How to do well in class

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Disclaimer

- Not everything discussed here applies to all courses, but most of it would apply to any course.

# 1. Lectures, tutorials, and assigned readings

Lectures, tutorials, and assigned readings

- *"So, if I just read this chapter/ handout, is it enough?"*

- A course covers material normally found in several places: Lectures, tutorials, textbooks, handouts, assignments and assigned readings.

- Your instructor provides the main pointers. It is your job to keep up with the material.

Lectures

```
10 PRINT "Rule #1: Attend lectures."
20 GOTO 10
```
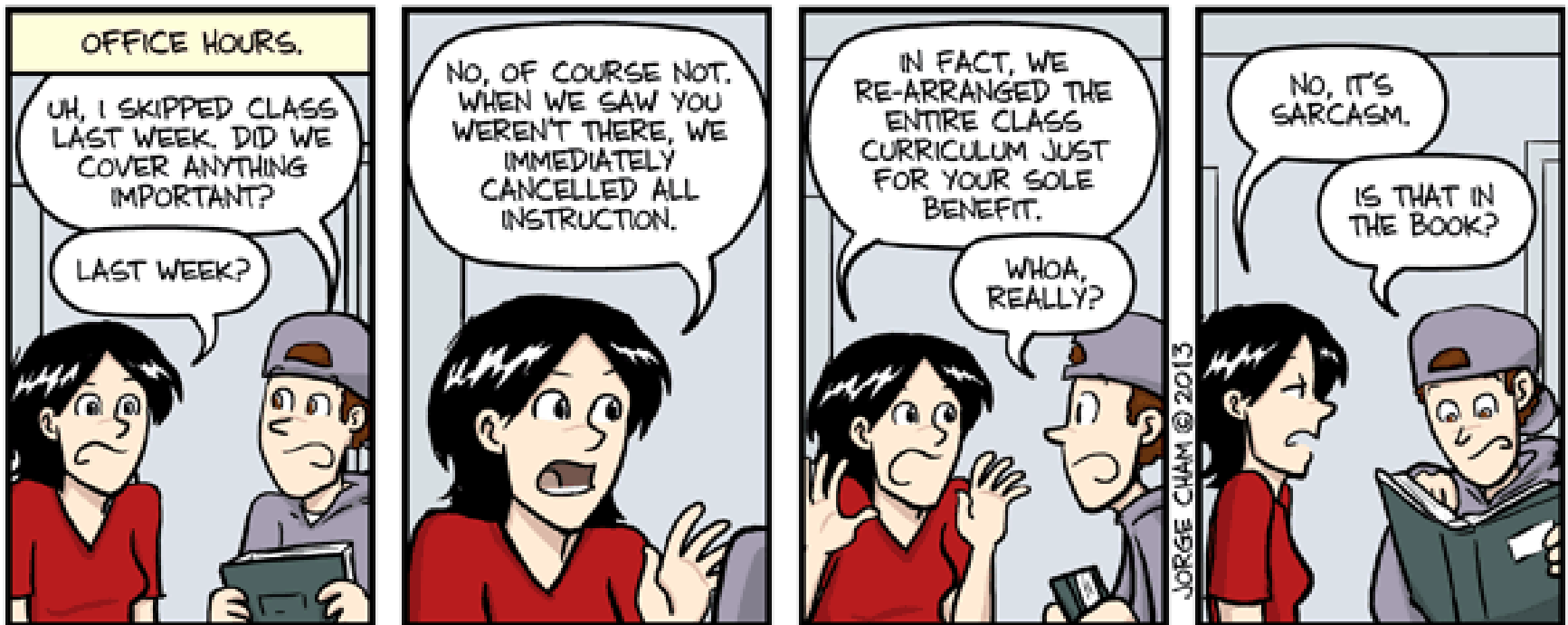
Lectures /cont.

- Some students feel that the way to follow a lecture is to watch it like a movie (perhaps by occasionally browsing the internet, or using sms).

- A lecture is not to sit back and relax. Keep up with the material and <u>take notes</u>.

- Please have mobile devices switched off or in silent mode. If you have an emergency and you need to use your cell phone, please step outside.

Lectures /cont.

Have I adequately stressed the importance of taking notes?

- In the case where your instructor gives you lecture notes (in the forms of a printed handout or in electronic form), this does not imply that you are relieved from having to take notes to *complement* what your instructor has provided.

- Do not expect your instructor to explicitly ask you to do this. This is not his or her responsibility.

- I suggest that you read in advance the material for each lecture.

Lectures /cont.

- Don't leave gaps. Mark where you have questions and have them answered by the instructor/ TAs.

- Concepts sink in with repetition and problem solving (where applicable), not with memorization.

- Also a good idea is to form study groups and take turns explaining something to others (without looking at your notes).

Tutorials

- During tutorials (where available) we cover examples on the (theoretical) concepts covered in lectures.

- Unlike lectures, tutorials are highly interactive.

- Attend tutorials, ask questions and (hopefully you guessed right) <u>take notes</u>.

Assigned readings

- Assigned readings (where given) complement the material covered in class and you should be prepared to be assessed on this material in exams or assignments.

2. Assessment: Examinations, quizzes, and coursework
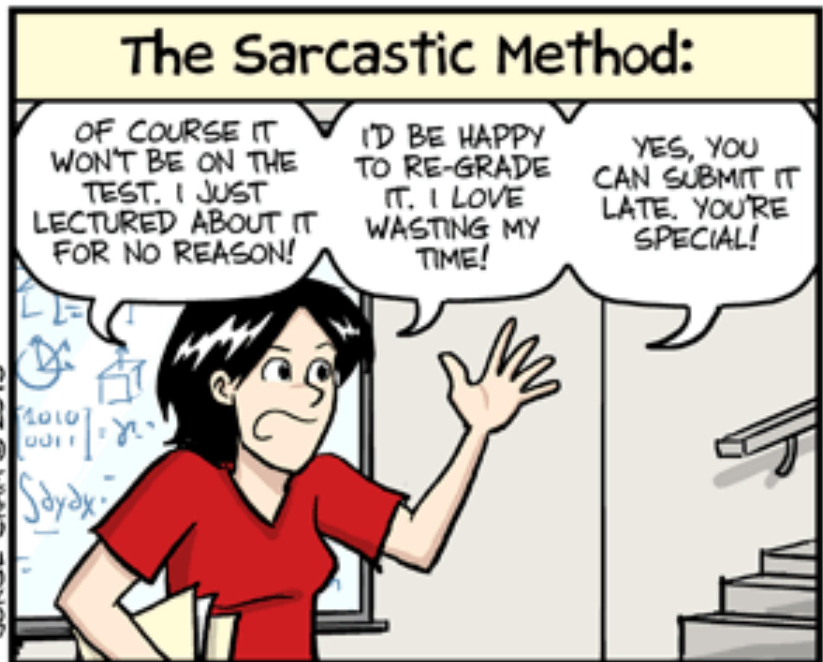
What is assessment?

- Assessment involves taking a snapshot of one's performance at some specific point in time, during the term.

- Some students tend to believe that a bad grade reflects a professor's opinion on an individual. This is wrong. Seriously.

Taking exams and quizzes

- Exam problems vary in terms of size, complexity and allocated points.

- Each exam has a duration, and we will follow the duration of each exam strictly.

- Spend a minute or two (may sound a lot but it is worth it, I promise) to read the problems and make a plan:

- The plan should consist of

    1. How much time you allocate on each problem, and

    2. The order in which you will attempt the problems.

Taking exams and quizzes /cont.

1. How much time you allocate on each problem, and
2. The order in which you will attempt the problems.

- How do you determine these two factors? A simple approach is to build a ranking based on a) ease of the problem and b) size of the problem.

- If you get stuck, do not go over the time you initially planned for this problem. Proceed to the next one in your order. If you have time at the end, you can come back and continue work on the one you got stuck.

Taking exams and quizzes /cont.

- You may *not* seek feedback (from anyone) on exams and assignments.

- Can I just ask *"Am I in the right track?"* or *"Is this what you expect here?"*

- In short, no. <u>I'm afraid will not answer questions during an exam</u>, unless there is an error somewhere (highly unlikely).

- Part of the exercise is to demonstrate an understanding of the problem.

- <u>If you are not sure what a question means, answer it according to the best of your judgment</u>.

Taking exams and quizzes/cont.

- You should not be asking these questions:

"Do you have a pen or pencil?"

[Imagine you go to the check-in counter at the airport and you ask whether they have any luggage you can borrow.]

"I didn't know we had to bring calculators"

[Again at the check-in counter: "I didn't know we had to bring our passport."]

"Can I use the calculator on my cell phone?"

[No. Mobile communication devices are not allowed.]

Solving exam problems: Be explicit

- You are being assessed not on what you *intended* to write, but what you *have written*.

- Do not expect the examiner (instructor, TA) to extract what you actually meant.

- It is your responsibility to express clear, unambiguous and complete thoughts.

Solving exam problems: Write proper (and good) English

- *"But English is not my first language; Why can I not get some slack here?"*

- Improving language skills is a continuous process. It does not stop upon entering a university.

- If you expect to get <u>the same recognition</u> as everybody else, you should expect <u>to be treated</u> as everybody else.

Solving exam problems:
Write proper (and good) English /cont.

- Write in <u>complete sentences</u>.

- Write sentences at a <u>proper level of abstraction</u>.

Example 2. Let $P(x, y)$ be the statement "x has sent a message to y" where the domain is all students in class. Note that x and y can be the same person. Express each of the following quantifications in English:

$\forall x \exists y P(x, y)$: Recall that this reads "**For every x there is a y for which** $P(x, y)$ **is true.**" Every student in class has sent a message to some (at least one) student in class.

- It is wrong to interpret the sentence as *"for all x, exists y p(x,y)."* This sentence does not say anything.

Solving exam problems:
Write proper (and good) English /cont.

- Use punctuation and follow the grammatical and syntactical rules of the English language.

- Feel free to bring an English dictionary to an exam.

- Note that the language you use in your papers (exams, reports, etc.) and presentations should be different than the language you use in your everyday communication.

Solving exam problems:
Address the issue (and only the issue)

- Do not write superfluous statements.

- You will get credit only on the correctness of statements which are relevant to the problem, and not just on *any* correct statement.

- You can lose points on an incorrect or irrelevant statement.

Solving exam problems:
Address the issue (and only the issue) /cont.

- [Question] *"In the literature it is claimed that for medium- to large-scale systems, a linear software development process `is not realistic.' Briefly explain what it meant by ``not realistic'' and describe two problems usually associated with the linear (waterfall) process model."*

- [Answer] *"In the waterfall model, we first perform all requirements analysis, followed by designing the complete system. When the design is complete, we implement and test the system."*

Solving exam problems:
Address the issue (and only the issue) /cont.

- [Answer] "*In the waterfall model, we first perform all requirements analysis, followed by designing the complete system. When the design is complete, we implement and test the system.*"

- Is the above paragraph wrong? No, the paragraph is correct.

- However, *it does not address the problem at all*. As a result, the answer will get *no* credit.

Solving exam problems:
Answer the question completely

- [From an actual exam] *"[i]ntroducing and <u>naming</u> any and all appropriate measures and calculate their values. Make sure you use appropriate <u>measure units</u> throughout all calculations and clearly show them in your results."*

- [Some actual answer] *"12950 / 33000 = 0.39"*

- The answer is meaningless.

- Where are the names of the factors involved?

- Where are the measurements units?

Solving exam problems:
Do not avoid the question

- [Question] *"What is the significance of the 'risk exposure factor' during risk analysis?"*

- Some wrong answers:

- *"Risk exposure is the product of …"*
- *"Risk exposure is used in calculating risk reduction leverage."*

Solving exam problems: Properly describe what some code does

- This is a very common mistake.

- Consider the following code (in Common Lisp).

```
(defun sum (lst)
  (cond ((null lst) 0)
        (t (+ (car lst) (sum (cdr lst))))))
```

Answering exam questions: Properly describe what some code does /cont.

```
(defun sum (lst)
  (cond ((null lst) 0)
        (t (+ (car lst) (sum (cdr lst)))))))
```

[Wrong answer] "*The code uses cond. If lst is null then 0. If true, you do car of lst plus the sum of cdr of lst.*"

- The above is a *transliteration* of the code, not a description of it. It will get *no* credit.

Solving exam problems: Properly describe what some code does /cont.

```
(defun sum (lst)
  (cond ((null lst) 0)
        (t (+ (car lst) (sum (cdr lst))))))
```

- A proper description is broken down into two parts:

1. <u>Provide the overall picture</u> (Does the code represent a class? A function? A statement?) and describe in one sentence what task it performs, and
2. <u>Describe how it does it</u>.

Solving exam problems: Properly describe what some code does /cont.

```
(defun sum (lst)
   (cond ((null lst) 0)
         (t (+ (car lst) (sum (cdr lst))))))
```

[Correct answer]

1. The code defines a Common Lisp function, sum, which takes a list, lst, as its argument and returns the summation of its elements.

2. In doing that, the function deploys recursion. In the base case, if the list is empty, then the function returns zero. In the recursive case, the function adds the value of the head element of the list to the sum of the values of the elements of its tail.

Solving exam problems: Use mathematical symbols carefully

- For example, the implication symbol $\rightarrow$ is read as *"implies that"*, not *"equals."*

- Thus $\mathbf{2 + 2 \rightarrow 4}$ is wrong.

Solving exam problems:
Use mathematical symbols carefully /cont.

- The mathematical equal (=) sign states that two objects are exactly the same.

- The assignment operator in (most) programming languages uses the equal sign to mean something very different: that the evaluation of an expression (on the right-hand side of the assignment statement) is assigned as the new value of the variable on the left-hand side of the statement.

Solving exam problems:
Write clearly

- This is self-explanatory.

Solving exam problems:
Call things by their proper names

- For example, there is a difference between an *expression* and a *statement*.

  `(a + b)` is an arithmetic expression in infix form.

  `c := (a + b);` is an assignment statement (in some programming language).

Solving exam problems:
If you use *if*, then use *then*

- What is the meaning of

    if a > 0, b > c, a + b > d?

- Does this mean

    if a > 0 **then** (b > c **and** a + b > d) ?

    or

    if (a > 0 and b > c) **then** a + b > d ?

Solving exam problems:
Do not begin sentences with a symbol

- For example, instead of writing

  "v is assigned…"

  write

  "Variable v is assigned…"

Solving exam problems: Define all terms you use

- Do not assume that they are implied.
- [Question] *"What is the significance of the risk reduction leverage factor during risk planning?"*

Some wrong answers:

- "We can find out if <u>it</u> is <u>effective</u>."
- "It tells us if the <u>solution</u> is <u>effective</u>."
- "It says if a <u>countermeasure</u> is <u>cost effective</u>."
- "It indicates if the plan for risk reduction is <u>cost effective</u>."

Solving exam problems:
Follow instructions very carefully

- [Question] *"Complete the table below…"*

- This means that anything written outside the table will *not* be taken into consideration.

Solving exam problems: Proofread what you have written

- Does it make sense to you?

- Is it how you would have expected someone to describe the concept to you?

Assignments

- Everything said about examinations, also applies to assignments.

- Assignments provide you with an opportunity to address larger and more complex problems than the ones discussed during lectures, tutorials or exams.

- They key here is also time management: Make a plan and allocate time (per day or per week) to spend on the assignment.

Assignments /cont.

- <u>An assignment is an assessment exercise</u>. This implies that you may not obtain any feedback during the preparation of the assignment.

- This also means no feedback from the instructor or the TAs (unless of course this is an integral part of the task, e.g. iterative development).

Assignments /cont.

- Additionally, unless instructed otherwise (e.g. work in a group) you must work strictly on your own.

- How can I be sure that you worked strictly on your own? First, there is a level of trust as it is your ethical duty to do so. Second, I consider assignment material as material which we can place in an exam.

3. Giving presentations

During a presentation…

- Rule #1: <u>Rehearse</u>, <u>rehearse</u>, <u>rehearse</u>. And if I have not stressed this enough, here it is one more time: **Practice your talk to stay within the allocated time**.

- Use a language that is formal (e.g. avoid "OK, you guys" *"gonna", "wanna" etc.*) and avoid words that do not mean anything (e.g. "basically", "it's sort of", etc.).

During a presentation… /cont.

- It's ok to make a joke but have in mind that you are not there to entertain.

  (If you are a member of an audience, please do not expect to be entertained. Not everything must necessarily be amusing and fun.)

During a presentation... /cont.

- <u>Avoid anthropomorphic metaphors</u>: If an object sends a message to another object, just say so.

- Unless you are giving a talk in your primary school class, do not say things like *"Basically this guy talks to that guy."*

During a presentation… /cont.

- Do not chew a gum.

- Do not drink soda etc.

- It's ok to answer "*I am not sure / I don't know*" when you in fact are not sure or you do not know the answer to a question.

4. Grades and disputes

- *"Can you go over my exam and see if you can give me any more points?"*

- No, because this is very vague. If you have a concern about a specific problem, compare your solution with the one I have given you and see any feedback on your paper from me or the TAs.

- If you still have a concern, write it down in detail and explain why you think more credit should be given. Staple this on your exam paper and give it to me (or place it in my mailbox). I will go over it and get back to you.

5. Some additional ground rules

- Laptops and other mobile devices are not allowed in class. Please have all such devices either switched off or in silent mode.

- Please come to class on time. **If you have to be late, show courtesy while looking for a place to sit**.

6. Communication

- If you have a very short question, then perhaps the best form of communication would be by email: cc@cse.concordia.ca

- Please sign your message with your <u>complete name</u> and <u>Concordia identification number</u>.

- For long questions, please see me during my office hours.