CIS 4000 Orientation

Part 1: Note, read, and access the following course materials.

Top of Course

- Getting Started in CIS 4000
- Announcements

Course Information

- Syllabus
- Tentative Schedule
- Quality Assurance and Open Source Software Development Policy Details
- Office Hours
- Tableau Instructions
- GitHub
- GitHub CIS 4000 Repository
- Creating a GitHub Repository for Class
- Student GitHub Accounts
- NSU IncludED Shipment Form
- NSU IncludED Opt-Out Form
- School of Business Professional Communication Guidelines
- CIS Student Learning Outcomes

Course Resources

- Resource Websites
- Personal Study Journal Tips
- Program Development Tips
- Assignment Help Tips
- Eclipse IDE Install
- Eclipse + GitHub + HTTPS
- Eclipse + GitHub + SSH
- Eclipse + GitHub
- MySQL and Workbench Install (Windows)
- SQL Server and Management Studio Install (Windows)

Other Modules:

- Assignments
    - Orientation Instructions
    - Task Instructions
    - Lab Instructions
    - Project Instructions
- Database Systems & Data Models
- Relational Database Model
- ERM & Advanced Data Modeling
- Normalization

- SQL, Procedures, and Triggers
- Transactions & Concurrency Control
- Performance Tuning & Query Optimization
- Distributed DBMS
- Business Intelligence & Data Warehouses
- Database Administration and Security

Part 2: Complete the following tasks.

Note that many of the required resources are available in the Course Resources module. If you need help, please schedule a time with me on Teams or in person, as I cannot resolve installation issues over email.

- Set up a GitHub account if you have not already done so.
- Set up a GitHub Repository for your labs. This must be named cis4000work, set to private, and add me as a collaborator.
- Set up a GitHub repository for your semester project. This must be named cis4000project, set to private, and add me as a collaborator. Note: I recommend leaving it private; however, you could use GitHub Pages for your project, which needs to be public. You can decide later.

Part 3: Set up your development environments.

We will learn two common operating system environments used in database development, Windows and Linux/Unix, both in demand in the industry. CIS skills in resolving issues in both environments are highly sought after, as the increasing demand for graduating students to have more knowledge and skills with the advent of generative AI. In other words, you are future-proofing your job by learning more than Windows.

If you already work in a Linux or macOS environment and feel comfortable with it, you can continue using it instead of the VirtualBox/Xubuntu install below. However, you will still need MySQL, SQL Server Express, PostgreSQL, SQLite, Eclipse, VS Code, Git, and a web browser, as well as other tools introduced later, all of which are available on these operating systems. Review the list below to ensure you have all the necessary items to start; note that installation processes may differ from those on Windows.

- Install or update Chrome or Firefox
- Install or update Draw.io, Inkscape, or Lucidchart
- Install or update Tableau (see Course Information)
- Install or update Eclipse IDE (we will use it some, but you do not need to be a Java expert)
- Install or update Git
    - I used the defaults, except for additional icons, and had it create the desktop icon
    - I selected Notepad++ as the default editor
    - Override the default to use “main” because it is the default and recommended today
    - The install is different in Linux and macOS, and you may need to follow the steps at https://www.theodinproject.com/lessons/foundations-setting-up-git
- Install or update VS Code
    - Add the GitHub Pull Request extension
    - You may want to add the following extensions: Live Server, Prettier, ESLint, and Tailwind CSS IntelliSense if you are planning to do any web page development (not required in this course).
- Install MySQL (8.4.7 LTS) and Workbench (see Course Resources)
- Install SQL Server Express and SQL Server Management studio (see Course Resources)

- Install SQLite (see https://www.supportyourtech.com/tech/how-to-install-sqlite-on-windows-11-a-step-by-step-guide/)
- Install PostgreSQL (see https://www.geeksforgeeks.org/postgresql/install-postgresql-on-windows/)
- Install VirtualBox and Xubuntu (see https://www.theodinproject.com/lessons/foundations-installations)
    - For those already using Linux or macOS, you may be able to skip this part, but make sure you have the software installed.
    - For Windows, use the Virtual Machine option with Xubuntu. When setting it up, 30 GB of disk space seems to be enough for us to begin with, but feel free to increase it if you want.
    - Install Chrome (directions are further down on their page)
    - Install Tableau (see Course Information)
    - Install git (see https://www.theodinproject.com/lessons/foundations-setting-up-git)
    - Install VS Code (see https://www.theodinproject.com/lessons/foundations-text-editors)
    - Install Eclipse IDE (see https://www.geeksforgeeks.org/linux-unix/eclipse-install-ubuntu/)
    - Install Neovim (see https://linuxcapable.com/how-to-install-neovim-on-ubuntu-linux/)
    - Install MySQL (see https://www.geeksforgeeks.org/installation-guide/how-to-install-mysql-on-linux/)
    - Install SQL Server Express (see https://learn.microsoft.com/en-us/sql/linux/sql-server-linux-setup?view=sql-server-ver17, and https://learn.microsoft.com/en-us/sql/linux/quickstart-install-connect-ubuntu?view=sql-server-linux-ver17&preserve-view=true&tabs=ubuntu2004%2C2025ubuntu2204%2Codbc-ubuntu-1804 for Xubuntu)
        - Docker for macOS: https://www.geeksforgeeks.org/installation-guide/how-to-install-sql-server-on-macos/
    - Install SQLite (see https://linuxcapable.com/how-to-install-sqlite-on-ubuntu-linux/)
    - Install PostgreSQL (see https://www.theodinproject.com/lessons/nodejs-installing-postgresql)

When complete, enter your name in the Orientation submission box in Moodle to indicate that you have completed these tasks. You must complete these steps because the first lab (Lab W01) has you further setting up the environmental setup we will use this semester. Grade reductions can occur later if it is revealed that you did not complete this orientation assignment.