

INSTITUTO DE COMPUTAÇÃO – UNICAMP

MO417 - Design and Analysis of Algorithms

2015 - Semester 1

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Classes: Mondays and Wednesdays, 16:00–18:00
Building IC-3.5 - room 352



General information

Grading: The final grade (*nota final*) will be based on three written midterm exams (*provas escritas*), an optional final exam, and a set of homeworks (*listas de exercícios para casa*).

Each midterm exam and the final exam will be graded for correctness, and assigned a numeric grade (P_1 , P_2 , P_3 , and E) between 0 and 10. Each homework set will be graded only for “good effort”, and assigned also a grade X_i between 1 and 10.

The preliminary numeric course grade M (*média preliminar*) will be computed as $M = (2P_1 + 3P_2 + 4P_3 + X)/10$, where X is the arithmetic mean of all homework grades X_1, \dots, X_n .

For students who **skip the final exam**, the final numeric grade F (*média final*) will be the same as the preliminary grade M .

For students who **take the final exam**, the final numeric grade will be the simple average $F = (M + E)/2$. (But see the section “Missing midterm exams” below.)

In any case, the final numeric grade F will be converted to a letter grade that will be the only grade for all official purposes, in the Institute and the University. If F is less than 5.0, the letter grade will be ‘D’ (fail) or other failing letter. If F is equal to or greater than 5.0, the letter grade will be one of ‘A’, ‘B’, or ‘C’. The exact boundaries may be adjusted depending on the difficulty of the midterms, but in principle ‘C’ means $5.0 \leq F < 7.0$, ‘B’ means $7.0 \leq F < 8.5$, and ‘A’ means $8.5 \leq F < 10$.

Midterm exams: The three midterm exams will be held, in mid-April, mid-May, and at the end of June, at the same hours and location as the lectures. If a midterm exam cannot be held for overwhelming reasons, it will be rescheduled at a later date. In any case, the exact date of each midterm exam will be defined in class, at least one week (two lectures) before the exam. The final exam will be held during the official exams week, at a date, time, and place to be determined near the end of June.

All exams will have to be completed individually, in the lecture room, **without** consultation to books, appointments, colleagues, digital devices, internet, etc. The teacher can be asked to clarify the statements of the exam items, but will not give any help in solving them or answer questions about the course matter.

In principle, each exam assumes that the student will have understood all material from the beginning of the course to the last preceding lecture, inclusive.

Important: Any attempt at cheating in the exams, detected during the exam or afterwards, implies a **failing grade in the course, to all students involved**, irrespective of the grades obtained in that and other exams. This is only a grading rule, not an academic penalty, and does not exclude any academic penalties that may be applicable to the situation.

Missing midterm exams: If a student misses a midterm exam, the corresponding numeric grade P_i is in principle zero. There will be no special exams or other substitutive evaluation assignments in such cases — no matter what the reason for the absence, including sickness or accidents.

However, if the student skips **one** midterm exam, **but takes the final exam**, the corresponding grade P_i and its weight will be excluded from the formula of the final grade F . (If the student misses two or more midterms, only the first one will be excluded, the others will be included with a zero numeric grade.) The following table shows the formula for F used in each case.

Exams taken	Final grade
$P_1, P_2, P_3,$	$F = (2P_1 + 3P_2 + 4P_3 + X)/10$
$P_2, P_3,$	$F = (2 \cdot 0 + 3P_2 + 4P_3 + X)/10$
$P_1, P_3,$	$F = (2P_1 + 3 \cdot 0 + 4P_3 + X)/10$
P_1, P_2	$F = (2P_1 + 3P_2 + 4 \cdot 0 + X)/10$
$P_1,$	$F = (2P_1 + 3 \cdot 0 + 4 \cdot 0 + X)/10$
P_2	$F = (2 \cdot 0 + 3P_2 + 4 \cdot 0 + X)/10$
$P_3,$	$F = (2 \cdot 0 + 3 \cdot 0 + 4P_3 + X)/10$
	$F = (2 \cdot 0 + 3 \cdot 0 + 4 \cdot 0 + X)/10$
P_1, P_2, P_3, E	$F = (2P_1 + 3P_2 + 4P_3 + X + 10E)/20$
P_2, P_3, E	$F = (3P_2 + 4P_3 + X + 8E)/16$
P_1, P_3, E	$F = (2P_1 + 4P_3 + X + 7E)/14$
P_1, P_2, E	$F = (2P_1 + 3P_2 + X + 6E)/12$
P_1, E	$F = (2P_1 + 4 \cdot 0 + X + 7E)/14$
P_2, E	$F = (3P_2 + 4 \cdot 0 + X + 8E)/16$
P_3, E	$F = (3 \cdot 0 + 4P_3 + X + 8E)/16$

In any case, any student who shows up at some exam (midterm or final) and sees its questions will be assumed to have taken the exam, and will receive a numeric grade for it – even if he or she leaves without handing the exam sheet in, or after handing it in with all items unanswered. The midterm substitution rule, above, will not apply in that case.

Homeworks: Homeworks are intended as preparatory exercises for the exams, rather than evaluation instruments; they are included in the grading formula only to encourage students to work on them. Therefore, homeworks will be graded for “good effort” more than for correctness. An answer to a homework item may get fewer or zero points if it is incorrect and does not show sufficient effort.

Learning material: The lectures will draw some material from Knuth's book *The Art of Computer Programming*, volumes I and III, and from the book by Cormen et al. The homeworks will cover most of the material that will be asked for in the exams. An extended bibliography will be published later.

Office hours: The teacher will be available for 1 hour after each class at his office (building IC-1, room 33), and at other times by appointment.