Higher Ed Guide to Esri E-Learning for Planning and Geodesign

Overview

This guide is for instructors who want to use authoritative Esri web-based learning resources as part of college or university courses. Listed items are available as of July 6, 2023, and are expected to be available through at least September 30, 2023. New listings are in orange.

All resources are web courses unless otherwise noted. Full descriptions can be found at the links provided. The complete Esri Academy catalog can be found at esri.com/training/catalog. The information provided in this guide is subject to change without notice. Please email GIStraining@esri.com or call (800) 447-9778, ext. 5757 with questions about courses.

You and your students may be eligible for unlimited access to the entire collection of self-paced e-Learning (web courses, training seminars, and more) if your institution has a qualifying product with a current maintenance subscription. To determine if this applies to you, contact your Esri software license administrator, check online, or email educationinfo@esri.com.

A learning plan is a set of learning content with a suggested order. You can create your own plan or copy and edit one you find. You can assign your plan to students or colleagues and track their progress. See the site Help (Category: Learning Plans) for more information.

TECHNOLOGY

This section has individual e-Learning offerings that provide foundational concepts and skills.

Getting Started with GIS (ArcGIS Online)

The following resources offerings help students new to GIS learn foundational concepts and begin building skills using ArcGIS Online.

- [Getting Information from a GIS Map](#) (1 hr., 45 mins.) Explains that GIS links geometric map features with tables of numbers and facts to reveal the hidden meaning in data.
- [ArcGIS Online Basics](#) (1 hr., 50 mins.) Presents basic ArcGIS Online terms and capabilities.
- [Building an App in ArcGIS Online to Expand Food Access](#) (ArcGIS lab, 3 hrs., 45 mins.) Style and customize a web map using ArcGIS Online that shows farmers market locations in relation to food stores as well as the poverty status and racial and ethnic composition of the community.

ArcGIS Pro foundation

The following e-learning resources cover foundational concepts and skills using ArcGIS Pro software. Some courses also use ArcGIS Online.

- The free *[ArcGIS Pro Terminology Guide](#)* is recommended for all students of ArcGIS Pro.
- [GIS Basics](#) (2 hrs., 35 mins.) Presents fundamental components and capabilities of GIS and how ArcGIS can help organizations address business needs.
- [ArcGIS Pro Basics](#) (50 mins.) Introduces tools to integrate, visualize, analyze, and share data.
- [Getting Started with Mapping and Visualization](#) (1 hr., 15 mins.) Explores the 2D and 3D information products that you can create with ArcGIS Pro.

- [Querying Data Using ArcGIS Pro](#) (30 mins.) Teaches how to build a query expression and how to select features that meet one or more attribute criteria.
- [Symbolizing Map Layers](#) (1 hr., 45 mins.) Teaches basic principles of map symbology.
- [Integrating Data in ArcGIS Pro](#) (1 hr., 15 mins.) Teaches basic skills to add various types of data to a file geodatabase to support a planned project.

   Related Learning Plan
   - **[ArcGIS Pro Fundamentals](#)**

MAPPING, VISUALIZATION, AND ANALYSIS

This section includes resources that teach common ArcGIS Pro workflows that may be useful to planners. It also includes training on software used especially for planning and community development, such as ArcGIS Urban, ArcGIS GeoPlanner, Business Analyst, and ArcGIS Insights.

- **[Going Places with Spatial Analysis](#)** (MOOC; 6 weeks; January 24 – March 6, 2024) Explores why location matters in a wide range of business and policy decisions and offers hands-on experience with authentic spatial analysis workflows.
- **[GIS for Climate Action](#)** (MOOC; 6 weeks; October 25 – December 6, 2023) Discover how GIS is being used to understand and prepare for a future that requires more resilient communities, systems, and infrastructure. Use ArcGIS to explore climate change indicators, risks, impacts, and dashboards.

Spatial Relationships and pattern detection
- [Getting Started with Spatial Analysis](#) (1 hr., 10 mins.) Introduces the six categories of spatial analysis that can help you answer geographic questions. (Can be completed with ArcGIS Online or ArcGIS Pro)
- [Understanding Spatial Relationships](#) (50 mins.) Introduces basic methods for describing and analyzing relationships between features.

   Related Learning Plans
   - **[Exploring Spatial Relationships](#)**

Suitability modeling
Web courses in this section use ArcGIS Pro with ArcGIS Spatial Analyst.

- [Suitability Modeling: Introduction](#) (2 hrs., 40 mins.) Teaches how to define a problem in terms of an analysis goal and suitability criteria, plus how to prepare data for a suitability model.
- [Suitability Modeling: Creating a Simple Suitability Model](#) (2 hrs., 35 mins.) Learn to create a suitability model that produces an easy-to-interpret binary result.

   Related Learning Plan
   - **[Finding the Best Place](#)**

3D mapping and visualization

Web courses in this section use ArcGIS Pro with ArcGIS 3D Analyst and/or ArcGIS Spatial Analyst.

- [ArcGIS Pro: An Overview of 3D Analysis](#) (Video, 44 mins.) Describes the wide range of 3D analysis techniques available in ArcGIS Pro.
- [Introduction to 3D Visualization](#) (3 hrs.) Shows how visualizing data in a 3D environment offers a realistic perspective that can aid in identifying patterns and trends that may not be available in a 2D environment.
- [Exploring 3D Features Using ArcGIS 3D Analyst](#) (1 hr., 35 mins.) Teaches how to apply the spatial analysis approach to determine whether and when to use 3D data and analysis methods. Explain when to use 3D proximity and visibility analysis methods.
- [Performing Viewshed Analysis in ArcGIS Pro](#) (1 hour) Teaches how to perform a viewshed analysis for practical uses, for example, to determine where to locate a guard tower.
- [Performing Line of Sight Analysis](#) (1 hr., 5 mins.) Teaches how to perform line of sight analysis to determine visibility between observation and target points.

Related Learning Plan
- **[3D Analysis Fundamentals](#)**

Imagery and Remote Sensing

The following courses may be of interest. A more complete listing of titles in this area can be found in the [Higher Ed Guide to Esri E-Learning for Imagery and Remote Sensing](#) or the Esri Academy catalog.

- [Displaying Raster Data in ArcGIS](#) (3 hrs., 15 mins.) Covers techniques for displaying, symbolizing, and enhancing the appearance of rasters in ArcGIS Pro.
- **[Imagery in Action](#)** **(MOOC; 6 weeks; September 20 – November 1, 2023)** Explores cutting-edge imagery applications and workflows using ArcGIS Pro, ArcGIS Online, and ArcGIS Image Analyst.

ArcGIS Urban

Web courses in this section require an ArcGIS Online organization with ArcGIS Urban enabled. The user account must have a Publisher role and the ArcGIS Urban license enabled.

- [ArcGIS Urban Basics](#) (1 hr., 10 mins.) Explains the benefits of ArcGIS Urban and teaches how to create an ArcGIS Urban model.
- [ArcGIS Urban: Importing Planning Data](#) (1 hr., 20 mins.) Teaches concepts and process necessary to prepare and configure planning data and import it into an ArcGIS Urban model.
- [ArcGIS Urban: Modifying the Settings of an Urban Model](#) (55 mins.) Covers modify settings and manage an Urban model, and using 3D base layers to create a digital twin.
- [ArcGIS Urban: Creating Urban Design Scenarios](#) (3 hrs., 5 mins.) Teaches how to create projects and plans for design scenarios and then configure the scenarios using development information.
- [ArcGIS Urban: Sharing and Collaborating](#) (1 hr., 55 mins.) Covers how to share an ArcGIS Urban model with internal and external stakeholders to facilitate collaboration.

Related Learning Plan
- **[ArcGIS Urban Essential Skills](#)**

Geodesign and green infrastructure planning

Web courses in this section require an ArcGIS Online organizational account. Some courses also use ArcGIS GeoPlanner. Refer to course catalog descriptions for more details.

- [Introduction to Green Infrastructure](#) (1 hour) Describes what green structure is and teaches basic questions to consider when beginning the design process.
- [Building the Foundation for Green Infrastructure Planning](#) (2 hrs.) Applies two green infrastructure apps. Shows how to select and prioritize criteria based on project goals.
- [ArcGIS GeoPlanner: Exploring the Green Infrastructure in Your Study Area](#) (1 hour) Teaches how to create a GeoPlanner project, enrich scenario layers with demographic data, and analyze existing data with GeoPlanner tools.
- [ArcGIS GeoPlanner: Designing with Real-Time Feedback](#) (1 hour) Focuses on evaluating project design requirements and creating a data-driven plan to meet design goals. Create design layers, use sketch tools, and use design charts and gauges to assess scenarios in real time.
- [ArcGIS GeoPlanner: Evaluating Plans](#) (1 hour) Shows how to create design scenarios, compare them using key performance indicators, and share alternative designs with stakeholders using ArcGIS Online.

  Related Learning Plan
  - **[Build a Green Infrastructure Strategy](#)**

Community engagement

These items present modern approaches for engaging the community to address topics of concern.

- [Collecting and Visualizing Data with ArcGIS QuickCapture](#) (ArcGIS lab, 2 hrs., 30 mins.) Design an app to collect data on people's emotional reactions to places and infrastructure in a city.
- [Measuring and Visualizing Digital Exclusion Using ArcGIS Pro](#) (ArcGIS lab, 1 hr., 5 mins.) Analyze internet access data in the U.S. and visualize exclusion patterns across race and ethnic groups.
- [Create a Web App to Share Digital Exclusion Data](#) (ArcGIS lab, 55 mins.) Build a web app to share data about internet access in the U.S. to help others understand digital exclusion.
- [Applying the Racial Equity Workflow Using ArcGIS](#) (3 hrs., 45 mins.) Presents a framework to analyze inequities and provide change while engaging the community. Uses ArcGIS Pro, ArcGIS Online, and ArcGIS Dashboards.

ArcGIS Insights

ArcGIS Insights helps you to quickly identify data patterns and relationships using drag-and-drop functionality, analysis tools, and interactive maps, charts, and tables.

- [ArcGIS Insights: An Introduction](#) (Video, 44 mins.) Shows how to connect to data from numerous sources and perform visual analytics. Demonstrates how to use and interpret the more involved approaches, such as regression and link analysis.
- [Exploring Demographic Data Using ArcGIS Insights Online](#) (ArcGIS lab, 3 hrs.,10 mins.) Compare redistricting plans and use charts to analyze the demographic data in those plans. Share your work so that stakeholders can access it online.
- [Mapping Racial Disparities in Breast Cancer Mortality Rates Using ArcGIS Insights Online](#) (ArcGIS lab, 3 hrs., 10 mins.) Visualize Use GIS maps and tabular data to visualize, calculate, and analyze statistical data.
- [Performing Sales Data Analysis with ArcGIS Insights Online](#) (ArcGIS lab, 2 hrs., 35 mins.) Play Use Insights to build a workbook about home values with a map, charts, indicator values, filters, and

a table. Use the workbook to examine the data. Share results as an interactive visualization tool and model.

- Using Design Principles to Enhance the Visual Appearance of an ArcGIS Insights Workbook (ArcGIS lab, 55 mins.) Apply cartographic principles and design choices to an existing Insights workbook. Create a professional-looking report using page and card settings and creating a custom theme.

  Learning Plan
  - **ArcGIS Insights Fundamentals**

ArcGIS Business Analyst Pro

ArcGIS Business Analyst Pro provides tools and data that you can use to learn about your community to answer questions related to site selection, economic development, and more.

- ArcGIS Business Analyst Pro Basics (1 hr., 10 mins.) Shows how to enhance analysis using robust online Business Analyst data. Shows performing a business site evaluation using workflows, tools, and data.
- ArcGIS Business Analyst Pro: Analytics (1 hr., 55 mins.) Describes the process to perform market analysis tasks using ArcGIS Business Analyst Pro, and shows how to create a custom data layer.

  Related Learning Plan
  - **ArcGIS Business Analyst Pro Essentials**

MOBILE DATA CAPTURE

The following resources introduce applications used to plan and execute data capture using survey-centric or map-centric mobile apps.

ArcGIS Survey 123
- ArcGIS Survey123 Basics (1 hr., 15 mins.) Introduces the ArcGIS Survey123 components and workflow. Explains how to create surveys, get answers, and view results.
- ArcGIS Survey123: Creating and Publishing Surveys (1 hr., 20 mins.) Teaches how to create, publish, and share survey forms through the Survey123 website.

QuickCapture
- Collecting and Visualizing Data with ArcGIS QuickCapture (ArcGIS lab, 2 hrs., 30 mins.) Design an app to collect data on people's emotional reactions to places and infrastructure in a city.
- Get Started with ArcGIS QuickCapture (Training Seminar; 55 mins.) Teaches how to identify data collection scenarios that would benefit from using ArcGIS QuickCapture, as well as how to configure and manage ArcGIS QuickCapture projects within an ArcGIS Online organization.

  Related Learning Plans
  - **Create Smart Surveys and Forms Using ArcGIS Survey123**
  - **Collect Data in the Field Using ArcGIS Apps**

ADDITIONAL INSTRUCTIONAL MATERIALS

GIS for Climate Resilience is a body of instructional materials produced by Esri to aid the development of university-level curricula for applying the geographic approach to climate resilience planning. The materials include interactive web apps, lab exercises based on real-world scenarios, and overview slides.

NOTES

- You can view lists of new training, training pending retirement, and retired training on the New and Retired Training Options page. You will receive a message when retirements are announced. (Click View Messages while signed into Training.)

- If you plan to assign a MOOC to a group of students or to an entire class, please review the following resources:
  - For students: Get Ready for an Excellent MOOC Experience
  - For instructors: Top 8 Tips for Educators Assigning Esri MOOCs to Students

- To request a transfer of training history from an institutional account to another account, students should contact Esri Customer Service at service@esri.com or (888) 377-4575.