# GIS 2335 Class Notes – January 21, 2025

Instructor Discussion: Course Overview, Programming for GIS, Virtual Machine Access, and First Assignments

## 1. Course Structure & Learning Approach

### IERA Model (Tiers of Learning)

- Introduction: Basic discussions, no deep study.  
- Exposure: Hands-on exercises and guided practice.  
- Reinforcement: Applying knowledge in more advanced exercises.  
- Advanced Learning: Real-world problem-solving and automation.  
- Goal: Students will not master programming in one semester, but this course provides a foundation to build experience.

### Course Schedule & Assignment Flow

- Assignments follow a set pace:  
 - Complete a chapter exercise each week.  
 - The final exam opens on May 9 at noon.  
 - Final portfolio items will be reviewed near the end of the semester.  
- Late Work Policy:  
 - Assignments accepted one week late with a letter-grade penalty.  
 - Final deadline for all late work: May 7, 2025.  
 - Instructor is flexible but requires communication if you need an extension.

## 2. Potential Group Project: ADA-Compliant Campus Navigation App

- Project Goal: Develop a GIS-based app to help on-campus students and visitors navigate ADA-compliant routes.  
- Students from multiple GIS courses may collaborate on this project.  
- Timeline:  
 - First half of semester → Focus on Python programming for GIS.  
 - Second half of semester → Potential work on app development.  
 - Project inclusion is flexible based on student progress.  
- Real-World Experience:  
 - Previous GIS projects (e.g., Chamber Cemetery Project) gained external recognition.  
 - Students can list projects on their resume to showcase GIS experience.

## 3. Virtual Machine Access & ArcGIS Pro

- Two ways to use ArcGIS Pro:  
 1. Download it on your own PC (via ArcGIS Online).  
 2. Use the Dallas College Virtual Machine (VM) (30 available machines).  
- Navigating the Virtual Machine:  
 - The VM is a separate system—files don’t transfer automatically from your local machine.  
 - Use Full Screen Mode to avoid confusion when switching between systems.  
 - Ensure you can log in to ArcGIS Pro and ArcGIS Online.  
- ArcGIS Pro Login Format:  
 - Username: First letter of first name + last name + "\_BHC" (e.g., jdoe\_BHC).  
 - If you cannot log in, notify the instructor immediately.

## 4. Python for GIS & IDEs

- Programming for GIS: Python Overview   
 - Python is used to automate GIS tasks and handle large-scale data.  
 - Early on, Python may feel slower than built-in GIS tools, but its real power is automation.  
- Choosing a Python IDE (Integrated Development Environment)   
 - PyCharm (Default for this course, installed on VM).  
 - VS Code (More complex but widely used).  
 - Spyder (Good for data science).  
 - Visual Studio (Advanced, like Photoshop vs. Paint).  
 - Students can use any IDE—the code remains the same.

## 5. First Assignment: Python & ArcGIS Pro Tutorial

- Due next week:  
 - Complete the "Get Started with Python & ArcGIS Pro" tutorial (ESRI Academy).  
 - Follow step-by-step instructions in the tutorial.  
 - Take screenshots at key steps (e.g., running a Python tool).  
 - Paste screenshots into a Word or Google Doc and submit them on eCampus.  
- ESRI Academy Training Tips:  
 - Check the last updated date—some tutorials may be outdated.  
 - If the ArcGIS version differs, tools may be in different locations.

## 6. Next Week’s Activity: The PB&J Programming Exercise

- Peanut Butter & Jelly (PB&J) Challenge:  
 - A fun exercise to teach logical thinking & step-by-step problem-solving.  
 - DO NOT research this in advance—it’s designed to help students think like programmers.  
 - After submission, the instructor will show a humorous video related to the challenge.  
- Key Lesson:  
 - Programming requires precision—even simple tasks require detailed instructions.  
 - The goal is not perfection but developing problem-solving skills.

## 7. Key Takeaways for Students

✅ Follow the weekly assignment schedule—don’t fall behind.  
✅ Check ESRI Academy for additional GIS learning resources.  
✅ Ensure you can access ArcGIS Pro—install it or test the virtual machine.  
✅ Submit the Python & ArcGIS Pro tutorial next week (include screenshots).  
✅ Prepare for next week’s PB&J exercise—think logically!

## 8. Next Steps for Students

📌 Log in to ArcGIS Pro and confirm access (VM or personal download).  
📌 Complete & submit the Python & ArcGIS Pro tutorial.  
📌 Familiarize yourself with Python IDEs (PyCharm, VS Code, Spyder, etc.).  
📌 Prepare for the PB&J programming exercise next week.