

# Module 1: Setting Up Your Financial Modeling Environment

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## Lesson 1: Getting Started with VS Code

### What is Visual Studio Code?

Visual Studio Code (VS Code) is a powerful, free code editor that has become the tool of choice for modern financial analysts and quants. Unlike Excel, VS Code allows you to:

- Write reproducible, scalable financial models
- Track changes with version control (Git)
- Automate repetitive tasks
- Handle large datasets efficiently
- Create interactive visualizations
- Collaborate with teams seamlessly

### Why VS Code for Financial Modeling?

#### Advantages over Excel:

1. **Scalability:** Handle millions of rows without crashing
2. **Automation:** Run models with a single click
3. **Version Control:** Track every change to your models
4. **Transparency:** Code is self-documenting and auditable
5. **Integration:** Connect to databases, APIs, and cloud services
6. **Speed:** Calculations run orders of magnitude faster

### Why Python? (And What About Other Tools?)

This course focuses on **Python** because it's the most accessible and versatile language for financial modeling. Python strikes the perfect balance between ease of learning and professional capability - exactly what you need at PE Club.

#### That said, quants and financial professionals use various tools:

- **Python ★ (This Course)** - Best all-around choice for data analysis, modeling, and automation
- **R** - Statistical analysis and econometrics (popular in academia and quant research)
- **SQL** - Database queries and data extraction (essential for working with financial databases)
- **C++/C#** - High-frequency trading and performance-critical systems
- **MATLAB** - Quantitative research (still used in some hedge funds and academic settings)
- **Julia** - Emerging high-performance language for computational finance
- **Excel/VBA** - Still widely used in traditional finance (you already know this!)

#### Why we're starting with Python:

- Most in-demand skill for modern finance roles
- Gentlest learning curve for beginners

- 80% of what you need for PE analysis
- Largest community and best resources
- Perfect foundation for learning other languages later

**Future courses could cover:** SQL for financial databases, R for advanced statistics, or building high-performance trading systems. But Python first - it's the gateway to everything else.

## Installation Guide

### Step 1: Install VS Code

#### 1. Download VS Code

- Visit: <https://code.visualstudio.com/>
- Download for Windows (User Installer, 64-bit)
- Run the installer (.exe file)
- **Important:** Check "Add to PATH" during installation
- Check "Create a desktop icon" for easy access

#### 2. Launch VS Code

- Open from Desktop or Start Menu
- Pin to Taskbar for easy access

### Step 2: Install Python

#### 1. Check if Python is installed

- Open VS Code
- Go to Terminal → New Terminal (or press Ctrl+ `)
- Type: `python --version`
- If you see a version number (3.8+), you're good to go

#### 2. Install Python (if needed)

- Download from: <https://www.python.org/downloads/>
- Choose Python 3.11 or later (64-bit recommended)
- Run the installer (.exe)
- **CRITICAL:** Check "Add Python to PATH" before installing
- Also check "Install pip"
- Click "Install Now"

#### 3. Verify installation

```
python --version  
pip --version
```

Note: On Windows, use `python` and `pip` (not `python3` and `pip3`)

### Step 3: Essential VS Code Extensions

Install these extensions for financial modeling:

#### 1. Python (by Microsoft)

- Click Extensions icon (left sidebar)
- Search "Python"
- Install the official Microsoft Python extension
- Provides IntelliSense, debugging, and Jupyter support

#### 2. Jupyter (by Microsoft)

- Search "Jupyter"
- Install for notebook support
- Essential for interactive financial analysis

#### 3. Excel Viewer (by GrapeCity)

- View and edit Excel files in VS Code
- Useful for comparing Excel models to Python models

#### 4. GitLens (by GitKraken)

- Advanced Git integration
- Track changes to your models

#### 5. Pylance (by Microsoft)

- Advanced Python language support
- Better autocomplete and type checking

**To install extensions:**

- Click the Extensions icon (Ctrl+Shift+X on Windows)
- Search for each extension
- Click "Install"

### Step 4: Set Up Python Environment

**What is a Python Virtual Environment?** A virtual environment is like a separate workspace for your Python projects. It keeps your financial modeling libraries separate from other Python projects, preventing conflicts and making your work reproducible.

**Opening the VS Code Terminal:**

#### 1. Open VS Code Terminal using one of these methods:

- **Menu:** Go to **Terminal** → **New Terminal** at the top menu bar
- **Keyboard Shortcut:** Press `Ctrl+`` (that's Ctrl and the backtick key, usually above Tab)
- **Command Palette:** Press **Ctrl+Shift+P**, type "Terminal", select "Terminal: Create New Terminal"

## 2. You should see a terminal panel appear at the bottom of VS Code

- It looks like a command prompt window
- You'll see a path (like C:\Users\YourName\...) followed by a cursor

## 3. Choose Your Terminal Type:

- VS Code might ask which terminal to use: Choose **PowerShell** (recommended for Windows)
- You can see which terminal you're using in the dropdown at the top-right of the terminal panel

**Now, let's create your Python environment:**

### Step 4a: Create a Project Folder

In the terminal, type these commands **one at a time**, pressing Enter after each:

```
# Create a folder for your financial modeling projects
mkdir financial-modeling

# Navigate into that folder
cd financial-modeling
```

### What just happened?

- **mkdir** created a new folder called "financial-modeling"
- **cd** changed your location to inside that folder
- You should see the path in your terminal change to include "financial-modeling"

### Step 4b: Create the Virtual Environment

Now type this command (it will take 10-30 seconds to complete):

```
# Create a virtual environment called "venv"
python -m venv venv
```

### What's happening?

- Python is creating a folder called **venv** with its own copy of Python
- You'll see some activity, then the command will finish
- No error messages = success!

### Step 4c: Activate the Virtual Environment

This is the most important step - you need to "turn on" your virtual environment:

```
# Activate the environment
.\venv\Scripts\Activate.ps1
```

## How to know it worked:

- You should see `(venv)` appear at the beginning of your terminal line
- Example: `(venv) PS C:\Users\YourName\financial-modeling>`
- The `(venv)` means your virtual environment is active! 🎉

## Troubleshooting: PowerShell Execution Policy Error

If you see an error like: `cannot be loaded because running scripts is disabled...`

### Fix it with these steps:

#### 1. Open PowerShell as Administrator:

- Press Windows key
- Type "PowerShell"
- **Right-click** on "Windows PowerShell"
- Select "Run as Administrator"
- Click "Yes" when asked for permission

#### 2. In the Administrator PowerShell window, type:

```
Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser
```

#### 3. Press Enter, then type `Y` and press Enter again to confirm

#### 4. Close the Administrator PowerShell window

#### 5. Go back to VS Code and try activating again:

```
.\venv\Scripts\Activate.ps1
```

## VS Code Terminal Tips:

- **Clear the terminal:** Type `cls` and press Enter (clears all text)
- **Close terminal:** Click the trash can icon in the terminal panel
- **New terminal:** Click the `+` icon in the terminal panel
- **Copy from terminal:** Select text, it copies automatically (or `Ctrl+C`)
- **Paste into terminal:** Right-click, or `Ctrl+V`
- **Split terminal:** Click the split icon to have multiple terminals side-by-side

## Important: Always Activate Your Environment!

Every time you:

- Open VS Code
- Start a new terminal
- Want to work on your financial models

You must run: `.\venv\Scripts\Activate.ps1`

Look for `(venv)` at the start of your terminal line - that's your confirmation!

## Step 5: Install Essential Python Libraries

**What are Python libraries?** Libraries are pre-written code packages that add powerful capabilities to Python. Instead of building financial models from scratch, you'll use professional-grade tools that quants worldwide rely on.

### Before you start:

- Make sure your virtual environment is activated (you should see `(venv)` in your terminal)
- You should still be in the `financial-modeling` folder
- If you don't see `(venv)`, run: `.\venv\Scripts\Activate.ps1`

### Now, let's install the libraries:

Type or copy-paste these commands **one at a time** into your terminal, pressing Enter after each:

#### 1. Core Data Analysis (Most Important)

```
pip install numpy pandas
```

- **numpy**: Mathematical operations (think Excel formulas on steroids)
- **pandas**: Data tables and analysis (like Excel sheets, but better)
- This will take 30-60 seconds to install
- You'll see lots of text scrolling - this is normal!

#### 2. Financial Data

```
pip install yfinance pandas-datareader
```

- **yfinance**: Download stock prices, financial statements, and market data
- **pandas-datareader**: Access economic data from various sources

#### 3. Visualization

```
pip install matplotlib seaborn plotly
```

- **matplotlib**: Create charts and graphs
- **seaborn**: Beautiful statistical visualizations
- **plotly**: Interactive charts for presentations

#### 4. Excel Integration

```
pip install openpyxl xlrd
```

- **openpyxl**: Read and write modern Excel files (.xlsx)
- **xlrd**: Read older Excel files (.xls)
- Perfect for importing existing Excel models!

## 5. Jupyter Notebooks

```
pip install jupyter ipykernel
```

- **jupyter**: Interactive coding environment (like coding + Word document combined)
- **ipykernel**: Makes Jupyter work with your virtual environment

## 6. Advanced Analysis (Optional but Recommended)

```
pip install scipy scikit-learn
```

- **scipy**: Scientific computing and optimization
- **scikit-learn**: Machine learning for financial predictions

### What to expect:

- Each installation shows downloading progress
- You'll see "Successfully installed..." when done
- Total time: 3-5 minutes for all libraries
- If you see warnings (yellow text) - that's usually fine
- If you see errors (red text) - double-check your virtual environment is active

### Save Your Setup (Important!)

Create a "shopping list" of all installed libraries:

```
pip freeze > requirements.txt
```

### What this does:

- Creates a file called **requirements.txt** with all your installed libraries
- Allows you (or Mauricio) to recreate this exact setup on any computer
- To reinstall everything later: **pip install -r requirements.txt**

### Verify Everything Installed:

```
pip list
```

You should see a list of all installed packages. Look for:

- numpy
- pandas
- yfinance
- matplotlib
- jupyter

If you see these, you're ready to go! 🎉

## VS Code Configuration for Finance

**Why configure VS Code?** These settings optimize VS Code for financial modeling - auto-saving your work, formatting code professionally, and setting up Python correctly.

### Method 1: Quick Settings (Recommended for Beginners)

**Step-by-step:**

#### 1. Open Settings

- Click the gear icon  in the bottom-left corner of VS Code
- Select "Settings"
- OR press **Ctrl+,** (Ctrl and comma)

#### 2. Configure these key settings:

##### Search for: "Auto Save"

- Find "Files: Auto Save"
- Change from "off" to "afterDelay"
-  Your work now saves automatically every few seconds!

##### Search for: "Format On Save"

- Find "Editor: Format On Save"
- Check the box 
- Your code will auto-format to look professional

##### Search for: "Python Default Interpreter"

- Find "Python > Default Interpreter Path"
- Enter: **.\venv\Scripts\python.exe**
- This tells VS Code to use your virtual environment

##### Search for: "Terminal Profile Windows"

- Find "Terminal > Integrated > Default Profile: Windows"
- Select "PowerShell" from dropdown
- Ensures consistent terminal experience

## Method 2: Advanced Settings (Optional)

For users comfortable with JSON:

1. Press **Ctrl+Shift+P**
2. Type "Preferences: Open User Settings (JSON)"
3. Add these configurations:

```
{  
    "python.defaultInterpreterPath": ".\\venv\\Scripts\\python.exe",  
    "editor.formatOnSave": true,  
    "python.formatting.provider": "black",  
    "editor.rulers": [88],  
    "files.autoSave": "afterDelay",  
    "editor.minimap.enabled": true,  
    "workbench.colorTheme": "Default Dark Modern",  
    "terminal.integrated.defaultProfile.windows": "PowerShell"  
}
```

## Setting Up Jupyter Notebooks

**What is a Jupyter Notebook?** Think of it as a living document where you can mix:

- Python code that runs
- Results and charts
- Notes and explanations (like a financial model memo)

Perfect for building and presenting financial models!

### Create Your First Notebook:

1. **Create a new file:**
  - Press **Ctrl+N** (new file)
  - Press **Ctrl+S** (save)
  - Name it: **test.ipynb** (the **.ipynb** extension is critical!)
  - Choose to save it in your **financial-modeling** folder
2. **Select Python Kernel:**
  - VS Code will show a popup: "Select a kernel"
  - Click "Python Environments..."
  - Choose the one that shows **venv** or (**'venv': venv**)
  - If you don't see this popup, click "Select Kernel" in the top-right corner
3. **What you'll see:**
  - An empty "cell" (looks like a text box)
  - A "+ Code" button above it
  - A "+ Markdown" button (for adding notes)

#### 4. Test Your Setup:

In the first cell, type this code:

```
import numpy as np
import pandas as pd

print("Financial Modeling Environment Ready!")
print(f"NumPy version: {np.__version__}")
print(f"Pandas version: {pd.__version__}")
```

#### 5. Run the code:

- Click the ► play button to the left of the cell
- OR press **Shift+Enter**
- You should see output appear below the cell!

#### 6. Success looks like:

```
Financial Modeling Environment Ready!
NumPy version: 1.26.x
Pandas version: 2.1.x
```

#### Jupyter Tips:

- Each cell runs independently - like Excel cells, but for code
- Add new cells with the + **Code** button
- Add notes/explanations with + **Markdown**
- Cells remember what you ran previously (useful for building models step-by-step)

### Your First Financial Calculation in VS Code

**Let's build something real!** You'll create a Python script that calculates present value - a core finance concept. This replaces what you'd do in Excel with NPV formulas.

#### Step 1: Create the File

##### 1. Make sure you're in the right folder:

- In VS Code, click "File" → "Open Folder"
- Navigate to and open your **financial-modeling** folder
- You should see **venv** folder in the sidebar

##### 2. Create a subfolder for Module 1:

- Right-click in the Explorer panel (left sidebar)
- Select "New Folder"
- Name it: **Module\_01\_Setup**

### 3. Create your Python file:

- Right-click on **Module\_01\_Setup** folder
- Select "New File"
- Name it: **test\_environment.py**
- The file will open in the editor

## Step 2: Write Your First Financial Model

Copy this code into **test\_environment.py**:

```
#####
Test your financial modeling environment
This calculates the present value of future cash flows
#####

import numpy as np
import pandas as pd
from datetime import datetime

# Simple DCF calculation
def present_value(cash_flow, discount_rate, year):
    """Calculate present value of a future cash flow"""
    return cash_flow / (1 + discount_rate) ** year

# Example: Value a series of cash flows
cash_flows = [100, 110, 121, 133, 146] # Growing at 10%
discount_rate = 0.12
years = range(1, 6)

pv_cash_flows = [present_value(cf, discount_rate, year)
                 for cf, year in zip(cash_flows, years)]

print("Cash Flow Valuation Example")
print("-" * 40)
print(f"Discount Rate: {discount_rate:.1%}")
print(f"\nYear | Cash Flow | Present Value")
print("-" * 40)

for year, cf, pv in zip(years, cash_flows, pv_cash_flows):
    print(f"{year:4} | ${cf:8.2f} | ${pv:13.2f}")

total_pv = sum(pv_cash_flows)
print("-" * 40)
print(f"Total Present Value: ${total_pv:,.2f}")
```

## Step 3: Run Your Code

### Method 1: Play Button (Easiest)

- Look for the ► play button in the top-right corner of VS Code

- Click it
- The terminal will open and show your results

### Method 2: Right-Click Menu

- Right-click anywhere in your code
- Select "Run Python File in Terminal"

### Method 3: Keyboard Shortcut

- Press **Ctrl+Alt+N** (if you have Code Runner extension)

### What You Should See:

```
Cash Flow Valuation Example
```

```
Discount Rate: 12.0%
```

Year	Cash Flow	Present Value
1	\$100.00	\$89.29
2	\$110.00	\$87.70
3	\$121.00	\$86.15
4	\$133.00	\$84.63
5	\$146.00	\$82.87

Year	Cash Flow	Present Value
1	\$100.00	\$89.29
2	\$110.00	\$87.70
3	\$121.00	\$86.15
4	\$133.00	\$84.63
5	\$146.00	\$82.87

```
Total Present Value: $430.64
```

### What just happened?

- You imported professional financial libraries (numpy, pandas)
- Created a function to calculate present value (like a custom Excel formula)
- Ran the calculation on 5 years of cash flows
- Got formatted output that would take multiple Excel formulas

**Congratulations!** You just replaced an Excel model with Python code! 

### Workspace Organization

Create this folder structure for your course:

```
financial-modeling/
    |
    -- venv/                      # Virtual environment
    -- Module_01_Setup/            # This module
    -- Module_02_Python_Fundamentals/ # Python basics
    -- Module_03_Data_Analysis/    # Data handling
    -- Module_04_DCF_Modeling/     # DCF models
    -- Module_05_LBO_Modeling/     # LBO models
    -- Module_06_MA_Analysis/      # M&A analysis
```

```

    └── Module_07_PE_Modeling/      # PE models
    └── Module_08_Advanced_Topics/ # Advanced techniques
    └── Module_09_Projects/       # Real-world projects

    └── data/                      # Sample datasets
    └── templates/                # Model templates
    └── outputs/                  # Generated reports

    └── requirements.txt          # Python dependencies
    └── README.md                 # Course overview

```

## Keyboard Shortcuts (Windows)

Master these VS Code shortcuts:

Shortcut	Action
Ctrl+P	Quick file open
Ctrl+Shift+P	Command palette
Ctrl+B	Toggle sidebar
Ctrl+J	Toggle terminal
Ctrl+/*	Comment/uncomment
Alt+↑/↓	Move line up/down
Shift+Alt+↑/↓	Copy line up/down
Ctrl+D	Select next occurrence
Ctrl+F	Find
Ctrl+Shift+F	Find in files
F5	Run debugger
Ctrl+`	Toggle terminal

## Git Setup (Version Control)

**What is Git?** Git is like "Track Changes" in Word, but for code. It saves every version of your financial models, lets you experiment without fear, and enables collaboration at PE Club.

### Why use Git for finance?

- 📐 See exactly what changed in your model (and when)
- ⏪ Undo mistakes - go back to any previous version
- 🤝 Collaborate with team members on the same model
- 📁 Audit trail - know who changed what (important for compliance)

### Setting Up Git (Optional but Highly Recommended)

## Step 1: Check if Git is Installed

In your terminal, type:

```
git --version
```

- If you see a version number:  Git is installed, proceed to Step 2
- If you see an error: Install Git from <https://git-scm.com/download/win>

## Step 2: Configure Git (First Time Only)

Tell Git who you are:

```
git config --global user.name "Your Name"  
git config --global user.email "your.email@example.com"
```

Replace with your actual name and email.

## Step 3: Initialize Git in Your Project

Make sure you're in your `financial-modeling` folder, then:

```
# Initialize Git tracking  
git init
```

You'll see: `Initialized empty Git repository...`

## Step 4: Tell Git What NOT to Track

Create a `.gitignore` file to exclude unnecessary files:

```
# Create .gitignore file (PowerShell)  
@"  
venv/  
__pycache__/  
*.pyc  
.DS_Store  
.ipynb_checkpoints/  
outputs/  
"@ | Out-File -FilePath .gitignore -Encoding utf8
```

### What this ignores:

- `venv/` - Virtual environment (can be recreated)
- `__pycache__/` - Python temporary files

- `*.pyc` - Compiled Python files
- `.ipynb_checkpoints/` - Jupyter auto-saves
- `outputs/` - Generated reports (track code, not outputs)

## Step 5: Make Your First Commit (Save Point)

```
# Stage all files for commit  
git add .  
  
# Create your first save point  
git commit -m "Initial setup: Financial modeling environment"
```

### What just happened:

- `git add .` - Staged all your files (like selecting files to save)
- `git commit -m "..."` - Created a save point with a description
- Your entire project is now versioned! 🎉

### Git Basics You'll Use Daily:

```
# See what changed  
git status  
  
# Save changes  
git add .  
git commit -m "Built DCF model for Company X"  
  
# View history  
git log --oneline  
  
# Undo changes to a file (before commit)  
git checkout -- filename.py
```

**Don't worry if this seems complex!** You'll learn Git gradually. For now, just remember:

- `git add .` then `git commit -m "description"` to save your progress

### Troubleshooting Common Issues

#### Problem 1: "Python not found" or "python is not recognized"

**Symptoms:** When you type `python --version`, you get an error

#### Solutions:

1. Python might not be in your PATH:

- Reinstall Python from [python.org](https://www.python.org)
- ⚠ CRITICAL: Check "Add Python to PATH" during installation

- Restart your computer after installation

## 2. Try the `py` command instead:

```
py --version
```

If this works, use `py` instead of `python` in all commands

## 3. Close and reopen VS Code after installing Python

## 4. Open a **new** terminal window (click the + icon in terminal panel)

---

## Problem 2: Virtual Environment Won't Activate

**Symptoms:** When you run activation command, `(venv)` doesn't appear

**Solutions:**

### 1. Make sure you're in the right folder:

```
# Check current location  
pwd  
  
# You should see a path ending in "financial-modeling"  
# If not, navigate to it:  
cd path\to\financial-modeling
```

### 2. Use the correct activation command for your terminal:

**PowerShell (Recommended):**

```
.\venv\Scripts\Activate.ps1
```

**Command Prompt:**

```
venv\Scripts\activate
```

### 3. PowerShell execution policy error:

If you see: `cannot be loaded because running scripts is disabled...`

**Fix:**

- Open PowerShell as Administrator (Right-click → Run as Administrator)

- Run: `Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser`
- Type `Y` and press Enter
- Close Administrator PowerShell
- Try activating again in VS Code

#### 4. Virtual environment doesn't exist:

```
# Recreate it:  
python -m venv venv
```

---

### Problem 3: Extensions Not Working

**Symptoms:** Python extension installed but IntelliSense not working, or Jupyter not opening

**Solutions:**

#### 1. Reload VS Code:

- Press `Ctrl+Shift+P`
- Type "Developer: Reload Window"
- Press Enter

#### 2. Check extension is enabled:

- Click Extensions icon (`Ctrl+Shift+X`)
- Search for "Python"
- Make sure it says "Disable" (meaning it's currently enabled)
- If it says "Enable", click to enable it

#### 3. Update extensions:

- In Extensions panel, click the "..." menu at the top
- Select "Check for Extension Updates"

#### 4. Completely restart VS Code:

- File → Exit (or `Alt+F4`)
- Reopen VS Code

#### 5. Select the correct Python interpreter:

- Press `Ctrl+Shift+P`
- Type "Python: Select Interpreter"
- Choose the one showing `('venv': venv)`

---

### Problem 4: Import Errors ("No module named...")

**Symptoms:** When running code, you see `ModuleNotFoundError: No module named 'pandas'`

**Solutions:****1. Check virtual environment is activated:**

- Look for `(venv)` at the start of your terminal line
- If missing, run: `.\venv\Scripts\Activate.ps1`

**2. Reinstall the missing package:**

```
pip install pandas
```

**3. Reinstall all packages:**

```
pip install -r requirements.txt
```

**4. Check which Python is being used:**

```
# In terminal with (venv) active:  
python -c "import sys; print(sys.executable)"  
  
# Should show path with 'venv' in it  
# If not, your virtual environment isn't properly activated
```

**5. VS Code using wrong Python:**

- Click on Python version in bottom-left status bar
- Select your `venv` Python interpreter

---

**Problem 5: Jupyter Notebook Kernel Won't Start**

**Symptoms:** "Failed to start kernel" or "Kernel is dead"

**Solutions:****1. Install ipykernel in your virtual environment:**

```
pip install ipykernel
```

**2. Select the correct kernel:**

- In notebook, click "Select Kernel" (top-right)
- Choose Python Environments → Select your venv

**3. Restart VS Code and try again**

## Problem 6: Git Commands Not Working

**Symptoms:** `git: command not found` or `git` is not recognized

**Solutions:**

### 1. Install Git:

- Download from: <https://git-scm.com/download/win>
- Install with default settings
- Restart VS Code

### 2. Check Git is installed:

```
git --version
```

## Problem 7: Permission Denied Errors

**Symptoms:** "Permission denied" or "Access is denied"

**Solutions:**

1. **Close any programs using the files** (especially Excel, other code editors)
2. **Run VS Code as Administrator** (right-click → Run as Administrator)
3. **Check folder isn't read-only:**

- Right-click folder in File Explorer
- Properties → Uncheck "Read-only"
- Apply to all subfolders

## Still Stuck?

**Best debugging approach:**

1. Copy the exact error message
2. Google: "`your error message`" vscode python
3. Check Stack Overflow results (usually has solutions)
4. Or ask GitHub Copilot Chat: "I'm getting this error: [paste error]"

**Remember:** Everyone encounters these issues when starting. You're learning a professional toolset - it's worth the initial setup time!

## Next Steps

You're now ready to start building financial models in Python!

**Practice Exercise:**

1. Create a new Jupyter notebook: [my\\_first\\_model.ipynb](#)
2. Import numpy and pandas
3. Create a simple time value of money calculator
4. Calculate the future value of \$10,000 invested for 5 years at 8% annual return

**Continue to:** [Module\\_02\\_Python\\_Fundamentals/01\\_Python\\_Basics.md](#)

## Additional Resources

- VS Code Documentation: <https://code.visualstudio.com/docs>
  - Python for Finance: <https://www.python.org/about/gettingstarted/>
  - Pandas Documentation: <https://pandas.pydata.org/docs/>
  - Financial Modeling Best Practices: See [resources/](#) folder
- 

**Checkpoint:** By completing this lesson, you should have:

- VS Code installed and configured
- Python environment set up
- Essential extensions installed
- Successfully run your first financial calculation
- Understood the advantages of VS Code over Excel

**Estimated Time:** 45-60 minutes