

A word about the “problem sets”:

The problem sets are going to be 3-5 problems that are meant to give you a chance to apply and think critically about some of the techniques and concepts discussed in this class. An important thing to note is that questions won't necessarily have a “correct” answer. The given problem may have multiple ways to answer the question. For example, a question may be as follows:

You have been given a vial of olive oil and are tasked with determining the quality of it and assessing if it contains any adulterants. How would you do that?

Some abbreviated, but acceptable answers could be any of the following:

- Examining the fluorescence spectrum of the oil for expected signatures of adulterants
- Analyzing the sample and looking for signatures of adulterants using Fourier transform infrared spectroscopy

Ideally you will also briefly discuss any mathematical analysis as well. If you are inspired by or find your solution in a publication you must cite it.