</b> Fertile research areas; directions in crime mapping; organizations and bodies; local agencies.	1. Read Lersch, chapter 5 (all about situational crime prevention – good for the last class). 2. Check directions for next week.
<b>Apr 26</b> (14)	<b>Situational crime prevention in practice</b> A walking tour of Society Hill, exploring examples of situational crime prevention from 1800s to today.	1. Check the weather forecast and dress appropriately. 2. Bring money unless you want to go thirsty and hungry...

This document was last updated on Monday, January 16, 2006, and is compliant with Presidential Policy on Course Syllabi, #02.78.13 (effective September 1, 2003).

Dr J H Ratcliffe, Department of Criminal Justice.