George Mason University
Graduate Course Approval/Inventory Form

(Please complete this form and attach a copy of the syllabus for new courses. Forward it as an email attachment to the Secretary of the Graduate Council. A printed copy of the form with signatures should be brought to the Graduate Council Meeting. Complete the Coordinator Form on page 2, if changes in this course will affect other units.)

Please indicate:  

___X__ NEW  _____ MODIFY  _____ DELETE

Local Unit:  Graduate Council Approval Date:

Course Abbreviation:  PUBP  Course Number:  754

Full Course Title:  Geographic Information Systems and Spatial Analysis for Public Policy

Abbreviated Course Title (24 characters max.):  GIS/Spat Anls Publ Plcy

Credit hours:  3  Program of Record:  MPP

Repeatable for Credit?

___D=Yes, not within same term  Up to hours

___T=Yes, within the same term  Up to hours

_X_ N=Cannot be repeated for credit

Activity Code (please indicate):  

___ Lecture (LEC)  ___ Lab (LAB)  ___ Recitation (RCT)

___ Studio (STU)  ___ Internship (INT)  ___ Independent Study (IND)  ___X_ Seminar (SEM)

Catalog Credit Format  3 :3 :0  Course Level:  GF(500-600)  ____ GA(700+)  _X___

Maximum Enrollment:  25  For NEW courses, first term to be offered:  200570

Prerequisites or corequisites:

Catalog Description (35 words or less):
Introduces students to GIS including analytical tools that are used to manipulate and study spatial data. The course is run mainly as a laboratory with extensive hands-on experience and the focus is on public policy applications.

For MODIFIED or DELETED courses as appropriate:

Last term offered:  Previous Course Abbreviation:  Previous number:

Description of modification:

APPROVAL SIGNATURES:

Department/Program:  ________________________________ Date:  __________________

College Committee:  ________________________________ Date:  __________________

Graduate Council Representative:  ________________________________ Date:  __________________
GEORGE MASON UNIVERSITY
Course Coordination Form

Approval from other units:

Please list those units outside of your own who may be affected by this new, modified, or deleted course. Each of these units must approve this change prior to its being submitted to the Graduate Council for approval.

<table>
<thead>
<tr>
<th>Unit:</th>
<th>Head of Unit’s Signature:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graduate Council approval: ____________________________ Date: __________

Graduate Council representative: ____________________________ Date: __________

Provost Office representative: ____________________________ Date: __________
Geographic Information Systems (GISs) are becoming a popular tool for public policy analysis used in a wide range of areas including criminology, epidemiology, transportation planning, political geography, homeland security, critical infrastructure protection and environmental justice. A GIS is a computerized system that allows users to store, query, analyze and visualize spatial data. This course introduces the student to GIS and some of the analytical tools that are used to manipulate and study spatial data. The course is run mainly as a laboratory with extensive hands-on experience and the focus is on public policy applications.

Software: ESRI ArcView and Spatial Analyst

Data: ESRI Business Analyst


Course Topics:

1. Introduction to GIS and ArcView: project files, tables and views, layers, themes
2. Description and sources of geo-spatial data
3. Visualizing data in a GIS
4. Using GIS to extract information: Queries
5. Basic GIS operations: joins and merges
6. Buffer analysis and density interpolation (e.g., kriging)
7. Network analysis in GIS
8. Local and Global Spatial Statistics