

A cut-and-branch algorithm for the External Candidates Exam Scheduling problem

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Instances Description

The five instances are organized in folder: three folder for years 2018,2019 and 2020 that contains other two folder for the seasons (for year 2018 there is only one folder with data for autumn exams session).

In season folders there are three files excel with the exams session data. The tables in the excel files are described in the “**Table:Columns description**” section.

Instances date

Year and season	Start date	End date	Due date
Aut'18	12/11/2018	13/12/2018	29/11/2018
Spr'19	23/04/2019	06/06/2019	15/05/2019
Aut'19	11/11/2019	12/12/2019	02/12/2019
Spr'20	14/04/2020	18/06/2020	18/05/2020
Aut'20	10/11/2020	17/12/2020	30/11/2020

Tables: Columns description

Professors	
Column Name	Description
Professor	Principal examiner or external supervising professor nickname
Domicile	Professor school (For exam sessions in GVS ¹ or SVGS ² locations two professors assigned to a same space time slot can not belong to the same school)
Principal/Supervising	Professor role (E -> principal examiners only; S-> external supervisors only; ES -> both principal examiners or external supervisors)
Subject	Subjects for which the professor is qualified
Forbidden dates	Dates when the professor is not available
Location	Location of the available schools for exam SVGS, GVS

Exam subject rooms	
Column Name	Description
Number	Room number/name
Subjects_type	Type of exam: <ul style="list-style-type: none"> • M maximum 6 number of candidates for session • MPM maximum 5 number of candidates for session • MP maximum 5 number of candidates for session
Location	Room location (school)
Preassigned	Room for specify subjects only (MP type - laboratory)

External candidates ³	
Column Name	Description
External candidate	External candidate nickname.
Domicile	External candidates marked with domicile SVGS should be grouped together and located at location SVGS for Sandefjord vgs. External candidates marked with domicile GVS should be grouped together and located at location GVS for Greveskogen vgs. Soft Constraints
Subject code	Privatist exam subject
Exam type	(S, M, MPM and MP) Each External candidate must undergo one or more written / oral exams. A candidate cannot undergo two exams in the same day or in two adjacent days. Written exam dates are fixed and given as an input, marked S
Date for written exam	Written exam dates

¹ Gjøvik Videregående School. Gjøvik videregående skole (GVS) is a comprehensive high school located in Gjøvik, Norway

² Sandefjord Upper Secondary School (Norwegian: Sandefjord videregående skole, often abbreviated to SVGS)

³ The number of rows in the table coincides with the number of exams.