

SUMMATIVE

EXAMPLES:

Students self-assess and receive a grade for this judgement.

Students and staff both grade the work (summative co-assessment).

Students self-review and/or peer review to make a judgment (critical evaluation) of their work.

Students judge their work based on holistic or analytic criteria, or by comparing exemplars.

Students collaborate to develop their own shared assessment criteria.

Assessment OF Learning

To demonstrate achievement

EXAMPLES:

'High stakes' graded end or mid semester exam, project, essay.

GPA grade/degree classification.

'Low stakes' graded in-class participation; MCQs online primarily for feedback purposes.

Written/oral feedback to students; Staff-student dialogue; Feed-forward (actions to improve); Early feedback to staff to improve teaching.

Students request feedback based on their self-monitoring.

Assessment FOR Learning

To give feedback on learning and teaching

Assessment AS Learning

To self-regulate and critically evaluate

LEARNING

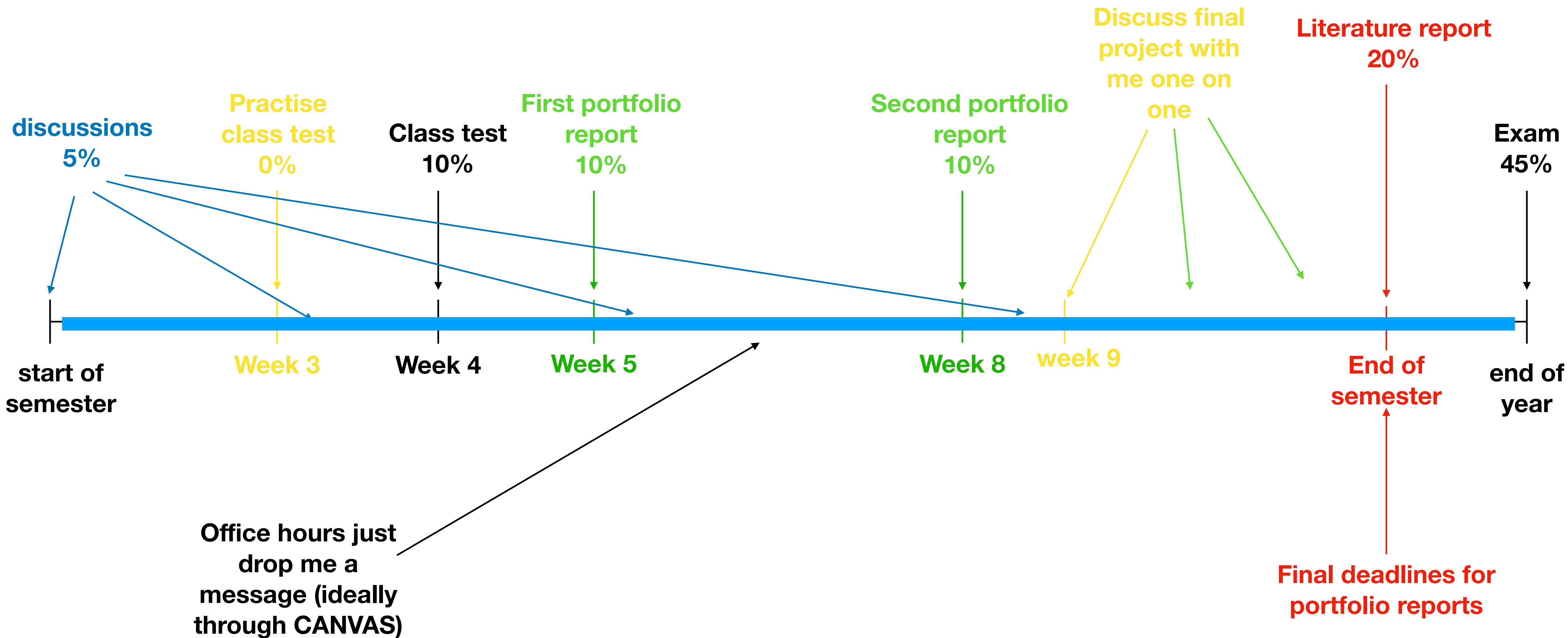
Teacher
is responsible,
is decision-maker

High Stakes

Student
is responsible,
is decision-maker

Low Stakes

FORMATIVE



Class test Example

24 hours to complete essay on

Why can you use simulated annealing to solve optimisation problems?

In your essay you should discuss

- 1. The difference between local and global optima**
- 2. The differences between the dynamical behaviour of the system at low and at high temperature.**
- 3. What happens to the average energy as the temperature is lowered.**
- 4. The use of analogies with the behaviour of natural systems as an approach for solving optimisation problems.**

Portfolio report Example

- **Write a molecular dynamics code to perform Langevin dynamics on a 1D energy surface of students own choosing**
- **Calculate heat capacity by finite differences**
- **Calculate heat capacity from fluctuations**
- **Report errors calculated by block averaging**
- **Discuss observations and interpret what they mean by using classical Equipartition principle.**

For the assignment, you must write a research proposal outlining a research question that you would like to solve using computer simulation and give a short presentation about your proposal. Your proposal is notionally applying for some computer time on a supercomputer so your research plan should include some element of computer simulation.

In your proposal you should:

- explain the research question you would like to answer and why it is important to complete this research
- explain what research has been done in this area up to this date.
- explain the strengths and weaknesses of the computational methods that can be used to answer your research question.
- explain the challenge that is associated with this research and why your research is timely.

