UNIVERSITY OF KENTUCKY

New Course Report

12/1/2014 7:52:29 AM

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1. General Information

1a. Submitted by the College of: ARTS &SCIENCES

Date Submitted: 11/12/2014

1b. Department/Division: Geography

1c. Contact Person

Name: Matthew Zook

Email: zook@uky.edu

Phone: 218-0955

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

1d. Requested Effective Date: Specific Term/Year [1] Fall 2015

1e. Should this course be a UK Core Course? No

2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: Yes [4]

2b. Prefix and Number: MAP 674

2c. Full Title: Spatial Data Analysis and Visualization

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 3

LABORATORY: 1

2g. Grading System: Letter (A, B, C, etc.)

2h. Number of credit hours: 4

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester?

2j. Course Description for Bulletin: This course will introduce students to advanced techniques for the quantitative analysis and visualization of spatial data. Students will become familiar with a broad spectrum of data cleaning, transformation, analysis, and visualization techniques helpful for answering in-depth questions based on geospatial data. Students will learn how to prepare raw source data and subsequently apply both global and local spatial analysis techniques, resulting in advanced, interactive data visualizations.

2k. Prerequisites, if any: MAP 672 or Consent of instructor

2l. Supplementary Teaching Component:

3. Will this course taught off campus? No

If YES, enter the off campus address:

4. Frequency of Course Offering: Fall,

Will the course be offered every year?: Yes

If No, explain:

5. Are facilities and personnel necessary for the proposed new course available?: Yes

If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 10

7. Anticipated Student Demand

Will this course serve students primarily within the degree program?: Yes

Will it be of interest to a significant number of students outside the degree pgm?: No

If Yes, explain:

8. Check the category most applicable to this course: Traditional – Offered in Corresponding Departments at Universities Elsewhere,

If No, explain:

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program?: Yes

If YES, name the proposed new program: Master's Degree in Digital Mapping

b. Will this course be a new requirement for ANY program?: Yes

If YES, list affected programs: Master's Degree in Digital Mapping

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500?: No

b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from **10.a** above) are attached: No

Distance Learning Form

Instructor Name: Matthew Zook

Instructor Email: zook@uky.edu

Internet/Web-based: Yes

Interactive Video: No

Hybrid: No

1.How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations? The course is designed around sustained interaction between faculty and students. This engagement is manifest in a number of ways including regular faculty availability (via Google Hangout) for three hours every week and additional availability upon request. The syllabus also clearly specifies that emails will be answered within 24 hours of receipt. Moreover elements of the course have been designed to facilitate faculty to student and student to student interactions. This includes discussion groups every week where students engage around specific questions (sometimes theoretical, sometimes technical), both proposing responses and critiques other responses. Finally the proposed syllabus has been written to fulfill all requirements of the UK Senate Syllabus Guidelines and its Distance Learning Considerations.

2.How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc. The structure of the course is design to include key elements of face to face classroom interaction while at the same time providing a range of flexibility associated with the structures of online education and distance learning. This approach ensures that the distance learning experience is directly comparable to F2F interaction. The specific ways this is done include: -Outlining learning outcomes and a course description in the syllabus to mirror what is found in F2F instruction; -Providing ways for students to access direct feedback to questions either through discussion groups or through online discussion communities such as JSBin or Codepen; -Providing a clear weekly schedule with well-defined assignments and projects; -A workflow for projects (and to a lesser extent weekly assignments) that incorporates a proposal/draft followed by a faculty and peer critique; and -By assessments for week assignments and projects that measure both the completeness and quality of work but also measures the level of student participation in the interactive parts of the course (e.g., discussions, critique sessions). In addition to providing a comparable experience to F2F instruction, distance learning provides a number of advantages for students such as the flexibility to fit in course work around employment and domestic schedules.

3.How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc. As in all Geography courses submitted work will be closely reviewed for plagiarism and in the case of written answers, we will use available tools such as SafeAssign to highlight possible problems. However, the nature of many of the assignment and project work in the class, i.e., creating maps, is less conducive to plagiarism and a number of simple steps (changing specifications for classification, variables, etc.) can create an almost endless variety of assignments that cannot be easily copied. Moreover any quizzes, assignments and other student work will accessed and submitted via the Canvas LMS which require secure password authentication. Quizzes and exams can be randomly ordered – both in terms of questions and answers – making any copying between students difficult, especially since as a distance learning course few if any will be physically proximate to one another. The course follows the standard UK policies for academic offenses which are spelled out in the syllabus.

4.Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above? yes

If yes, which percentage, and which program(s)? Master's Degree in Digital Mapping (100 percent)

5.How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting? All students in this course will have access to UKIT and the Distance Learning Library and the contact information is available in the syllabus. The instructor of the course will hold regular weekly office hours (three per week) and the students can access them via Google Hangout. Moreover the instructor will respond to emails within 24 hours.

6.How do course requirements ensure that students make appropriate use of learning resources? The course is divided into ten parts which require extensive reading as well as completion of labs and projects that require them to grapple with new and older material. These assignments are designed so that students must utilize a range of the learning resources (textbooks, assigned readings, online manuals, etc) to successfully complete them.

7.Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program. The course is divided into ten parts which require extensive reading as well as completion of labs and projects that require them to grapple with new and older material. These assignments are designed so that students must utilize a range of the learning resources (textbooks, assigned readings, online manuals, etc) to successfully complete them.

8.How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (http://www.uky.edu/UKIT/)? The course syllabus provides contact information for the Information Technology Customer Service Center to assist with the delivery and receipt of the course via the Canvas LMS. During the course we will also instruct students on other means of troubleshooting technical problems (course discussion groups, online mapping communities, etc.) that arise as part of their assignments.

9.Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? YES

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology. All courses will use the Canvas LMS as offered by UK.

10.Does the syllabus contain all the required components? YES

11.I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name: Matthew Zook

SIGNATURE|SCHEIN|Richard H Schein|MAP 674 NEW Dept Review|20141007

SIGNATURE|ACSI222|Anna C Harmon|MAP 674 NEW College Review|20141021

SIGNATURE|ZNNIKO0|Roshan N Nikou|MAP 674 NEW Graduate Council Review|20141126

MAP 674: Spatial Data Analysis and Visualization (4 credits)
University of Kentucky, College of Arts and Science
Department of Geography
Meeting Place/Time: Online (URL TBA) – Weekly Materials Due at 11:59 pm Saturday EST

Instructor:	Matthew Zook
Office Address:	Patterson Office Tower, Room 817 Online location: Google Hangout
Email:	TBA@uky.edu (preferred)
Office Phone:	+1 859-257-2931
Office hours:	Mon/Wed/Fri, 11 am to 12 pm, EST and by appointment The instructor will be available on Google Hangout during the office hours listed above. You may also contact the instructor by phone during office hours. Outside of office hours, please contact the instructor by email only. The instructor will answer emails within 24 hours of receiving them.

Course Description:

This course will introduce students to advanced techniques for the quantitative analysis and visualization of spatial data. Students will become familiar with a broad spectrum of data cleaning, transformation, analysis, and visualization techniques helpful for answering in-depth questions based on geospatial data. Students will learn how to prepare raw source data and subsequently apply both global and local spatial analysis techniques, resulting in advanced, interactive data visualizations.

Note: As this is a four credit course the weekly work flow consists of labs rather than assignments as is the case for three credit courses. The distinction is that labs require more preliminary work (e.g., responsibility for accessing/cleaning a dataset rather than drawing upon prepackaged data) as well as a greater number and more challenging tasks. In addition, this course has a total of three preliminary projects, rather than two (as is the case for three credit courses).

Prerequisites:
MAP 672 or Consent of instructor

Compressed Course Structure

This course is designed around a length of ten weeks rather than the traditional 16 week semester. Given the compressed time schedule the course work (both in class time and assignments) is much more intensive in order to provide the same level of instruction. Therefore, students are advised to ensure that they have sufficient time in their schedule to complete the work load. Please see the table below to get a sense of how the work expectations of this class compare to a more standard 16 week long semester course.

For example, this course is four credits and will consist of a total of 5.33 hours of in class time (via Canvas) and assignment work that will take an average student about 16 hours to complete. In class time will consist of video lectures (approximately 2 to 3 hours per week), written instructions and exercises (approximately 2 to 2.5 hours per week) and

class discussion/group troubleshooting around specific topics (approximately 1 to 1.5 hours per week).

Comparison of this course structure to 16-week semester courses

	3-Credit Semester Course	4-Credit Semester Course	2-Credit Intensive 10 Week	3-Credit Intensive 10 Week	4-Credit Intensive 10 Week
Credits	3	4	2	3	4
Weeks	16	16	10	10	10
IN CLASS TIME					
Total in class time (hours)	40.00	53.33	26.67	40.00	53.33
Total in class time per week (hrs/wk)	2.50	3.33	2.67	4.00	5.33
OUT of CLASS TIME (Estimated 3 hours for every in class hour)					
Total out of class time (hours)	120.00	160.00	80.00	120.00	160.00
Total out of class time per week (hrs/wk)	7.50	10.00	8.00	12.00	16.00
TOTAL CLASS TIME					
Total class time (hours)	160.00	213.33	106.67	160.00	213.33
Total class time per week (hrs/wk)	10.00	13.33	10.67	16.00	21.33

Note: This table uses the metric of 800 minutes (13.33 hours) of in class time per credit per semester. Thus, a three credit semester long course meets for 150 mins per week.

Student Learning Outcomes:

After completing this course, the student will be able to:

- Identify the strengths and weaknesses of a broad spectrum of data cleaning, transformation, analysis, and visualization techniques;
- Prepare spatial data for quantitative analysis;
- Apply spatial analysis methods for the identification of global and local spatial patterns;
- Visualize the results of spatial analysis to verify and explore spatial data;
- Use visualizations to communicate and explain results of spatial analysis; and
- Develop a web-based mapping project that uses spatial analysis.

Description of Course Activities and Assignments

In order to refine a student's ability in advanced techniques for the quantitative analysis and visualization of spatial data, students will engage in a number of weekly assignments and course projects. It is part of a series of classes that can ultimately result in a Master's degree in digital mapping in the New Maps Plus program designed by the faculty from the Geography department at the University of Kentucky.

Course Assignments and Grading

Course Assignments

This course requires six labs, three preliminary projects and a final project. These are weighted in the final grade as follows:

Labs:	6 * 7 percent or 42 percent
Preliminary Project:	3 * 12 percent or 36 percent
Final Project:	1 * 22 percent
	=======
	100 percent

All labs and projects must be submitted through Canvas by no later than 11:59pm EST on the day (generally Saturday) they are due. The labs and projects are detailed in the course schedule with more information provided during the course.

Grading Scale

Grade: A (90% to 100%) Excellent: Students exhibit a complete understanding of course materials and turns in labs in a professional and timely manner that are error free, well organized and regularly exhibit originality and creativity. Participation in discussions and group work is active, thoughtful and helps to lead class learning.

Grade: B (80% to 89.9%) Good: Students exhibits a good grasp of key concepts within course materials and turns in the majority of work in a timely manner that is contains few errors, organized, and is occasionally original and creative. Participation in discussions and group work is generally active and contributes to ongoing conversations and work.

Grade: C (70% to 79.9%) Average:
Students exhibits a basic understanding of key concepts within course materials and turns in work in a relatively timely manner that is contains some errors and meets the labs goals but is rarely original and creative. Participation in discussions and group work is primarily contributes to established conversations and work.

Grade: E (below 70%) Failing: Students exhibits a gaps in understanding of many concepts within course materials and fails to complete projects and exercises correctly and/or in a timely manner and does not engage in discussions.

Final Exam Information

There is no final exam for this course. Instead all students will complete a final project due on at 11:59pm EST on the Saturday of the last week of class. The final project will challenge students with a variety of tasks involving spatial data analysis, interpolation, modeling, and interactive Geovisualization. The project will emphasize the exploration and analysis of raw data, transformation and manipulation of these data into meaningful information, plotting and visualization of the data in a variety of visual forms, and finally the addition of a user interface for further highlighting and filtering of the visual representation. The project will culminate in a infoviz product that will be hosted on the students' portfolios for evaluation.

Tentative Course Schedule

This course runs over ten weeks beginning on TBA and ending on TBA. Each week begins at 12:01 am EST on Sunday and ends at 11:59 pm EST on Saturday.

Week	Theme	Specific Topics	Readings	Labs/Projects
1	Introduction to Spatial Analysis	Why Spatial Analysis; Beyond one-to-one plotting of data on Map; Using a D3/Shiny interactive of MAUP as a hands-on demonstration (gives both example of need for spat ana, as well as peek into possibilities of marriage spat ana and online viz)	Dykes Chpt 1 Bivand Chpt 2 Additional readings assigned via Canvas	Lab 1: First Ecounters with Spatial Analysis
2	Statistical Programming for Map Nerds	Why R; Interactive statistical Programming; JS programming redux; Git repo for analytical steps	Bivand Chpt 1 Dykes Chpt 2 Additional readings assigned via Canvas	Lab 2: Introduction to R
3	Preparing and Transforming Spatial Data	Spatializing Data (geocoding, join); Cleaning, melting, casting; (dis-)aggregating	Bivand Chpt 4 Dykes Chpt 4 Additional readings assigned via Canvas	Proj1: Spatializing data for use in analysis
4	Transforming & Visually Exploring Spatial Data	Buffers/Thiessen/PointinPolygon; Plotting; Exploratory Data Analysis; Interactive plots with R; Grammar of Graphics	Bivand Chpt 6 Additional readings assigned via Canvas	Lab 3: Buffers, Plots and the grammar of graphics
5	Analyzing & Visualizing Global Spatial Patterns I	Spatial Autocorrelation; Point Pattern Analysis (scale dependency)	Dykes Chpt 7 and 12 Additional readings assigned via Canvas	Lab 4: Autocorrelation and patterns
6	Analyzing & Visualizing Global Spatial Patterns II	Kernel Density Estimation (geostats) versus Odds Ratio	Bivand Chpt 7 Additional Readings assigned via Canvas	Proj2: Understanding patterns of data
7	Analyzing & Visualizing Local Spatial Patterns	LISA; space(-time) scan statistic	Bivand Chpt 8 Additional readings assigned via Canvas	Lab5: Using LISA
8	Bringing the results of spatial analysis online I	From R straight to the web; Animint/rCharts/ggvis (these all use d3 under the hood); Introduction to D3	Bivand Chpt 9 Additional readings assigned via Canvas	Lab6: Taking your analysis online
9	Bringing the results of spatial analysis online II	Interactivity; adapt and customize D3 code generated by R	Dykes Chpt 12 and 14 Additional readings	Proj3: Refining your online analysis

			assigned via Canvas	
10	Final Project	A web-based mapping projects that starts with raw data, transforms data as-needed, explores and visualizes, and then communicates the results succinctly through an online (interactive) viz	Bivand Chpt 10 Dykes Chpt 36 Additional readings assigned via Canvas	Final Project: A full spatial analysis workflow

Required Materials:

Students are required to purchase the following book:

- Bivand et al. 2013. *Applied Spatial Data Analysis* http://www.amazon.com/Applied-Spatial-Data-Analysis-Use/dp/1461476178/
- Dykes, Jason, Alan M. MacEachren, and M-J. Kraak. Exploring geovisualization. Elsevier, 2005.

The course will also be making extensive use of online documentation of R and associated libraries and links will be made available via the Canvas LMS. Other course readings will be provided via the Canvas LMS system.

Technical Requirements

This course is an online course and content, assignments and interactions rely on all students having computer hardware and software. While these are available on computers in student computer labs on UK's campus, most students will not be physically present and are responsible for gaining access themselves.

Hardware

- Computer, a newer model with a recent operating system and a hard drive with at least 2-5 GB of free space (more can be useful).
- Webcam and a headset/microphone for online interaction
- A broadband internet connection

Students are responsible for ensuring that their computer is smoothly operating (virus free, OS updates, etc.).

Software

- PDF reader, such as Adobe Acrobat Reader
- Microsoft Office (Excel, Word, PowerPoint P available free through UK, https://download.uky.edu/)
- Video Media player such as Windows Media Player, or Apple Quick Time
- An Internet Browser supporting HTML 5, we recommend Chrome

In addition, as part of this course students will be expected to install various software programs, device drivers, etc. More specific instructions will be provided as part of the

course.

Tests

- **Check Your Computer** (https://www.whatismybrowser.com/) a quick test to see what browser version you are using, whether or not you have Java and JavaScript enabled, your version of Flash player, and several other items.
- **Speed Test** (http://www.speedtest.net/) Use this site to check what download speed you are getting. For videos to play, you need at least a 1 Mbps download speed. If higher, you will have less possibility of the videos having to stop and wait for more of the video to download.

Special Resources for Online Students

See UK's Distance Learning Webpage for a complete listing of services and contacts. http://www.uky.edu/DistanceLearning/ or call (859) 257-3377 or email distancelearn@lsv.uky.edu. Additional material will be distributed on online services from UK will be distributed as appropriate.

Distance Learning Library Services

The goal of Distance Learning Library Services is to provide access to information resources for the students who take classes through the Distance Learning Programs. Services include:

- Access to the University's circulating collections
- Document Delivery & Interlibrary Loan
- Research Assistance

Information on Distance Learning Library Services:
http://www.uky.edu/DistanceLearning/current/DLLS/

DL Librarian: Carla Cantagallo
Local phone number: 859 257-0500, ext. 2171; long-distance phone number: (800) 828-0439 (option #6)
Email: dllservice@email.uky.edu
DL Interlibrary Loan Service:
http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16

Information Technology Customer Service Center & Distance Learning Programs

UKIT http://www.uky.edu/UKIT/ provides technical support to University of Kentucky students.

If students are having difficulty with UK-related systems, (http://www.uky.edu/UKIT/Help/; 859-218-HELP).

Canvas Learning Management System

This course uses the Canvas Learning Management System or LMS. The course online system is available via Canvas at https://uk.instructure.com/ . Use your LinkBlue account to login and you will see this course under the courses menu (top of the page towards the left). This course - https://uk.instructure.com/courses/1096339 offers an orientation to Canvas and

the Help button in the top right corner provides quick access to the guides, ask the community and the phone number for 24/7 support. Course materials (syllabus, readings, assignments, discussions, exams, etc.) will all be posted here and you are responsible for any changes in assignments, readings and due dates posted on the course blog.

Other Technical Complaints

If the student is having difficulty with their own computer or software, they will be responsible for resolving these as soon as possible.

Discussion Board Guidelines

Please follow these guidelines when posting to the discussion boards:

- When posting a question, start a new thread and include a detailed subject line so other readers know what the post is about.
- When reply, make sure you are replying to the correct thread.
- Please follow general etiquette rules when posting. For example, do not use all caps (that is considered SHOUTING).
- Use full sentences and check your spelling, punctuation, and grammar when posting. Use complete sentences.
- For more handy tips see http://www.designingforlearning.info/services/writing/ecoach/tips/tip33.html.

Course Policies:

Submission of Assignments:

Students will assigned weekly work assignment consisting of labs, projects, exams and discussions as laid out in the course schedule and the Canvas LMS. In the case of a discrepancy students should followed the assignment schedule specified in Canvas.

All work must be submitted through Canvas by no later than 11:59pm EST on the day they are due.

Late Assignments: Ten points will be deducted automatically for all late assignments and ten additional points will be deducted for every 24-hour period that the project is late after the submission date. Students with excused absences approved by the instructor will not be penalized. Note: technical problems in the Canvas LMS can arise from time to time so be sure to submit assignments well before the 11:59 PM EST to allow for trouble-shooting.

Attendance Policy.

While much (or all) of the work for this class does NOT require attendance at a specific time or time-space, students are expected to devote the time necessary to complete the assignments. In the case where excused absences becomes relevant, the course will follow the policies laid out by the UK Faculty Senate on excused absences (see below).

Excused Absences:

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b)

illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request "appropriate verification" when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Class Behavior and Civility:

All students are expected to engage in courteous interaction with the instructor and other students. Academic and professional communication – particularly in online and asynchronous settings – require us to listen/read carefully and define our own ideas with clarity and tact. In particular, students are expected to keep this in mind during the use of chat and newsgroups in this course.

Group work and collaboration

Group collaboration represents an important part of the learning in this course as often peer to peer interaction helps people understand material better and also prepares students for collaborative work in profession settings. Therefore, many of the projects in this course include opportunities for collaborative work with the following expectations in mind. Collaboration on homework is allowed BUT students should first review the problems independently to help develop their ability to problem solve. Moreover each student should be familiar and comfortable doing the assignments rather than simply relying on others for a solution. Also, if you do collaborate, you are expected to acknowledge your collaborators AND any text write-up should be the student's own writing.

Academic Integrity:

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to
suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to

become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: http://www.uky.edu/Ombud. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online http://www.uky.edu/StudentAffairs/Code/part2.html) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability:

If you have a documented disability that requires academic accommodations in this course, please make your request to the University Disability Resource Center. The Center will require current disability documentation. When accommodations are approved, the Center will provide me with a Letter of Accommodation which details the recommended accommodations. Contact the Disability Resource Center, Jake Karnes, Director at 859-257-2754 or jkarnes@email.uky.edu.

Courses | Request Tracking

New Course Form

https://myuk.uky.edu/sap/bc/soap/rfc?services=

Generate R

Open in full window to print or save

Attachments:

Browse... Upload File

	ID	Attachment
Delete	4015	MAP674.docx

First 1 Last

Select saved project to retrieve... Get New

(*denotes required fields)

1. General Information

a. * Submitted by the College of: ARTS & SCIENCES Submission Date: 11/12/2014

b. * Department/Division: Geography

c.

* Contact Person Name: Matthew Zook Email: zook@uky.edu Phone: 218-0955

* Responsible Faculty ID (if different from Contact) Email: Phone:

d. * Requested Effective Date: ○ Semester following approval OR ◉ Specific Term/Year [1] Fall 2015

e.

Should this course be a UK Core Course? ○ Yes ◉ No

If YES, check the areas that apply:

☐ Inquiry - Arts & Creativity	☐ Composition & Communications - II
☐ Inquiry - Humanities	☐ Quantitative Foundations
☐ Inquiry - Nat/Math/Phys Sci	☐ Statistical Inferential Reasoning
☐ Inquiry - Social Sciences	☐ U.S. Citizenship, Community, Diversity
☐ Composition & Communications - I	☐ Global Dynamics

2. Designation and Description of Proposed Course.

a. * Will this course also be offered through Distance Learning? ◉ Yes [1] ○ No

b. * Prefix and Number: MAP 674

c. * Full Title: Spatial Data Analysis and Visualization

d. Transcript Title (if full title is more than 40 characters):

e. To be Cross-Listed [2] with (Prefix and Number):

f. * Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[3] for each meeting pattern type.

3	Lecture	1	Laboratory[1]		Recitation		Discussion
	Indep. Study		Clinical		Colloquium		Practicum
	Research		Residency		Seminar		Studio
	Other	If Other, Please explain:					

g. * Identify a grading system:

◉ Letter (A, B, C, etc.)
○ Pass/Fail
○ Medicine Numeric Grade (Non-medical students will receive a letter grade)
○ Graduate School Grade Scale

h. * Number of credits: 4

i. * Is this course repeatable for additional credit? ○ Yes ◉ No

If YES: Maximum number of credit hours:

If YES: Will this course allow multiple registrations during the same semester? ○ Yes ○ No

j. * Course Description for Bulletin:

This course will introduce students to advanced techniques for the quantitative analysis and visualization of spatial data. Students will become familiar with a broad spectrum of data cleaning, transformation, analysis, and visualization techniques helpful for answering in-depth questions based on geospatial data. Students will learn how to prepare raw source data and subsequently apply both global and local spatial analysis techniques, resulting in advanced, interactive data visualizations.

k. Prerequisites, if any:

MAP 672 or Consent of instructor

l. Supplementary teaching component, if any: ○ Community-Based Experience ○ Service Learning ○ Both

3. * Will this course be taught off campus? ○ Yes ◉ No

If YES, enter the off campus address:

4. Frequency of Course Offering.

a. * Course will be offered (check all that apply): ☑ Fall ☐ Spring ☐ Summer ☐ Winter

b. * Will the course be offered every year? ◉ Yes ○ No

If No, explain:

5. * Are facilities and personnel necessary for the proposed new course available? ◉ Yes ○ No

If No, explain:

6. * What enrollment (per section per semester) may reasonably be expected? 10

7. Anticipated Student Demand.

a. * Will this course serve students primarily within the degree program? ◉ Yes ○ No

b. * Will it be of interest to a significant number of students outside the degree pgm? ○ Yes ◉ No

If YES, explain:

8. * Check the category most applicable to this course:

☑ Traditional – Offered in Corresponding Departments at Universities Elsewhere
☐ Relatively New – Now Being Widely Established
☐ Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

a. * Is this course part of a proposed new program? ◉ Yes ○ No

If YES, name the proposed new program:

Master's Degree in Digital Mapping

b. * Will this course be a new requirement for ANY program? ◉ Yes ○ No

If YES, list affected programs::

Master's Degree in Digital Mapping

10. Information to be Placed on Syllabus.

a. * Is the course 400G or 500? ○ Yes ◉ No

If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in **10.b.** You must include: (i) identification of add assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR 3.1.4.)

b. ☐ * The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from **10** attached.

Distance Learning Form

This form must accompany every submission of a new/change course form that requests distance learning delivery. This form may be required when changing a course already approved for DL

fields are required!

Introduction/Definition: For the purposes of the Commission on Colleges Southern Association of Colleges and Schools accreditation review, ***distance learning*** is defined as a fo educational process in which the majority of the instruction (interaction between students and instructors and among students) in a course occurs when students and instructors the same place. Instruction may be synchronous or asynchronous. A distance learning (DL) course may employ correspondence study, or audio, video, or computer technologies

A number of specific requirements are listed for DL courses. **The *department* proposing the change in delivery method is responsible for ensuring that the requiremer are satisfied at the individual course level.** It is the responsibility of the instructor to have read and understood the university-level assurances regarding an equivalent expe students utilizing DL (available at http://www.uky.edu/USC/New/forms.htm).

Course Number and Prefix:	MAP 674	Date:	10/4/2014
Instructor Name:	Matthew Zook	Instructor Email:	zook@uky.edu

Check the method below that best reflects how the majority of the course content will be delivered.

Internet/Web-based ☑ Interactive Video ☐ Hybrid ☐

Curriculum and Instruction

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Syllabus Guidelines, specifically the Distance Learning Considerations?

   The course is designed around sustained interaction between faculty and students. This engagement is manifest in a number of ways including regular faculty availability (via Google Hangout) for three hours every week and

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, of student learning outcomes, etc.

   The structure of the course is design to include key elements of face to face classroom interaction while at the same time providing a range of flexibility associated with the structures of online education and distance

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academ policy; etc.

   As in all Geography courses submitted work will be closely reviewed for plagiarism and in the case of written answers, we will use available tools such as SafeAssign to highlight possible problems. However, the nature of

4. Will offering this course via DL result in at least 25% or at least 50%* (based on total credit hours required for completion) of a degree program being offered via any f as defined above?

   yes

   Which percentage, and which program(s)?

   Master's Degree in Digital Mapping (100 percent)

   *As a general rule, if approval of a course for DL delivery results in 50% or more of a program being delivered through DL, the effective date of the course's DL delivery months from the date of approval.

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting

   All students in this course will have access to UKIT and the Distance Learning Library and the contact information is available in the syllabus. The instructor of the course will hold regular weekly office hours (three per week)

Library and Learning Resources

6. How do course requirements ensure that students make appropriate use of learning resources?

   The course is divided into ten parts which require extensive reading as well as completion of labs and projects that require them to grapple with new and older material. These assignments are designed so that students must

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

   The course is divided into ten parts which require extensive reading as well as completion of labs and projects that require them to grapple with new and older material. These assignments are designed so that students must

Student Services

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or r the course, such as the Information Technology Customer Service Center (http://www.uky.edu/UKIT/)?

   The course syllabus provides contact information for the Information Technology Customer Service Center to assist with the delivery and receipt of the course via the Canvas LMS. During the course we will also instruct students

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)?

   ◉ Yes
   ○ No

   If no, explain how students enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said techn

   All courses will use the Canvas LMS as offered by UK.

10. Does the syllabus contain all the required components, below? ☑ Yes

    - Instructor's ***virtual*** office hours, if any.
    - The technological requirements for the course.
    - Contact information for Distance Learning programs (http://www.uky.edu/DistanceLearning) and Information Technology Customer Service Center (http://www.uky.edu/UKIT/Help/; 859-218-HELP).
    - Procedure for resolving technical complaints.
    - Preferred method for reaching instructor, e.g. email, phone, text message.
    - Maximum timeframe for responding to student communications.
    - Language pertaining academic accommodations:

- "If you have a documented disability that requires academic accommodations in this course, please make your request to the University Disability Resour The Center will require current disability documentation. When accommodations are approved, the Center will provide me with a Letter of Accommodatior details the recommended accommodations. Contact the Disability Resource Center, Jake Karnes, Director at 859-257-2754 or jkarnes@email.uky.edu."

- Specific dates of face-to-face or synchronous class meetings, if any.
- Information on Distance Learning Library Services (http://www.uky.edu/Libraries/DLLS)
  - Carla Cantagallo, DL Librarian
  - Local phone number: 859 257-0500, ext. 2171; long-distance phone number: (800) 828-0439 (option #6)
  - Email: dllservice@email.uky.edu
  - DL Interlibrary Loan Service: http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:
Matthew Zook

Abbreviations: DLP = Distance Learning Programs ATG = Academic Technology Group Customer Service Center = 859-218-HELP (http://www.uky.edu/UKIT/Help)

~~Revised 8/09~~

[1] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

[2] The chair of the cross-listing department must sign off on the Signature Routing Log.

[3] In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. La meeting, generally, represents at least two hours per week for a semester for one credit hour. (from SR 5.2.1)

[4] You must also submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

[5] In order to change a program, a program change form must also be submitted.

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Submit as New Proposal Save Current Changes