ARIZONA STATE UNIVERSITY

GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:

*Copy and paste **current** course information from Class Search/Course Catalog.*

College/School: Herberger Institute for Design and the Arts | Department/School: The Design School

Prefix: LAP | Number: 332 | Title: GIS Applications in Environmental Design | Units: 3

Course description: Addresses fundamentals of Geographic Information Systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for acquiring, displaying, editing, analyzing and modeling spatial information.

Is this a cross-listed course? No | If yes, please identify course(s):

Is this a shared course? No | If so, list all academic units offering this course:

*Note- For courses that are crosslisted and/or shared, a letter of support from the chair/director of **each** department that offers the course is required for **each** designation requested. By submitting this letter of support, the chair/director agrees to ensure that all faculty teaching the course are aware of the General Studies designation(s) and will teach the course in a manner that meets the criteria for each approved designation.*

Is this a **permanent-numbered** course with topics? No

If **yes**, each topic requires **an individual submission**, separate from other topics.

Requested designation: Mathematical Studies-CS **Mandatory Review:** Yes

*Note- a **separate** proposal is required for each designation.*

Eligibility: Permanent numbered courses **must** have completed the university's review and approval process. For the rules governing approval of omnibus courses, contact Phyllis.Lucie@asu.edu.

Submission deadlines dates are as follow:

For Fall 2021 Effective Date: October 2, 2020

For Spring 2022 Effective Date: March 5, 2021

Area proposed course will serve:

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study. It is the responsibility of the chair/director to ensure that all faculty teaching the course are aware of the General Studies designation(s) and adhere to the above guidelines.

Checklists for general studies designations:

Complete and attach the appropriate checklist

- Literacy and Critical Inquiry core courses (L)
- Mathematics core courses (MA)
- Computer/statistics/quantitative applications core courses (CS)
- Humanities, Arts and Design core courses (HU)
- Social-Behavioral Sciences core courses (SB)
- Natural Sciences core courses (SQ/SG)
- Cultural Diversity in the United States courses (C)
- Global Awareness courses (G)
- Historical Awareness courses (H)

A complete proposal should include:

- ☒ Signed course proposal cover form
- ☒ Criteria checklist for General Studies designation being requested
- ☒ Course catalog description
- ☒ Sample syllabus for the course
- ☒ Copy of table of contents from the textbook and list of required readings/books

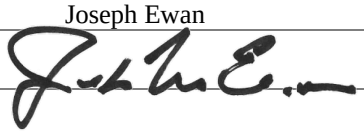
Proposals must be submitted electronically with all files compiled into one PDF.

Contact information:

Name Nikolas Smilovsky E-mail nsmilovs@asu.edu Phone 480-878-9824

Department Chair/Director approval: ***(Required)***

Chair/Director name (Typed): Joseph Ewan Date: 2/25/2021

Chair/Director (Signature): 

Arizona State University Criteria Checklist for

MATHEMATICAL STUDIES [CS]

Rationale and Objectives

The **Mathematical Studies** requirement is intended to ensure that students have skill in basic mathematics, can use mathematical analysis in their chosen fields, and can understand how computers can make mathematical analysis more powerful and efficient. The **Mathematical Studies** requirement is completed by satisfying both the **Mathematics [MA]** requirement and the **Computer/Statistics/Quantitative Applications [CS]** requirement explained below.

The **Mathematics [MA]** requirement, which ensures the acquisition of essential skill in basic mathematics, requires the student to complete a course in College Mathematics, College Algebra, or Pre-calculus; or demonstrate a higher level of skill by completing a mathematics course for which a course in the above three categories is a prerequisite.

The **Computer/Statistics/Quantitative Applications [CS]** requirement, which ensures skill in real world problem solving and analysis, requires the student to complete a course that uses some combination of computers, statistics, and/or mathematics.* Computer usage is encouraged but not required in statistics and quantitative applications courses. At a minimum, such courses should include multiple demonstrations of how computers can be used to perform the analyses more efficiently.

*CS does *not* stand for computer science in this context; the "S" stands for statistics. Courses in computer science must meet the criteria stated for CS courses.

Revised April 2014

Proposer: Please complete the following section and attach appropriate documentation.

ASU--[CS] CRITERIA

A COMPUTER/STATISTICS/QUANTITATIVE APPLICATIONS [CS] COURSE MUST SATISFY ONE OF THE FOLLOWING CRITERIA: 1, 2, OR 3

YES	NO		Identify Documentation Submitted
		1. Computer applications*: courses must satisfy both **a** and **b**:	
☒	☐	**a.** Course involves the use of computer programming languages or software programs for quantitative analysis, algorithmic design, modeling, simulation, animation, or statistics.	All documents submitted support this criteria.
		b. Course requires students to analyze and implement procedures that are applicable to at least one of the following problem domains **(check those applicable)**:	
☒	☐	i. Spreadsheet analysis, systems analysis and design, and decision support systems.	Textbook, labs, discussions, final research project
☒	☐	ii. Graphic/artistic design using computers.	Textbook, labs, discussions, final research project, supplemental reading HowToLieWithMaps
☐	☒	iii. Music design using computer software.	
☒	☐	iv. Modeling, making extensive use of computer simulation.	Textbook, labs, final project, supplemental reading HowToLieWithMaps
☒	☐	v. Statistics studies stressing the use of computer software.	Textbook, labs, final project, final exam
☒	☐	vi. Algorithmic design and computational thinking.	Textbook, labs, final project

*The **computer applications** requirement **cannot** be satisfied by a course, the content of which is restricted primarily to word processing or report preparation skills, the study of the social impact of computers, or methodologies to select software packages for specific applications. Courses that emphasize the use of a computer software package are acceptable only if students are required to understand, at an appropriate level, the theoretical principles embodied in the operation of the software and are required to construct, test, and implement procedures that use the software to accomplish tasks in the applicable problem domains. Courses that involve the learning of a computer programming language are acceptable only if they also include a substantial introduction to applications to one of the listed problem domains.

YES	NO		Identify Documentation Submitted
		2. Statistical applications: courses must satisfy **a**, **b,** and **c**.	
☐	☒	**a.** Course has a minimum mathematical prerequisite of College Mathematics, College Algebra, or Pre-calculus**,** or a course already approved as satisfying the MA requirement.	
		b. The course must be focused principally on developing knowledge in statistical inference and include coverage of all of the following:	
☐	☐	i. Design of a statistical study.	
☐	☐	ii. Summarization and interpretation of data.	
☐	☐	iii. Methods of sampling.	
☐	☐	iv. Standard probability models.	
☐	☐	v. Statistical estimation	
☐	☐	vi. Hypothesis testing.	
☐	☐	vii. Regression or correlation analysis.	
☐	☐	**c.** The course must include multiple demonstrations of how computers can be used to perform statistical analysis more efficiently, if use of computers to carry out the analysis is not required. .	

YES	NO		Identify Documentation Submitted
		3. Quantitative applications: courses must satisfy **a**, **b, and c:**.	
☐	☒	**a.** Course has a minimum mathematical prerequisite of College Mathematics, College Algebra, or Pre-calculus**,** or a course already approved as satisfying the MA requirement.	
		b. The course must be focused principally on the use of mathematical models in quantitative analysis and decision making. Examples of such models are:	
☐	☐	i. Linear programming.	
☐	☐	ii. Goal programming.	
☐	☐	iii. Integer programming.	
☐	☐	iv. Inventory models.	
☐	☐	v. Decision theory.	
☐	☐	vi. Simulation and Monte Carlo methods.	
☐	☐	vii. Other (explanation must be attached).	
☐	☐	**c.** The course must include multiple demonstrations of how computers can be used to perform the above applications more efficiently, if use of computers is not required by students.	

Course Prefix	Number	Title	General Studies Designation
LAP	332	GIS Applications in Environmental Design	

Explain in detail which student activities correspond to the specific designation criteria. Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
1a - involves computer programming languages or programs to complete analysis, modeling, statistics, etc…	This class is a 100% computer driven, with an emphesis on using analysis for problem solving. The class focuses on the use of Geographic Information Sysytems (GIS) to complete this goal. GIS software collects, stores, analyzes, models, and displays geographic data. Collection of geo data comes from satellites, GPS, and other innovative technologies. Students will experience these technologies and data types. The data are used to analyze environmental design problems. GIS uses relational databases to store it's data. These databases utilize domains, subtypes, and have exstensive querying and modeling power. Once the data are properlly store GIS is then used to analyze the data, program the data, model that data, and do many statistically based processes. Specifically, Python, VBA, and SQL are the program languages used by GIS. Once the data are manipulated, GIS permits users to share their data and maps via online collaboration tools. Custom widgets and analysis tools are programmed into the Web Applications.	In the syllabus course objectives and learning outcomes explain how students will learn, use, and understand GIS for quantitative analysis, qualitative analysis, data modeling, data simulation, 3D animation, spatial statistics, and map making. Labs (see textbook, syllabus, and lab doc) in the class come directly from the textbook. Each chapter is broken into a lab. For the labs students must download the applicable data, use GIS to store and analyze the data, and finally to present the data. To provde their completion, they are required to take 10 critical screenshots of the processes they are completing. For the specific lab instructions, please see the submited document called "Textbook Lab Example." Specifically for 1a these chapters are applicable (see textbook TOC doc / complete textbook): Lesson #1 exercise 1b "Doing exploratory data analysis" Lesson #2 exercise 2b "examine the data" Lesson #4 - entire chapter on databases Lesson #5 - entire chapter on editing data (querying, setting up domains, subtypes, and other data specific models) Lesson #6 - entire chapter on conducting analysis (geoprocessing tools) Lesson #7 - entire chapter on automating the analysis (python scripting) Students are required to complete a comprehensive final exam. The exam includes computer design thinking questions, on top of subject content

	Students start from the beginning and progress up to an intermediate level operating the GIS. At this level they understand how geographic information systems are theoretically built and how they properly work. At this higher level they also learn how to automate GIS tasks and model procedures for repeatable analysis.	questions. Students also have weekly discussions with their groups. These discussions pertain to data, data types, GIS systems, environmental planning, database creation, analysis review, etc. This gives students time to reflect on what they are learning.
bi, bii - Involves spreadsheet analysis, systems analysis and design, and decision support systems. Also includes graphic/artistic design using computers.	GIS features have attributes that are maintained in a database (tabular). Users interact with spreadsheets to conduct analysis within the GIS. Some data also comes in a spreadsheet format (csv) and students need to be able to import that into the software. GIS is literally a tool that runs different types of systems analysis for design and decision making. Students are taught how to use GIS systems for decision making and modeling. GIS data are both tabular and spatial inherently. Students learn when to use vector data types and or raster data types. Students are required to use and create databases. The databases have features with tabular data. These relational data sets are used to perform spatial statistics and analysis based on their specific labs or final project. Computer artificial intelligence (AI) and other sampling/modeling methods are used to predictively model geographic areas. Based on the results of the GIS analysis, students complete projects and present on the solutions they create. The final product of GIS is usually a digitial map, hardcopy map, or an online web application. All of these mediums require graphic/artistic design input.	Specifically for bi and bii these chapters are applicable (see textbook TOC doc / complete textbook): Lesson #1 exercise 1b "Doing exploratory data analysis" Lesson #2 - entire chapter on previewing the data (quantitative and qualitative) Lesson #3 - entire chapter on choosing the data Lesson #4 - entire chapter on databases Lesson #5 - entire chapter on editing data (querying, setting up domains, subtypes, and other data specific models) Lesson #6 - entire chapter on conducting analysis (geoprocessing tools) Lesson #7 - entire chapter on automating the analysis (python scripting) Lesson #8 - entire chapter on presenting your analysis results Lesson #9 - entire chapter on sharing your results online The discussions(see doc), the final project (see syllabus and final project doc), and final exam (see doc) also lend themselves to the requiresments of bi and bii

	GIS can produce many types of deliverables, including maps and other digital designs. After the computations have taken place, students learn about digital cartography and how to apply it. Students create digital maps that are imbedded in websites.	
biv, bv, bvi - Includes modeling, simulation, statistics, and computational thinking.	As students progress through the textbook, the tasks get increasingly harder and more complex, to the point that they are using Python code (model builder), SQL, and VBA with relational databases to automate, predict, and model data. The book uses analysis and modeling to solve environmental design problems. Student explore and manipulate data throughout the course of the text. Students are required to complete a final GIS project. This GIS project is designed so that students can apply the lessons they have learned on a project of their choice. For the project they must select a environmental design problem and use GIS and GIS data to solve it which requires computational thinking. Students use different spatial geoprocessing tools and spatial statistics to solve their environmental design problems. There is a supplemental reading assignment, where students have to read parts of HowToLieWithMaps, which is very similar to how to lie with statistics. This is a critical thinking document, that helps students conduct higher-quality GIS deliverables including statistics, graphs, charts, reports, and maps.	Specifically for biv, bv, and bvi these chapters are applicable (see textbook TOC doc / complete textbook): Lesson #1 exercise 1b "Doing exploratory data analysis" Lesson #5 - entire chapter on editing data (querying, setting up domains, subtypes, and other data specific models) Lesson #6 - entire chapter on conducting analysis with geoprocessing tools Lesson #7 - entire chapter on automating the analysis (python scripting, model builder) The final project (see syllabus description and project doc) also requires students to use GIS data for analysis and modeling. Once the analysis is complete, students will present their findings via a recorded video.

Course Description: Addresses fundamentals of geographic information systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for **acquiring, displaying, editing, analyzing and modeling spatial information**.

Enrollment Requirements: Prerequisite(s): Landscape Architecture BSLA major; ALA 235 or LAP 231; minimum junior standing OR Visiting University Student

Reserved Seat Information: Seats in this class have been reserved for students in the specified programs, majors or groups listed below. Reserved seats are subject to change without notice.

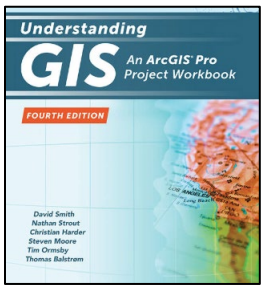
In LAP332 students are required to read the entire textbook, from start to finish. Each chapter is broken out into individual lessons that build on each other, culminating at the end of the book with a completed GIS project. In many ways the lessons are set up to mimic real world applications and experience. Each week students are required to read, complete, and thoroughly understand the lesson. As they progress through the text the students have to take screenshots of important steps and analysis procedures, with summarized descriptions. To receive credit for lab work students must show me that they completed the work and thoroughly understand what they are doing. Before students can continue, they must learn the skills presented. Each week students are continuously challenged to understand and utilize new data types, analysis methods, and other computational modeling inherent in GIS. The lessons spoon feed the subject matter to the students, so that they can digest the complex computer application piece by piece. For more information on the textbook please see the attached TOC doc, the digital copy of the book, and the lab example. As you will see GIS is not a simple thing, but rather a complex computer system capable of completing some heavy duty statistical science and analytical mapping.

GIS Labs – 40% (400 points out of 1000 total class points)

Students are required to complete a string of comprehensive, chronologically linked GIS labs. Most of the labs come straight from the required textbook *Understanding GIS: An ArcGIS Pro Project Workbook 4th Edition.* There are twelve individual labs total. Each lab builds on the last.

Required Primary and Secondary Materials (e.g., readings, videos, podcasts, films and studio supplies)

The required text for this class is *Understanding GIS: An ArcGIS Pro Project Workbook 4th Edition*. A paper copy can be purchased from Amazon for approximately $40 dollars. Digital versions may be available as well, however it is recommend to purchase the book. 4th Edition workbooks only. No other versions are acceptable. All students must have the text by the third week of class.



LAP332/598 GIS Applications in Environmental Design

Instructor: Dr. Nikolas Smilovsky, PhD, GISP
Office Location: Design North #77
Email: Nikolas.smilovsky@asu.edu
Office Hours: By Zoom Appointment Only

Course Description:

Addresses fundamentals of Geographic Information Systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for acquiring, displaying, editing, analyzing and modeling spatial information.

Enrollment Requirements:

No requirements.

Course Objectives:

To expose students to GIS through real world applications. Students begin by learning what the building blocks of geographic systems are, who developed them, why they were developed, and how GIS influences the world we live in. From this fundamental cornerstone, geographic concepts are taught to students through application labs, discussions, readings, and a final project. Students gain "time on the box" leaning how to manipulate data for analysis, modeling, and map making. Students leave this class with a strong understanding of the theoretical concepts of how databases work and how GIS is built on that infrastructure. Students acquire tangible GIS skills for use in future projects, research, and or careers.

Student Learning Outcomes:

- An understanding of the theoretical concepts involved with geographic information systems (GIS), GIS data, and geodatabases.
- The history of GIS with a focus on why it is important for our environment and world.
- How to use *Esri ArcGIS Pro* and *ArcGIS Online* software for analysis and map making.
- How to apply GIS specifically to landscape architecture and environmental design projects.
- Use GIS for site suitability analysis, site selection, 3D simulation, and predictive modeling.
- Practice creating charts, graphics, reports, and maps from GIS data.
- Practice working individually and in collaborative teams.
- Practice communications skills through written, verbal, and presentation assignments.
- Practice using a Windows operating system and MS Office for file management, review, and analysis.

Assignments:

GIS Labs – 40% (400 points out of 1000 total class points)

Students are required to complete a string of comprehensive, chronologically linked GIS labs. Most of the labs come straight from the required textbook *Understanding GIS: An ArcGIS Pro Project Workbook 4th Edition.* There are twelve indivual labs total. Each lab builds on the last.

Class Discussion & Participation – 20% (200 points out of 1000 total class points)

Students are required to complete ten weekly discussion posts with their assigned project groups. Discussions are to be comprehensive, fun, and engaging. Each student must write one intial discussion post on the weekly topic and must respond to two fellow student's responses. Responses must be substanciated with resources, citations, links, or other material provided from the internet or class.

GIS Overview Exam – 20% (200 points out of 1000 total class points)

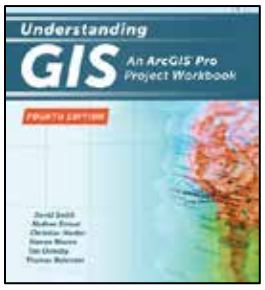
Towards the end of the semester students are required to complete a comprehensive exam pertaining to all concepts, topics, readings, and assignments generated from the class. The exam is only offered through *Canvas*. Throughout the class, hints will be given about important topics and concepts that mostly likely will appear on the test. Students are welcome to use a single notecard (3.5" x 5"), with handwritten personal notes, during the exam. The notecard will be explained in more detail during class. A study guide will also be provided to the students. The intention of the exam is not to trick students, but rather to have students solidify important concepts and skills that will be important for them later in their careers.

GIS Group Project, Presentation, & Video – 20% (200 points out of 1000 total class points)

Students are required to complete a group GIS project focused on environmental design by the end of the semester. GIS projects will be proposed, completed, and submitted by groups of five to eight. Projects may build off previously completed coursework or school projects, or they may be for future research intentions. Current studio projects are not permitted for this assignment. Groups are required to take a GIS project from start to finish, from conception to completion. Students will use spatial data for unique purposes for real-time application. Final deliverables for these projects will include a geodatabase, a short video recorded presenation, and a technical write-up on the work performed. More information will be provided to students in class.

In addition to the final presentation, all graduate students are required to submit an 8-page paper supplementing what they turn in for the final project. The paper will include further research on the subjects presented in this class. The paper must include additional analysis and procedures selected by the graduate student and approved by the instructor.

Required Primary and Secondary Materials (e.g., readings, videos, podcasts, films and studio supplies)



The required text for this class is *Understanding GIS: An ArcGIS Pro Project Workbook 4th Edition*. A paper copy can be purchased from Amazon for approximately $40 dollars. Digital versions may be available as well, however it is recommend to purchase the book. 4th Edition workbooks only. No other versions are acceptable. All students must have the text by the third week of class.

Students are recommended to setup a Google Drive Account for storage of files, labs, and other project work for this class.

Course Itinerary (tentative schedule):

Week / Date	Topics / Lecture	Discusion Post Due	Lab Due
January 11th	Class starts, welcome to LAP332, class overview	None	Lab #1
January 18th	History of GIS	Discussion #1	Lab #2
January 25th	Geography Basics	Discussion #2	Lab #3
February 1st	Introduction to Esri ArcGIS Pro	Discussion #3	Lab #4
February 8th	Introduction to GIS Data	Discussion #4	Lab #5
February 15th	GIS Data Basics	Discussion #5	Lab #6
February 22nd	Introduction to Geodatabases	Discussion #6	Lab #7
March 1st	Editing your GIS Data	Discussion #7	Lab #8
March 8th	Geoprocessing Basics	Discussion #8	Lab #9
March 15th	GIS Analysis Basics	Discussion #9	Lab #10
March 22nd	Cartography 101	Discussion #10	Lab #11
March 29th	Introduction to ArcGIS Online	None	Lab #12
April 5th	GIS Exam Review	None	None
April 12th	GIS Exam	GIS Exam	GIS Exam
April 19th	The Future of GIS	None	None
April 26th	GIS Project Finalization and Submittal	GIS Project	GIS Project

Grading, including grade scale

Grades will be assigned to students, according to the following scales and performance characterizations. “A” grades indicate superior performance, significantly exceeds expectations, and requirements. “B” grades indicate very good performance and meets professional expectations of competent performance. “C” grades indicate good performance and meets minimally acceptable professional performance standards. “D” grades indicate poor, marginal, and not professionally acceptable. “E” grades indicate unacceptable or irresponsible performance. Any fractional grade a student earns at the end of the semester will be rounded up to the nearest whole number.

Class breakdown:

Labs -	400 points
Discussions -	200 points
GIS Exam -	200 points
GIS Project -	200 points
Total	1000 points

Grading Scale:

98-100	A+
93-97	A
90-92	A-
88-89	B+
83-87	B
80-82	B-
78-79	C+
70-77	C
60-69	D
0-59	E

Attendance Policy:

This class is online and there are no “required classes” to attend. However, students are required to complete weekly discussion posts for participation and virtual attendance. Not completing the weekly assignments will result in grade reductions.

Excused absences related to religious observances/practices in accord with ACD 304–04, “Accommodation for Religious Practices.” Students may be excused for the observance of religious holidays. Students should notify the instructor at the beginning of the semester about the need to be absent from class due to religious observances. Students will be responsible for materials covered during their absence and should consult with the instructor to arrange reasonable accommodation for missed exams or other required assignments.

Excused absences related to university sanctioned activities in accord with ACD 304–02, “Missed Classes Due to University-Sanctioned Activities.” Students required to miss classes due to university sanctioned activities will not be counted absent. However, absence from class or examinations due to university-sanctioned activities does not relieve students from responsibility for any part of the course work required during the period of the absence. Students should inform the instructor early in the semester of upcoming scheduled absences and immediately upon learning of unscheduled required class absences. Reasonable accommodation to make up missed

exams or other required assignments will be made. Consult the instructor BEFORE the absence to arrange for this accommodation.

Line-of-duty absence and missed assignment policy:
A student who is a member of the National Guard, Reserve, or other U.S. Armed Forces branch who misses classes, assignments or examinations due to line-of-duty responsibilities, shall have the opportunity to make up the coursework in accordance with SSM 20-18 Accommodating Active Duty Military Personnel. This accommodation also applies to spouses who are the guardian of minor children during line-of -duty activities. This policy does not excuse students from course responsibilities during their absence. Students should first notify the Pat Tillman Veterans Center of their activation and then the instructor to discuss options.

Instructor Absence Policy:
Does not apply.

Academic Integrity and Student Honor Code:

The ASU student honor code affirms the commitment of ASU to uphold the values, principles, and ethics of academic integrity. All students are expected follow the code which states:

"We, the students of Arizona State University, have adopted this code as an affirmation of our commitment to academic integrity and our participation in ethical education. We embrace the duty to uphold ASU's Honor Code, and in light of that duty, we promise to refrain from academic dishonesty. We pledge to act with integrity and honesty to promote these values among our peers. We agree to always abide by the Sun Devil Way and uphold the values of the New American University."

Every student is expected to produce his/her original, independent work. Any student whose work indicates a violation of the ASU Academic Integrity Policy including cheating, plagiarism, and dishonesty will be subject to disciplinary action. Plagiarism is defined as deliberately passing off someone else's words or ideas as your own. All necessary and appropriate sanctions will be issued to all parties involved with plagiarizing any and all course work. Plagiarism and any other form of academic dishonesty that is in violation with the Student Code of Conduct will not be tolerated. Arizona State University and the Herberger Institute for Design and the Arts expect the highest standards of academic integrity from all students. Failure to meet these standards may result in suspension or expulsion from the university or other sanctions as specified in the ASU Student Academic Integrity Policy (http://provost.asu.edu/academicintegrity), "[e]ach student must act with honesty and integrity, and must respect the rights of others in carrying out all academic assignments." This policy also defines academic dishonesty and sets a process for faculty members and colleges to sanction dishonesty. Violations of this policy fall into five broad areas that include but are not limited to:

- Cheating on an academic evaluation or assignments
- Plagiarizing
- Academic deceit, such as fabricating data or information
- Aiding Academic Integrity Policy violations and inappropriately collaborating
- Falsifying academic records

I sanction any incidents of academic dishonesty in my courses using University and HIDA guidelines. Should you have any question about whether or not something falls subject to this clause, feel free to contact me or review the university policy on academic integrity at the above link. Per ASU policy, a student may not avoid the consequences of academic dishonesty by

withdrawing from a course, and may be placed back in the course in order to face sanctions resulting from academic integrity violations. You are responsible for abiding by this policy.

Copyright:

Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement. A statement that the course content, including lectures and other handouts, is copyrighted material. Students may not share outside the class, upload, sell, or distribute course content or notes taken during the conduct of the course (see ACD 304–06, "Commercial Note Taking Services" for more information). THIS CONTENT IS PROTECTED AND MAY NOT BE SHARED, UPLOADED, SOLD, OR DISTRIBUTED.

Student Conduct:

ASU adheres to a university-wide Student Code of Conduct. The philosophy behind this policy states: The aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change and respect for the rights of all individuals. Self-discipline and a respect for the rights of others in the university community are necessary for the fulfillment of such goals. The Student Code of Conduct is designed to promote this environment at each of the state universities. You are expected to treat your instructor and your fellow classmates with respect and kindness. In all correspondence and in Discussion Board postings, you should show respect for the viewpoints of others who may disagree with you or see things from a different perspective. Criticizing, ridiculing, insulting, or belittling others will not be accepted. Keep in mind that electronic communications do not have the advantage of nonverbal cues that are so much a part of interpersonal communication. Humor or satire can sometimes be misinterpreted in strictly electronic communication forums.

Threatening or disruptive behavior:

Self -discipline and a respect for the rights of others in the classroom or studio and university community are necessary for a conducive learning and teaching environment. Threatening or violent behavior will result in the administrative withdrawal of the student from the class. Disruptive behavior may result in the removal of the student from the class. Threatening, violent, or disruptive behavior will not be tolerated in this class, and will be handled in accordance with ASU policy (SSM 104-02). For more information please visit: https://eoss.asu.edu/dos/srr/PoliciesAndProcedures and https://eoss.asu.edu/dos/safety/ThreateningBehavior.

Withdrawal:

If you are unable to complete the course, it is your responsibility to arrange for withdrawal from the class. You will not be automatically withdrawn and unless you are officially withdrawn from the course you will receive a final grade based upon the total points you have earned for the semester. Students are required to pay all tuition and fees for any registered course unless enrollment is officially cancelled during the 100% refund period. Please visit the Academic Calendar to review the withdrawal deadlines for this semester. For more information on Drop/Add and Withdrawal visit: https://students.asu.edu/drop-add

Special Accommodations:

Your instructor is willing to make any reasonable adaptations for limitations due to any disability documented with the DRC, including learning disabilities. Please contact the instructor during office hours or by appointment to discuss any special needs you may have. You must contact the Disability Resource Center to process the paperwork for special course accommodations. To request academic accommodations due to a disability, please contact the ASU Disability Resource Center (http://www.asu.edu/studentaffairs/ed/drc/# ; Phone: (480) 965-1234; TDD: (480) 965-9000). This is a very important step as accommodations may be difficult to make retroactively. If you have a letter from their office indicating that you have a disability which requires academic accommodations, in order to assure that you receive your accommodations in a timely manner, please present this documentation to me as soon as possible so that your needs can be addressed effectively.

Disability Support Services:

Students with disabilities must have an equally effective and equivalent educational opportunity as those students without disabilities. Students experiencing difficulty accessing course materials because of a disability are expected to contact the course instructor so that a solution can be found that provides all students equal access to course materials and technology. Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. It may be difficult to make accommodations retroactively. **Note:** Prior to receiving disability accommodations, verification of eligibility from the Disability Resource Center (DRC) is required. Disability information is confidential.

Information for Students with Disabilities:

Students who feel they will need disability accommodations in this class but have not registered with the Disability Resource Center (DRC) should contact DRC immediately. Students should contact the Disability Resource Center on the campus that your class is being held. Campus-specific location and contact information can be found on the DRC website. DRC offices are open 8 a.m. to 5 p.m. Monday – Friday. Check the DRC website for eligibility and documentation policies (https://eoss.asu.edu/drc)

Policy on Sexual Discrimination:

Policy on sexual discrimination as described in ACD 401, "Prohibition against Discrimination, Harassment, and Retaliation", including the fact that the instructor is a mandated reporter and therefore obligated to report any information regarding alleged acts of sexual discrimination. Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information. As an employee of ASU, I am a mandated reporter and obligated to report instances of reported or suspected incidences of sexual harassment.

Student Rights and Responsibilities:

Students must abide by all the requirements stated in this syllabus. In addition, all students should be aware of their Rights and Responsibilities at Arizona State University and abide by the ASU Student Honor Code.

Student Services & Resources:

You will find a list of student resources at: https://eoss.asu.edu/resources
Resources included are advisement, registration, financial aid, disability services, counseling, tutoring, library, and more.

Non-emergency Student of Concern process:

If you are concerned for a fellow student's well-being, please review the information and complete the form at:
https://herbergerinstitute.asu.edu/resources/new-students/student-of-concern-process
FOR EMERGENCIES CALL 911. (Be prepared with the physical address of the location.)

Academic Calendar and Important Dates:

The academic calendar can be found here: https://students.asu.edu/academic-calendar

Subject to change:

The Instructor reserves the right to change portions of this syllabus (assignments, deadlines etc.) by verbal instructions during scheduled class time. The student is responsible for noting changes and acting accordingly. Grading and absence policies are not subject to change.

Computer, Internet, and Electronic Communications Policy:

http://www.asu.edu/aad/manuals/acd/acd125.html

Discussions

Ordered by Recent Activity

Discussion #1 - Perspectives on the History of GIS Last post at Jan 24 at 8:35pm	Was locked at Jan 24 at 11:59pm	0 1 Due Jan 24 at 11:59pm
Discussion #2 - Geography Basics	Was locked at Jan 31 at 11:59pm	Due Jan 31 at 11:59pm
Discussion #3 - Questions About ArcGIS Pro	Was locked at Feb 7 at 11:59pm	Due Feb 7 at 11:59pm
Discussion #4 - GIS Data Basics	Was locked at Feb 14 at 11:59pm	Due Feb 14 at 11:59pm
Discussion #5 - GIS Data Advanced	Available until Feb 21 at 11:59pm	Due Feb 21 at 11:59pm
Discussion #6 - Geodatabases	Not available until Feb 21 at 11:59pm	Due Feb 28 at 11:59pm
Discussion #7 - Why is Good Data Important	Not available until Feb 28 at 11:59pm	Due Mar 7 at 11:59pm
Discussion #8 - Geoprocessing Tools	Not available until Mar 7 at 11:59pm	Due Mar 14 at 11:59pm
Discussion #9 - GIS Analysis	Not available until Mar 14 at 11:59pm	Due Mar 21 at 11:59pm
Discussion #10 - Cartography Basics	Not available until Mar 21 at 11:59pm	Due Mar 28 at 11:59pm

Discussion #4 - GIS Data Basics

Discussion Assignment Topic:

Using what you know from class and other resources, write a discussion post explaining how GIS data are literally stored and how GIS data can be used for environmental design solutions. After making your main discussion post, select two posts from your group members and reply to their comments. You must have three posts to complete this assignment.

Discussion Post Requirements:

- One post required.
- The discussion post must be a fully developed paragraph, pontificating your point.
- The post should be five to seven sentences long.
- Each paragraph needs a intro, body, and conclusion.
- One citation/source is required to be included in your discussion post.
- All posts must be spell checked and checked for grammar. Posts must be written at a collegiate level.

Response Post Requirements:

- Two posts required.
- The response post must be a fully developed thought or point, in response to someone else's main post.
- The post should be three to five sentences long.
- Questions, personal experiences, ideas, and other statements are acceptable posts.
- All posts must be spell checked and checked for grammar. Posts must be written at a collegiate level.

Lab #4 - Frame the Problem and Explore the Problem Area (Chapter #1)

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- Read Chapter #1 *Frame the Problem and Explore the Problem Area* from the textbook. While reading, follow along on your own computer. Completing the steps in tandem.
- Take 10 screenshots of your work following chapter #1's instructions. This is proof of your lab work. Take these screenshots while you are completing the lab. Start your screenshots a few steps in and make sure to have one of the images be your final output/deliverable.
- Prove beyond a doubt that you completed the lab. Show this through your selective screenshots.
- Put all screenshots into a single word document. Label each screenshot with a descriptive title, explaining what is happening in the image.
- BE PROFESSIONAL and follow directions (you will be graded on how the document looks).
- Name the document "LastName_Lab4". Save the final copy as a PDF.
- Upload to Canvas.
- Due Sunday 2/7 by 11:59pm

Points 33.33

Submitting a file upload

Final Exam

- The exam is on April 15th at 1:30pm Arizona time. You will have up to two hours to complete the exam. The exam will close at 3:30pm.
- You are to work alone and are prohibited from helping each other.
- Do not leave your computer, talk to anyone, pick up your cell phone or look at another source.
- You only get 1 chance to answer the question, it will be locked afterward.
- Do not use the internet, books, or any other source to help you on the test.
- Any cheating will result in an immediate zero on the assignment.
- The test is worth 20% of your final grade (200 points).

Quiz Type	Graded Quiz
Points	200
Assignment Group	Imported Assignments
Shuffle Answers	Yes
Time Limit	90 Minutes
Multiple Attempts	No
View Responses	No
Access Code	1234
One Question at a Time	Yes
Require Respondus LockDown Browser	No
Required to View Quiz Results	No
Webcam Required	No
Lock Questions After Answering	Yes

Group Project & Video Presentation

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Working with your automatically assigned group, pick an environmental design problem of your choice and complete a GIS research project exploring the phenomenon. Using GIS complete a thorough analysis and study of your chosen environmental topic. There are no right or wrong topics to select. They can be at a local scale or global scale. The only requirement is that each group must find a minimum of five unique datasets to be used in the research.

After figuring out what your research team wants to study and after finding five appropriate GIS layers, complete custom analysis to explore your topic. After completing your analysis, create three specific maps to display your results. These maps needs to contain all of the major cartographic elements. They need to be professional and help explain the narrative of your study.

Once your analysis and maps are complete, put together a PowerPoint presentation. In the presentation present your topic, the datasets, the analysis, the results, and a discussion about the process of using GIS. Feel free to create a unique group name for the project. The presentation needs to be professional, fun, and informative.

After completing the PowerPoint presentation, please add audio and create a video export. The video presentation is the final submittal for this assignment. In the video each group member must speak and help present equally. At the end of the video show the credits of the presentation, including each group members name. The video may not be over five minutes long. Submissions over five minutes will be discarded and not graded.

Contents

Contents continued

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An ArcGIS® Pro Project Workbook

FOURTH EDITION

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