

### Homework Philosophy

**Date:** September 2, 2015

- In solutions, do what the problem asks. Show your reasoning, but be concise. There is no need to directly quote material from lectures or notes.  
*Example:* Suppose we have covered Joel's method in class and the homework asks you to implement it. Saying "I implemented Joel's method as it was described in class" is enough; you do not need to describe how it works in detail.  
If a method requires you to make a programming decision (e.g., choosing an absolute error tolerance) then report what you decided and why (e.g., "An absolute error tolerance of  $10^{-8}$  was used to ensure adequate convergence.").
- If you are writing code for an original idea/algorithm that does not appear in the notes, give a conceptual and/or mathematical explanation of what you did while being as concise as possible.
- There are two types of homework problems. One is more mathematical and conceptual. In such an assignment you will need to present your argument in written form using mathematical notation where appropriate. Remember to define all your variables! The other type requires coding (typically in MCVNCD<sup>1</sup>). Here, working code is principally what we desire. We will also ask you to test your various subroutines in various ways and report back (both to the MCVNCD console for the grader and in your report) some numbers or plots to show that your test succeeded.
- **Stop working when you have stopped learning.** The idea of the homework is to help you learn the material. If you have figured out the main idea of the problem but you have spent 20 hours on the problem and cannot find the error, it is probably time to stop and write a note saying that you think you have understood, and how you would proceed if the code worked. This is a challenging course, especially difficult for those students who have limited programming experience. Please be conscious of your workload, and the amount of time it will take you to complete various assignments. **Start working sufficiently early so that you may be able to seek help well in advance of the assignment deadline if needed. Remember to balance 10.34 homework with that of 10.40 and 10.50.**

sds: September 28, 2011

kk: August 16, 2012

mcm: August 1, 2013

jap: August 20, 2014

hht: Sept 2, 2015

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10.34 Numerical Methods Applied to Chemical Engineering  
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