

Full Stack Python Programming

Cloud Computing

Spring Semester 2023 Revision 1, 2 Jan 2023

Standards Mastery Framework Project Sequence

Assignment Pathway

Track 1		
Assignment	Value	Due Date
AWS Cloud Practitioner		
0. Write Review Page of AWS Unit 1	Practice	12 Jan
1. Write Review Page of AWS Unit 2	Practice	12 Jan
2. Write Review Page of AWS Unit 3	Practice	12 Jan
3. Assemble Review Document Adding Review page of Unit 4	Minor	12 Jan
4. Complete Unit 5	Minor	19 Jan
5. Complete Unit 6	Minor	19 Jan
6. Assist Lab Setup of Skunkworks Tables for each Company (CSA/CS50)	Major	26 Jan
7. Complete Unit 7	Minor	2 Feb
8. Complete Unit 8	Minor	2 Feb
MySQL/SQLite3 Db Operations on Cloud		
0. Help Establish Skunkworks	Practice	2 Feb
1. Complete Unit 9	Minor	9 Feb
2. Build a Table on Skunkworks	Minor	9 Feb
3. Demo SELECT on Skunkworks	Minor	9 Feb
4. Demo INSERT on Skunkworks	Minor	16 Feb
5. Demo UPDATE on Skunkworks	Minor	16 Feb
6. Demo Deletions on Skunkworks	Minor	23 Feb
7. Tutor: Queries	Minor	23 Feb
8. Write a CRUD app to Skunkworks	Major	2 March
Advanced Cloud Db Operations		
0 Demo a GUI	Practice	9 March
1 Demo a GUI Connecting to Skunkworks	Practice	9 March
2 Demo Menu Connecting to Skunkworks	Practice	9 March
3 GUI Select Variations Connecting to Skunkworks	Minor	9 March
4 Complete Unit 10	Minor	16 March
5 GUI UPDATE Variations Connecting to Skunkworks	Minor	16 March
6 GUI DELETE Connecting to Skunkworks	Minor	16 March
7 GUI INSERT via Some Automation Connecting to Skunkworks	Major	23 March
8 GUI CRUD Operations based on Some Automatic Function Connecting to Skunkworks	Major	30 March
Master Projects		
0. Proposal	Minor	30 March
1. Code Grade	Major	4 May
2. Presentation	Major	4 May
Final Graded Event		
	TBA	TBA

*Or other periods as directed by the teacher

Each Section must flow *in order*. Any section may be commenced early and in parallel.

AWS Cloud Practitioner

Item	Language Track	Specifications
0	Write Review Page of AWS Unit 1	1 page terminology summary
1	Write Review Page of AWS Unit 2	1 page terminology summary
2	Write Review Page of AWS Unit 3	1 page terminology summary
3	Assemble Review Document Adding Review page of Unit 4	4-page terminology summary
4	Complete Unit 5	Score above 80% to move on. AWS Score is grade
5	Complete Unit 6	Score above 80% to move on. AWS Score is grade
6	Assist Lab Setup of Skunkworks Tables for each Company (CSA/CS50)	Assist with internal Skunkworks cloud deployment as directed
7	Complete Unit 7	Score above 80% to move on. AWS Score is grade
8	Complete Unit 8	Score above 80% to move on. AWS Score is grade

MySQL/SQLite3 Db Operations on Cloud

Item	GUI Track	Specifications
0	Help Establish Skunkworks	Help establish accounts on Skunkworks as directed
1	Complete Unit 9	Score above 80% to move on. AWS Score is grade
2	Build a Table on Skunkworks	Programmatically from your device
3	Demo SELECT on Skunkworks	Programmatically from your device
4	Demo INSERT on Skunkworks	Programmatically from your device
5	Demo UPDATE on Skunkworks	Programmatically from your device
6	Demo Deletions on Skunkworks	Programmatically from your device
7	Tutor: Queries	Tutor at least 1 specific student in this area
8	Write a CRUD app to Skunkworks	Programmatically from your device

Tutoring: Each tutoring signoff must be with a different student.

Advanced Cloud Db Operations		
Item	Database Track	Specifications
0	Demo a GUI	Show a GUI operating in language of choice (Python, Java, C#) others only by special permission
1	Demo a GUI Connecting to Skunkworks	Connect GUI to a table on Skunkworks
2	Demo Menu Connecting to Skunkworks	Add functioning menu to GUI
3	GUI Select Variations Connecting to Skunkworks	Perform differing SELECT queries from Skunkworks
4	Complete Unit 10	Score above 80% to move on. AWS Score is grade
5	GUI UPDATE Variations Connecting to Skunkworks	Perform UPDATE queries from Skunkworks
6	GUI DELETE Connecting to Skunkworks	Perform DELETE queries from Skunkworks
7	GUI INSERT via Some Automation Connecting to Skunkworks	Perform INSERT queries from Skunkworks
8	GUI CRUD Operations based on Some Automatic Function Connecting to Skunkworks	Perform CREATE, READ, UPDATE, DELETE queries from Skunkworks

Master Projects

Once you are completely signed off for all three tracks, you can proceed to your master project proposals. Your master projects require a unique topic of interest to you. Common ideas will not score as well. This must be uniquely your own.

What you will submit as your proposal is a 1-page detailed **word-processed** proposal using the template at the end of this packet. Hand-written proposals **will not be accepted**.

April 11 th	Master Project Proposals Due
May 4 th	Master Projects Due

Specifications

This Master Project will receive **three** total grades: 1 minor, 2 major.

Item	Value
Proposal	Minor
Master Project Code	Major
Master Project Presentation	Major

The operative goal for the Spring semester is to achieve a very simple User Interface Python program with fundamental CRUD access into an SQLITE single table.

CODE Major Grade Required minimums (Major Grade Number 1):

- Must be OOP Python with operable UI w/Menu (UI Class is NOT main module)
- Help About Dialog
- Must connect to a database
- Must be connected to Skunkworks internal cloud (i.e., Lab Cloud)
- Must display data from the table

Meeting minimums achieves a grade of **70**.

Code Grade Enhancers: To achieve each tier, ALL of the lower tiers must be achieved.

To achieve an 80 or better, code must include the following minimums:

- Must include background imagery
- Must have a full working menu as shown in class (If not sure ASK)
- Must complete CRUD operations as directed by user in some manner

To achieve a 90 or better:

- Must have a class modeling the data used in transfer to/from the table (See example)
- Must have full CRUD operations (CREATE, READ, UPDATE, DELETE)
- Must accompany a proposal that scores above a 90

To achieve above a 95:

Your program must be comprehensively produced and show significant programmatic prowess. One of the biggest ways to guarantee this after meeting the 90% minimums, is to place your table on the lab cloud, and be able to connect remotely to it. This can be a copy of your table. Connection strings will be explained in class.

Presentation & Demonstration (Major Grade Number 2)

- Presentations will be done to the entire class
- This major grade will include all of the final elements:
- Professional Dress
- Comprehensive DEMO
- Demo functions properly
- Presentation clarity (Do you stay on point and relevant to the demo of your software)
- Demonstration of why this is meaningful to you beyond mere statement of such
- 2 words per slide rule adherence

Code Point Deductions

- Multiple Page PDF submissions
- File format not PDF (other than PDF except for required imagery)
- Non scannable code results in a zero until resubmitted. If late, school board deductions in effect
- Incorrect Order of submission (Classes, Main, Schemas, Run/Images)
- Missing submissions
- Poorly documented code
- Non-meaningful code
- Non-Working Code
- Late code in accordance with school board policy at all deadlines
- Default Recovery by definition is to submit in accordance with this document unless otherwise directed

Cloud_Programming

[Replace this text with your full name]

Period: [1 or 3]

Master Project Proposal

Date Submitted: [DD Month-Spelled-Out YY]

What I am managing or tracking

[1-2pp]

Why this is meaningful to me

[1-2pp]

Attestation: By signing below I attest that I will write my own code. I will only allow others to help me understand my errors or generically perform a single specific task. All my code will be uniquely my own. My database queries and GUI construction will all be my own. I am aware that all code submissions will be digitally scanned for similarities and any source codes I submit will be in a scannable colorized PDF to Microsoft Teams. I fully understand that this project is a major assessment, and that plagiarism will result in disciplinary action.

Date Signed

You may either add a digital signature or type your full name. By typing your full name, you are attesting the above acknowledgements.