

Notes on the calculation of GPA and credits earned

The course grades and rules for the calculation of GPA are based on the CityU's academic regulation.

Valid course grades include A+, A, A-, B+, B, B-, C+, C, C-, D, F, I (incomplete), IP (in progress), P (pass) and X (late drop).

Grade points for A+, A, A-, B+, B, B-, C+, C, C-, D, F are 4.3, 4, 3.7, 3.3, 3, 2.7, 2.3, 2, 1.7, 1, and 0, respectively.

Student may repeat a course if he/she obtains grade D or F in the previous attempt.

Student earns the credits of a course if he obtains a pass grade (grades A to D, or P) in the last attempt of that course.

Only the last attempt of the course is included in the calculation of GPA.

Courses graded in Pass/Fail basis (NoGPA), or courses with grades I, IP or X are excluded in the calculation of GPA.

Notes on the data structures

An `ArrayList<Course>` is maintained in the class `Course`. The variable `courseList` is defined `static`. The courses in the list are ordered by course code. Hence, you can use binary search to find a course based on course code.

The class `Course` implements `Comparable`. The `compareTo` method (natural order of `Course`) is based on the course code.

You may use the method `Collections.binarySearch()` to search a list using the binary search algorithm.

An `ArrayList<Grade>` is maintained in each object instance of class `Student`. The grade records are ordered by the semester in which the course is taken, and then ordered by course code. The semester is represented in the format `yyyy-mm`, where `yyyy` is the year and `mm` is the starting month of the semester. For example, `2018-09` represents semester A of 2018/19.