SAMS only comprises of 5 tables and all of the data is extracted out of the universities timetabling system.

Note: All student references have been swapped for fake ones but all the data is based on real students.

1. sams\_activity contains the basic activity detail. An activity spans multiple weeks and the week number defines which week of the year it is. Combined this makes up the primary key. The modules lists the activity and sometimes an activity variant which have <>’s with individual week numbers in. To identify the modules being taught in that activity we split the field up based on ,’s and substring each element, sams\_activity\_module\_code contains all these values. This is done dynamically each time. Week pattern is used for another system, this is just a list of 0’s and 1’s to define what weeks an activity are in.
2. sams\_activity\_students contains the students taking the activity. As students change modules this table is updated for future events only. This means the student count can change as the weeks go on.
3. sams\_activity\_staff contains the staff member teaching the activity. Each activity only has 1 staff member and therefore week numbers are not stored here.
4. sams\_activity\_attendance contains the attendance data once submitted. I’ve removed real reasons and real updated\_by’s to preserve anonymity since it’s based on real data.
5. sams\_activity\_module\_code just contains a list of activity id’s and the module code being taught. Its quicker to store the formatted data than to dynamically work it out.

To get an attendance list we join sams\_activity and sams\_students using activity\_id and week\_number and filter by both activity\_id and week\_number to get a specific instance of an activity.

To report on attendance we mainly use sams\_activity\_attendance but for module based reporting we use sams\_activity/sams\_activity\_module\_code to enable more reporting fields.