

Object Oriented Programming A2

Extra Content Implementation Plan

Demonstrate the efficacy of your new design by creating an implementation plan (including partial code if appropriate) for adding the Bachelors of Arts to the program. Include Theatre Studies and Geography majors in your implementation plan. Include any new classes you would need to write, the details of fields and methods for those classes as well as descriptions of what those methods would do. You do not have to implement this part, you just need to design it. A UML class diagram is a suitable document for describing this design as is a well-structured pdf document.

Bachelor of Arts (Geography) and Bachelor of Arts (Theatre Studies) would need its own concrete Degrees. Geography would need a class that extends HonoursDegree and a class that extends GeneralDegree (it has both types). The same goes for Theatre Studies.

This would mean these would need to have the appropriate courses in the courseList.csv. Also, each needs a line in the degreeList.csv that has all the required courses for it. Identify as BAGH, BAGC, BATSH, BATSG for all 4 respectively. These would also need starting items in the combo box to select degree/major in the GUI, and appropriate code to construct the corresponding concrete degree and set it to the Student's PlanOfStudy. Each of these concrete class will have nearly identical methods to the other concrete degree classes. However, there will be small difference for some functions such as remainingRequiredCourses, numberOfCreditsRemaining, meetsRequirements. These are specifically dependent to the restrictions to graduate from each individual degree/major and must be coded as such. Behaviour method for setting the degree should also change to reflect the appropriate degree's title.

Other than the above. Nothing else really needs to change. Just concrete classes for each degree (accounting for Honours and General degree versions of each) must be created. Then the combo box needs to reflect the new options, which is done by hard-coding the options in (admin mode already accounts for this change), and then constructing the appropriate degree. Of course, each of these classes will need an appropriate degree title of "Bachelor of Arts" and corresponding major fields.

Literally, you copy paste BCG for BAGC and BATSG. Then you just change degree title to "Bachelor of Arts" and hardcode the major attribute as the short form I've given. You then need to change the 3 behaviour methods I've already mentioned to work properly based off the graduation requirements for each degree/major (which can be found on the UoG website). The same happens for BAGH and BATSH, except it's copy-pasting CS.