



First steps

Getting started with GHC





Obtaining weekly timetables

You can follow these steps:



[Preliminary considerations to use GHC](#)



Working with the timetable obtained

Move 1 of solution 1

	Lunes	Martes	Miércoles	Jueves	Viernes
1	FRANCÉS 3º A (A-31) 3º B		GUARDIA G Hor A		For. Lab. 1 1º FLA (A-23)
2	FRANCÉS 3º A (A-1) 3º B	REUNIÓN Idiomas	GUARDIA G Hor B		
10:30 11:20					LENGUA 3º B (Aula Música)
4	LENGUA 3º A (A-1)	LENGUA 3º B (A-2)		GUARDIA G Hor B	
12:30 13:20			LENGUA 3º B (A-2)		LENGUA 3º A (A-1)
13:25 14:15			LENGUA 3º A (A-1)		
16:00 16:50	For. Lab. 1 1º FLA (A-23)	For. Lab. 1 1º FLA (A-23)	For. Lab. 1 1º FLA (A-23)	For. Lab. 1 1º FLA (A-23)	
16:55 17:45					

Seeing the movements of the solution 1

Select to view each movement:

Mov. 1 Mov. 2 Mov. 3 Mov. 4 Mov. 5 Mov. 6

Day of the week: Period: Frame:

From: Jueves 10:30/11:20 Marco A

Moves to: Viernes 10:30/11:20 Marco A

Subject	Students	Teacher	Timing	Conf. classroom	Alt. classrooms
LENGUA	3º B	Alicia		A-2	< no >

Select a row in the above window to view the proposed solution:

Move 1 of solution 1

Messages

(20) Viernes, period:3 - Teacher Alicia exceeds the maximum preferential workweek permanence in 3 periods

Apply the selected solution | Back to the recombination wizard | Help

Adjusting, presenting and transferring the timetable to other applications

Academic year: 18 August 2022 - 17 August 2023

Monday 22 May | Tuesday 23 May | Wednesday 24 May | Thursday 25 May | Friday 26 May

Time	Monday 22 May	Tuesday 23 May	Wednesday 24 May	Thursday 25 May	Friday 26 May
08:00					
09:00		Oc: G Hor A	S: For. Lab. 3 G: 1º FLA C: Anónima #6	S: INFORMÁTICA G: 3º A, 3º B C: A-2	S: Orientación G: 1º FLA C: Anónima #6
10:00				Oc: G Hor A	
11:00	S: Orientación G: 1º FLA C: Anónima #6	S: For. Lab. 3 G: 1º FLA C: Anónima #6			S: For. Lab. 3 G: 1º FLA C: Anónima #6
12:00	Oc: Recreos				
13:00	S: INFORMÁTICA G: 3º A, 3º B C: Anónima #6			M: GeneralMate	Oc: G Hor B
14:00				S: TUTORIA G: 3º B C: A-2	

Share the timetable displayed on the calendar



1.- Prepare the information



Basic information

- General timetable frames.
- Subjects.
- Student groups.
- Teachers.
- Classrooms and sets of classrooms.
- Types of tasks or activity.



Additional information

- Class units.
- On-call hours during school time or breaks.
- Teacher meetings.
- Grades or curricula.
- Teaching departments.
- Other teacher activities.



2.- Adding information to GHC



Importing data from
a data manager



Loading data from a
file



Copy and paste



Manual entry





Where do I get the information from?



Academic managers



- If you use an academic management software in your school, it will include the necessary data to draw up your timetables. In this case, it is important to know if it is integrated with GHC. You can see the managers with which GHC is integrated [here](#).



Local files



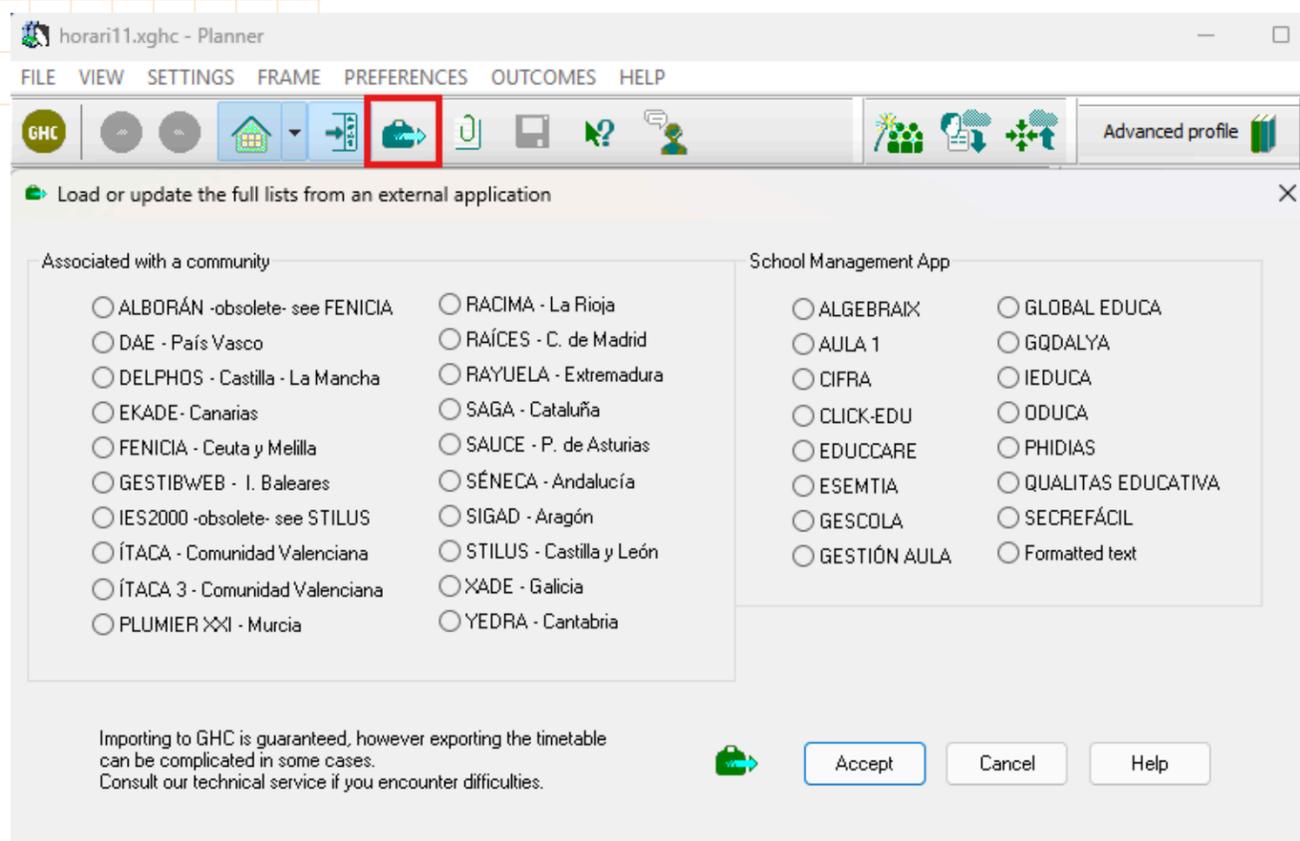
- If your academic manager is not integrated, check if you can download the necessary data as a .csv or .xml text file or other format to be added in GHC.
- You can also add information to the GHC planner through copy-and-paste operations.



Importing data from a data manager

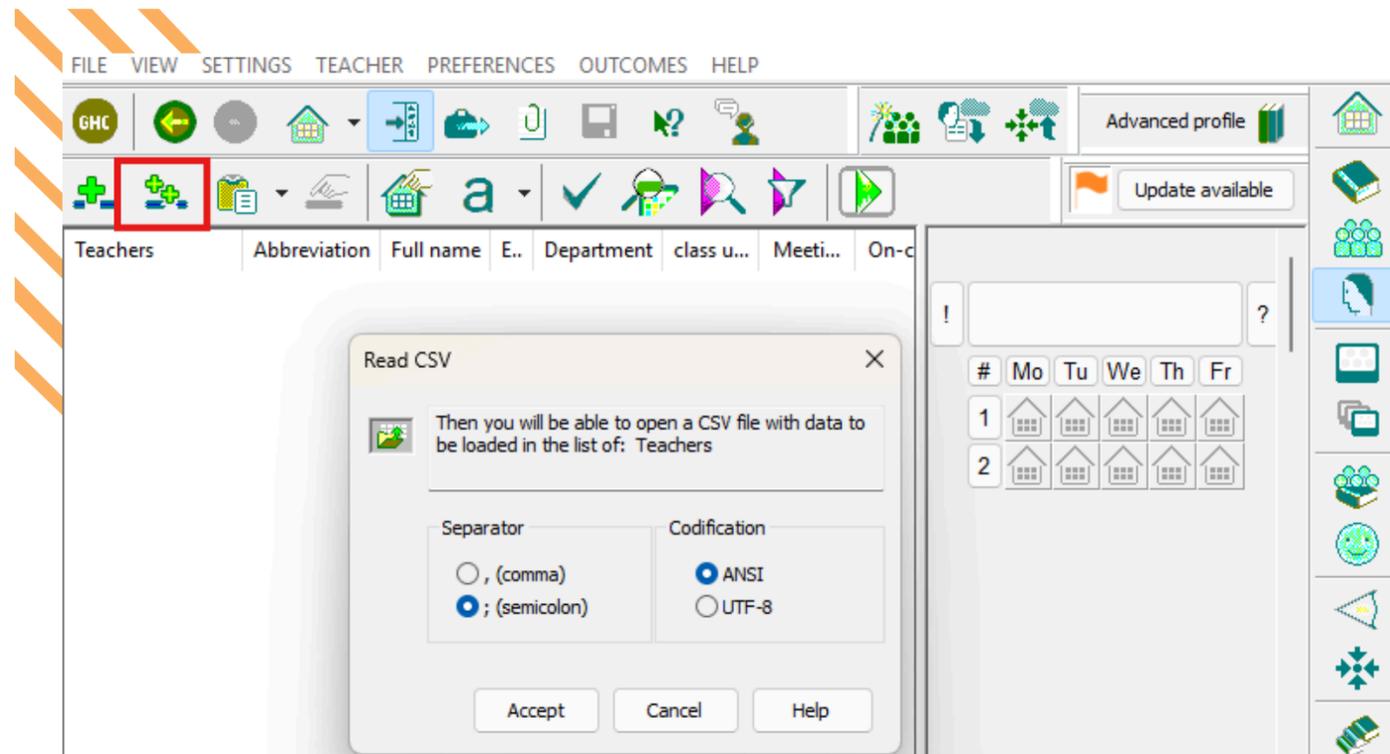
From an integrated academic manager

- Confirm that your manager appears in the list of integrated applications.
- On the horizontal menu of the planner use the option 'FILE > Import data'. You can also access by clicking on the suitcase icon in the top menu.
- Choose your manager from the list and press 'OK'.
- Then follow the steps indicated in the menu.
- The data you import will depend on the information provided by each manager.





Setting up the frame and reading text files



From .csv text files you can import data relating to subjects, groups of students, teachers, classrooms, class units, grades, departments, or types of tasks.

- If it is not possible to import the time frame, you will have to set it manually.
- The different lists of information can be added through .csv text files.
- Once you have the file, open the planner and select the fourth **option in the top menu 'Read external list'** or press 'Alt+Insert' or press the icon with two + signs in the top bar.
- A window will then open to identify the source columns with the destination columns.



Get data using the clipboard

- First, you must copy the data from a source list such as an Excel file.
- Then open the planner and select the **fourth option 'Paste' from the top menu** or press **'Ctrl+V'** or click on the **'Paste' icon** in the top bar.
- A window will then open allowing you to identify the source columns with the destination columns.

Data can be copied and pasted into subjects, groups, teachers, classrooms, class units, grades, departments and task types.

The screenshot shows the 'Version 1.xghc - Planner' application. On the left, a table lists subjects, groups, and teachers. On the right, a dialog box titled 'Adding data to GHC' is open, showing a table of data to be added and configuration options for how to handle the data.

COLUMN_1	COLUMN_2	COLUMN_3	COLUMN_4	COLUMN_5	COLUMN_6
ANGLÈS	1r A	Anglès 3 COOR	1rA	111	
ANGLÈS	1r B	Anglès 2	1rB	111	S
ANGLÈS	1r A	Anglès 1	<any>	111	S
ANGLÈS	2n A	Anglès 3 COOR	2nA	111	
ANGLÈS	2n B	Anglès 1	2nB	111	S
ANGLÈS	2n A	Anglès 2	<any>	111	S
ANGLÈS	3r B	Anglès 2	3rB	111	
ANGLÈS	3r A	Anglès 1	3rA	111	S
ANGLÈS	3r B	Anglès 3 COOR	<any>	111	S
ANGLÈS	3r B	ETET	<any>	111	S

Configuration options in the dialog:

- Subjects: Extract from COLUMN_1
- Student group: Extract from COLUMN_2
- Teachers: Extract from COLUMN_3
- Classrooms: Extract from COLUMN_4
- Weekly distribution: Extract from COLUMN_5
- Simultaneous: Extract from COLUMN_6
- Number of students: Autogenerate
- In periods: Autogenerate



Manual entry of new elements

The screenshot shows the 'Planner' application window with the title 'exampleTwoTimeframes.xghc'. The menu bar includes FILE, VIEW, SETTINGS, TEACHER, PREFERENCES, OUTCOMES, and HELP. The toolbar contains various icons, with a red box highlighting the 'Insert new' icon (a green plus sign). Below the toolbar is a table of teachers:

Teachers	Abbreviation	Full name	E..	Department	class u...	Me...
Alice		Alice full name		Languages	17	
Andrew		Andrew full name		Culture	9	
Ernest		Ernest full name		Math and Sci	11	
James		James full name		Languages	17	
Margaret		Margaret full name		Culture	9	
Nuria		Nuria full name		Math and Sci	10	
Peter		Peter full name		Culture	15	
Philip		Philip full name		Math and Sci	14	
Rachel		Rachel full name		Physical edu	5	
Rodolphus		Rodolphus full name		Culture	9	

To the right of the table is a calendar grid for the month of Alice. The grid has columns for days of the week (Mo, Tu, We, Th, Fr) and rows for weeks (1-6). The first row shows sad face icons, while the subsequent rows show happy face icons. Above the calendar is a text field containing 'Alice' and a question mark. The top of the calendar area has 'See frame:' and two buttons labeled 'Frame A' and 'Frame B'. An 'Update available' button is also visible in the top right of the interface.

Adding new items to lists

- In the planner the fourth menu option is **'Insert new'**.
- You can also press the 'Insert' key or use the '+' icon in the top menu.
- A field will be enabled above the list to enter what you need.

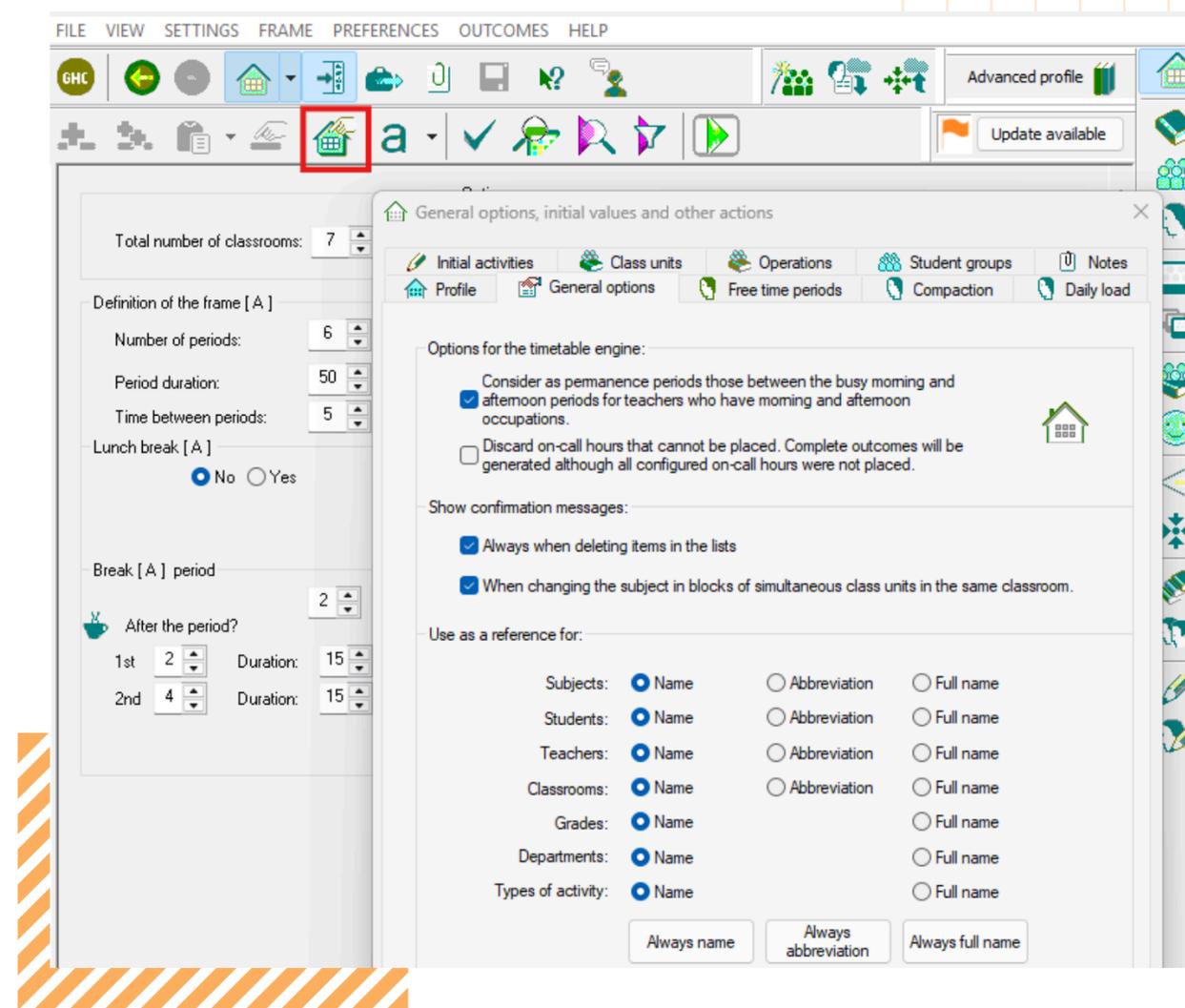
3. Set the conditions

General preferences

- You can set general preferences from the top menu 'Settings > General Options'.

Preferences of each item

- By right-clicking on an item, choose the 'Properties' option and you will see all the available configuration options.



1. Properties of the class units
2. How to set up the teachers' options



Select preferences

Availability templates

- You will find these templates in all lists to indicate their **availability or preference**.
- Templates will appear as defined in the general time frame.
- By clicking on each position/cell the conditions will be switched.

#	L	M	X	J	V
1	😊	😊	😊	😊	😊
2	😊	😊	😊	😊	😊
3	😊	😊	😊	😊	😊
4	😊	😊	😊	😊	😊
5	😊	😊	😊	😊	😊
6	😊	😊	😊	😊	😊



Available



Non-preferential



Non-preferred heavier weight



Forbidden



Mandatory





4. Create a timetable

- When the information is set up you will be able to create a result.
- Go in the top menu to **'OUTCOMES> Generate timetable'** or press the 'Play' button in the top bar.
- The engine window will open. The engine will search for complete solutions and optimise if it finds them, until you pause or close the engine.
- If you pause the engine, you can restart it to continue working.



The engine

The screenshot shows the GHC-Engine window with the following details:

- File: C:\Users\vmendez\Documents\misHorariosGH\example10R1.xrho
- Total process time: 00:00:13
- Start time: 09:57:03
- Best outcome found at: 09:57:11
- Warnings: 4
- Optimization weight: 1220
- Unplaced units: 0
- Weight of unplaced: 0

Optimization progress: 6 Complete outcomes found in 24 attempts. Optimizing 5%.

Message log:

- ⓘ 🚫 (#4) Non-preferred position occupied for the students of 1º FLA , on Tuesday at 4 period
- ⓘ 🚫 (#4) Non-preferred position occupied for the students of 1º FLA , on Friday at 4 period
- ⓘ 🚫 (#4) Non-preferred position occupied for the students of 1º FLB , on Monday at 4 period
- ⓘ 🚫 (#4) Non-preferred position occupied for the students of 1º FLB , on Wednesday at 4 period



Editor characteristics

5. View the result

The screenshot shows the GHC-Engine window with the following details:

- Generating new outcome on file: C:\Users\vmendez\Documents\misHorariosGH\example10R1.xrho
- Total process time: 00:00:13
- Start time: 09:57:03
- Best outcome found at: 09:57:11
- Warnings: 4
- Optimization weight: 1220
- Unplaced units: 0
- Weight of unplaced: 0
- There are warnings (indicated by a blue warning icon)
- 6 Complete outcomes found in 24 attempts
- Optimizing (indicated by a green progress bar at 5%)
- A pencil icon is circled in red, indicating it is the focus of the current step.

The message log at the bottom contains the following entries:

- Unplaced
- Caution
- Summary
- Current optimization
- % Rejections
- Elements with more rejections
- Rejections in current attempt
- Message
 - (#4) Non-preferred position occupied for the students of 1º FLA , on Tuesday at 4 period
 - (#4) Non-preferred position occupied for the students of 1º FLA , on Friday at 4 period
 - (#4) Non-preferred position occupied for the students of 1º FLB , on Monday at 4 period
 - (#4) Non-preferred position occupied for the students of 1º FLB , on Wednesday at 4 period

- You will be able to view the best solution found even while the engine is still working on it.
- To open the result in the Editor, click on the **pencil icon**.
- If the engine improves the timetable, the editor will offer you to refresh the view.





Final adjustments and presentation

The screenshot shows a software interface for creating a timetable. The main window displays a timetable for 'Aribas Tomé, Alicia' with columns for days of the week (Lunes, Martes, Miércoles, Jueves, Viernes) and rows for time slots. The timetable includes subjects like 'FRANCES 3º A', 'REUNIÓN Idiomas', 'LENGUA 3º A', and 'For. Lab. 1 1º FLA'. A 'Template' dialog box is open, showing a grid of frames for 'Alicia' with days of the week (L, M, X, J, V) and a grid of frames (1-6) with smiley faces. The dialog box has buttons for 'Accept', 'Cancel', 'Help', 'Modify all templates', '<=> Previous', and 'Next =>'. A note at the bottom of the dialog box states: 'The occupied cells in each frame are shown with a dark green background.'

The Editor will allow you to:

- Modify and move the result in an assisted way.
- Display the timetable in different PDF, HTML, Excel formats.
- Export the result to your academic manager.
- Share the timetable on our web platform.
- View reports.

Other tools in GHC App

- Timetable viewer on the calendar.
- Absence and teacher substitution manager.
- Classroom booking.
- Notification tray between GHC App users.
- Shared files platform.
- Sporadic class units or activities.
- Capture of preferences tool by departments.

The screenshot shows the 'Absences manager' interface. On the left is a calendar for June 2020 with the 17th highlighted. On the right is a table titled 'List of absences from the academic institution'.

Time	Absent teacher	Supply teacher	Subject	Group	Classroom	Remarks
09:25 - 10:15	Felipe	• Javier • Javier	On-call hour: G Hor A			
11:00 - 11:50	Felipe	☑ Nuria • Raquel • Javier	Or	1º FLA	Anónima	
11:55 - 12:45	Felipe	• Raquel • Javier	On-call hour: G Hor B			
16:00 - 16:50	Felipe	• Joaquín	FL3	1º FLA	A-31	



Available on web and mobile



[GHC App Web and Mobile](#)





Peñalara Software

Thank you



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