

# EES 300 – Introduction to GIS (Online)

## Syllabus

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## Course Information

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### Instructor Information

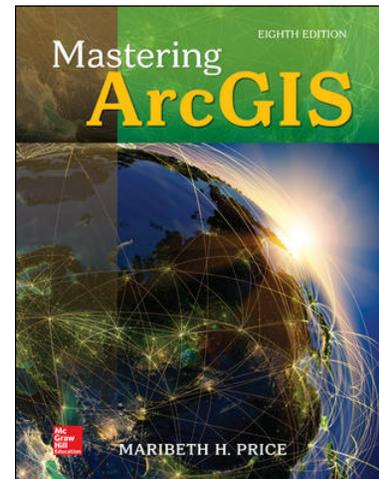
See the online course in Blackboard for instructor contact information and availability.

### Textbook and Course Materials

**Mastering ArcGIS**  
8<sup>th</sup> Edition (required)  
By Maribeth Price  
ISBN10: 1259929655  
ISBN13: 9781259929656  
Copyright: 2019  
[\\*E-book available](#)

Contact the [Scribner Bookstore](#) for ordering information.

**ArcGIS Desktop 10.6 or newer**  
Available at ESRI.com for \$100  
<https://www.esri.com/en-us/store/arcgis-student-use/arcgis-for-student-use>



Students will require reliable internet access and a computer on which to install and utilize ArcGIS.

### Course Description

Introduces the computer-literate student to the underlying theory and practical applications of Graphic Information System (GIS) technology. Online discussions are interwoven with hands-on computer exercises that illustrate the principles, develop technical competence, and demonstrate the versatility of GIS. Independent step-by-step exercises reinforce concepts and help students acquire the knowledge and confidence required to use GIS outside the classroom.

### Credit Hours

3

### Prerequisites and/or Co-requisites

Math placement level H, A, or B, and junior/senior status, or MATH 104, or consent.

### Learning Outcomes

Students who successfully complete this course will be able to:

- Develop a basic understanding of what GIS is, its operations, and its uses

- Understand how real-world features are represented by GIS data
- Know the difference between raster and vector data models
- Learn about map documents layers and data frames
- Organize GIS data sets and folders
- Create new geodatabases by importing and exporting data
- Use ArcCatalog and ArcToolbox to manage data
- Document data sources using metadata
- Learn the basic properties and uses of coordinate systems, including projections
- Use properties of symbols to differentiate features or rasters in maps
- Create maps from attributes using different map types
- Learn basic principles of map design
- Explore data in tables using statistics and summarized statistics
- Understand joins and cardinality concepts
- Understand and troubleshoot errors in ArcGIS
- Use basic editing features

## Course Format and Design

This course is offered fully online in modular format. The course is designed to provide students with a variety of learning experiences and equip students with learning resources and activities that enable learning outcomes.

Students will rely heavily on their textbook for the successful completion of this course. It will be necessary to read each chapter to gain an understanding of the concepts required to complete the tutorials and exercises. The step-by-step tutorials provided in each chapter, referred to as *Mastering the Skills*, must be completed in order to become proficient at ArcGIS. Questions presented within this section will be answered via the quiz section of each module in Blackboard to ensure completion. Each chapter also contains exercises, which will be submitted via the assignments link for each module in Blackboard.

This is a very independent course, however, discussion boards are utilized for students to ask questions and further explore the content. Discussion posts are required weekly. Students will be required to respond to the instructor's initial post for the week, and two of their classmates' posts. Grading rubrics are provided each week.

The condensed nature of this course does not facilitate the completion of a course project, however, there will be a final exam covering chapters 1-7 of the textbook which will include the production of a map product.

# University Information and Policies

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## University Mission Statement

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*Prepare each student for a meaningful life and career*

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The mission of Virginia Wesleyan University is to engage students of diverse ages, religions, ethnic origins, and backgrounds in a rigorous liberal arts education that will prepare them to meet the challenges of life and career in a complex and rapidly changing world. In this endeavor, the university employs a wide range of approaches to teaching and learning and provides opportunities to connect the study of the liberal arts with practical learning experiences on campus, in the Hampton Roads region, and throughout the world. In accord with our United Methodist heritage, Virginia Wesleyan aspires to be a supportive community that is committed to social responsibility, ethical conduct, higher learning, and religious freedom.

## Special Needs and Accommodations

Virginia Wesleyan University is committed to giving all students the opportunity of academic success. If you are a student who is requesting accommodations based on the academic impact of a disability, speak to your instructor about your accommodations letter and specific needs. If you do not have an accommodations letter for this course, you will need to visit or call for an appointment with a disability support specialist to coordinate reasonable accommodations. Visit [Virginia Wesleyan University Disability Support Services](#) on the Web.

## Honor Code

As a liberal arts university, Virginia Wesleyan is committed to values of citizenship and social responsibility fundamental to a community of scholars. People who join this academic community agree to maintain academic honesty and, therefore, not to cheat, lie, falsify data, or commit plagiarism or academic theft. Refer to the [Virginia Wesleyan Honor Code](#) for definitions, rights, responsibilities, and procedures.

## Student Handbook

All students are expected to uphold the university's mission statement and abide by the university's honor code, the Virginia Wesleyan Creed, and all other standards that govern the conduct and behavior of students. For more information, refer to the [student handbook](#).

## Technology Requirements

Online courses require that you have access to a computer with a reliable Internet connection (high-speed access recommended). A backup plan is recommended in the event of an Internet outage.

You will need to have access to and be able to use the following:

- A Web browser (Google Chrome or Mozilla Firefox is recommended.)
- Adobe Acrobat Reader ([Get Adobe Acrobat Reader free.](#))
- Microsoft Office 365 ([Get Office 365 free.](#))
- A Virginia Wesleyan e-mail account to use when submitting assignments
- Windows OS
- ArcGIS Software
- A zip utility such as WinZip or 7zip
- Media player capable of playing .mp4 videos

For assistance with passwords and user IDs, contact the [Virginia Wesleyan Help Desk](#).

For assistance with Blackboard, please contact [the Help Center](#).

## **Instructional Technology**

For information, support, and training in the academic software of the university, refer to the university's department of [Instructional Technology](#).

## **Learning Center**

Contact the [Learning Center](#) for the following services:

- Academic advocacy and communication
- Academic planning and workshops
- Academic tutoring
- Computers and assistive technology
- Disability support services
- Individualized writing assistance
- Speech lab

## **Hofheimer Library**

The Hofheimer Library supports the Virginia Wesleyan community by providing services, resources, and facilities that advance the academic program. Visit the [Hofheimer Library](#) on the Web for information, resources, services, and hours.

## **Nondiscrimination Statement**

Virginia Wesleyan University does not discriminate against students of any race, religion, color, creed, gender, national and ethnic origin, age, marital status, covered veteran status, handicap, sexual orientation, or any other legally protected status in administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other university-administered programs and facilities.

## **Diversity Statement**

Virginia Wesleyan University values the benefits of its diversity. We are committed to educating the campus community about issues of diversity. The campus promotes freedom of thought and opinion in the spirit of mutual respect. Our campus community is enriched through programs, activities, and interactions by celebrating our uniqueness as well as our commonalities.

This commitment to diversity links programs and services that support the distinctiveness of individuals regardless of racial and ethnic backgrounds, physical and cognitive abilities, family status, sexual orientation, gender identity, socioeconomic status, age, and religious and spiritual values.

An essential feature of this community is an environment in which all students, faculty, administrators, and staff are able to study and work free from bias and harassment. Such an environment contributes to the growth and development of each member of the community.

## **Course Policies**

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### **Participation**

Course participation is essential to successful course completion. Participation is assessed based upon timely completion of assignments and the quality of posts to the discussion boards.

### **Late Work**

Late work will be accepted if a documented excuse, such as a doctor's note, is presented. No exceptions.

### **Extra Credit**

Due to the condensed nature of this course, extra credit is not available. Students are expected to stay on task and complete the required work each week.

### **Netiquette Guide**

Within the discussion board you are asked to respond to your classmates' posts, and sometimes you are asked to provide a critique of their work. Always be considerate and thoughtful in your responses. Constructive criticism is encouraged.

### **Strategies for Success**

The key to success in this course is to stay on task. Once you fall behind it will be difficult to catch back up. Early each week be intentional about setting aside time to read the chapter, complete the tutorial and exercises, and respond to the discussion board posts. If you get stuck on something, look up the corresponding video on the course website. If that doesn't solve your problem, create a post GIS Q&A discussion

board so that your classmates and/or instructor can help you resolve your problem. It is important to start each module early in the week so that you have adequate time to get help if you need it, and to ensure you respond to the discussion boards in time.

## Course Grades and Assignments

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### Grade Allocation

Assignment	Point Values	Percentage of Grade
Weekly Discussions	140	38.47%
Mastering the Skills	56	15.38%
Exercises	75	20.60%
Final Exam & Discussion	93	25.55%
<b>Total Possible</b>	<b>364</b>	<b>100%</b>

### Grading Scale

A	93–100
A-	90–92
B+	88–89
B	83–87
B-	80–82
C+	78–79
C	73–77
C-	70–72
D+	68–69
D	63–67
D-	60–62
F	Below 60

### Assignment Descriptions

#### *Weekly Discussions*

Weekly discussions require students to respond to a prompt from the instructor that pertains to the module each week. Students must also respond to two of their classmates' posts. Grading rubrics are provided for each discussion board module.

#### *Mastering the Skills*

Mastering the Skills is a step-by-step tutorial in the textbook. There are questions throughout the tutorial. These questions will be answered via the quiz tab. Students have unlimited attempts to get full credit since this is a tutorial.

## Exercises

Exercises are provided at the end of each chapter for the students to test their newly learned skills. They typically resemble the tutorial material, therefore, if students work through the entire tutorial they should be able to successfully complete the exercises.

## Course Schedule

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Refer to the [academic calendar](#) for important university dates.

The instructor reserves the right to make necessary changes, additions, deletions, and revisions to the course schedule as needed.

Module	Readings	Assignments Due
1. Introduction to GIS and GIS Data	Introduction (p.1-8) Chapter 1 (p. 9-24)	<ul style="list-style-type: none"><li>Mastering the Skills (p.27), 5 pts</li><li>Exercises (p.42), 10 pts</li><li>Discussion Board, 20 pts</li></ul> Total: 35 points
2. Managing GIS Data	Chapter 2 (p. 43-57)	<ul style="list-style-type: none"><li>Mastering the Skills (p.59), 9 pts</li><li>Exercises (p.72), 10 pts</li><li>Discussion Board, 20 pts</li></ul> Total: 39 points
3. Coordinate Systems	Chapter 3 (p. 73-87)	<ul style="list-style-type: none"><li>Mastering the Skills (p.89), 12 pts</li><li>Exercises (p.106), 10 pts</li><li>Discussion Board, 20 pts</li></ul> Total: 42 points
4. Mapping GIS Data	Chapter 4 (p. 107-121)	<ul style="list-style-type: none"><li>Mastering the Skills (p.123), 5 pts</li><li>Exercises (p.138), 10 pts</li><li>Discussion Board, 20 pts</li></ul> Total: 35 points
5. Presenting GIS Data	Chapter 5 (p. 139-156)	<ul style="list-style-type: none"><li>Mastering the Skills (p.158), 5 pts</li><li>Exercises (p.172), 10 pts</li><li>Discussion Board, 20 pts</li></ul> Total: 35 points
6. Attribute Data	Chapter 6 (p. 173-188)	<ul style="list-style-type: none"><li>Mastering the Skills (p.190), 15 pts</li><li>Exercises (p.203), 10 pts</li><li>Discussion Board, 20 pts</li></ul> Total: 45 points

Module	Readings	Assignments Due
7. Basic Editing	Chapter 7 (p. 205-213)	<ul style="list-style-type: none"> <li>Mastering the Skills (p.215), 5 pts</li> <li>Exercises (p.230), 15 pts</li> <li>Discussion Board, 20 pts</li> </ul> <p>Total: 40 points</p>
8. Final Exam		<ul style="list-style-type: none"> <li>Final Exam in Blackboard, 58 pts</li> <li>Final Exam Map in Discussion Board, 35 pts</li> </ul> <p>Total: 93 Points</p>

## Collaborative Learning

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Collaborative learning, through engagement of other students, is a key ingredient of participatory learning. Students can expect each online course to have some degree of collaborative learning. The type of collaboration may be minimal and take the form of weekly small group discussions.

Alternatively, the type of collaboration may be a major virtual team project that requires weekly and substantive participation from all members. Regardless of the type of collaborative learning, all students are expected to participate in a timely, substantive, on-subject, professional, and complete manner.

## Hints for Success in Your Online Course

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1. Be sure you have access to proper computer equipment, Internet service, and software as listed above.
2. Designate certain times each week to work on your course. Plan ahead, avoid procrastination, even out your workload, and absorb material before moving on.
3. Have a specific achievement goal for each log-on session to help you accomplish what you need to get done and avoid distractions
4. Actively participate in discussions. Meaningful interchange will lead to better understanding of various aspects of the course and also contribute to the personality and warmth of the online class community.
5. If assigned to an online team or study group, work with your team members actively from the start. Thus, team members will benefit from the other group members' ideas and experiences and can depend on one another to complete assigned tasks.
6. Practice an informal but organized, concise, and clear writing style that aids online communication.

7. Venture beyond the classroom. The Internet medium of the online classroom gives ready access to electronic libraries and to pertinent websites that offer a significant advantage in understanding graduate-level material.
8. Your class may occasionally use short multimedia components to enrich the learning environment. Follow the instructions provided.