

S7 Split Shift Scheduler Instructions

Split-25 for 50 Categories, 25 Employees and 150 Shifts or Locations

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Office 2007/Excel 2007 Note:

This Excel workbook was created with Excel 2003 and if used in Excel 2007 it needs to be saved as an Excel 97/2003 workbook with macros. Excel 2007 will warn you that some information may be lost, but since this workbook does not use any unique Excel 2007 features, none will be lost.

Navigation Note:

This spreadsheet has several sheets and there is room for only a limited number of sheet tabs at the bottom of the screen. You can display additional sheet tabs by clicking on the directional arrows on the left of the sheet tabs. Another way to display additional tabs is to hold the mouse cursor over the directional arrows and click the right mouse button. You can now select the sheet of interest from the table of sheet names. You can also go from one sheet to the next by holding down the control key and pressing the Page Down or Page Up key on the keyboard.

You can move the various sheets around to get sheets that you use most often to be near each other. Simply left click on the sheet tab and drag it to the new location. If you find that you do not need all of the sheets, you can hide the unwanted ones. Do not delete them, for it might corrupt the spreadsheet logic. To hide a sheet, go to the sheet, select **F**ormat, **S**heet, **H**ide. To unhide a sheet, select **F**ormat, **S**heet, **U**nhide, and then select the sheet from the menu.

I. INTRODUCTION



Please Read the License on the License Sheet

This spreadsheet can be used to schedule 25 people in 50 categories to one or two shifts a day for up to one month while enforcing age-related work rules. A category may be a job title (Manager, etc.), a department (Men's Clothing, Men's Shoes, etc.) or any other parameter that you need to schedule. You can also schedule each employee to both a location (Store 1, Store 2 ,etc.) and a time.

If you want weekly overtime calculations to include the normal Sunday-Saturday week, your schedule needs to begin on a Sunday and you can use the spreadsheet to create schedules of up to 4 weeks.

Several cells have comments as indicated by the red triangle located in the top right corner of the cell. Hold the cursor over the cell and the comment will be displayed.

After you read the License, and input your password on the Welcome sheet, you may want to hide these sheets, along with the Order Sheet to make more of the sheet tabs visible at the bottom of the screen. To hide a sheet, simply go to that sheet and select **F**ormat, **S**heet, **H**ide. To unhide a sheet select **F**ormat, **S**heet, **U**nhide, and then select the sheet you want to view.

A **Question Mark Icon**  is displayed next to the tables on the various sheets of this spreadsheet. If you click on the  will be taken to the appropriate place on the "**Details**" sheet where detailed instructions are provided.

II. SETUP SHEET

The first day of the schedule is input at the top of the "Setup" Sheet. **The schedule need to start on a Sunday if you want to use the age-related work rules or the weekly budget features** of the spreadsheet. Below that is a table where you specify the name for each employee category and the maximum number of employee shifts to be associated with that category on the "Shifts" sheet. It is a good idea to provide room for a few more shifts than necessary in order to permit you to add shifts in the future. For example, if you need 10 shifts in the first category, you can enter 15 in the first column of the table in order to provide space for a few additional shifts if you should need them later. **The total number of shifts is limited to 150**, so if the total of the table's first column exceeds 150, a message will appear at the top of the table to alert you to reduce the total number of shifts.

The category "Off" is required and at least one shift is required in this category. Anyone assigned to that category will not be shown on the Group Schedule for days they are assigned to a shift in the "Off" category. The "Off" category can be used for regular unpaid days off, paid vacations, paid training, or any other activity you want to define. Be sure to allow sufficient "Shifts" in this category. For example if you sometimes have as many as 3 people on vacation at a time, plus 2 people in training plus 5 people on their regular unpaid days off, you need to specify at least 10 shifts in this category and it may be a good idea to specify 12 or so to provide room for extras.

You can use the same category name more than once if you want. For example, if you have a category called "Waiter" and you specified that you needed 10 shifts in the category. Later you may find that you need another 5 shifts for the "Waiter" category. You can add another category called "Waiter" at the bottom of the list and then you can define additional "Waiter" shifts on the "Shifts" Sheet. In another case, you may have specified that you need 15 shifts in the "Waiter" category, but only defined 10 waiter shifts on the Shifts Sheet. Now, if you go to the Shifts Sheet and define additional waiter shifts, the category and shift information on the Scheduling Sheet will move down to make room for the additional waiter shifts that you just defined. But, since the employee assignments do not also shift down to make room for new assignments, the assignments below the original 10 waiter slots will be incorrect. You can avoid this situation by inputting a shift start and stop time (that can be changed later) but not specifying (with an "X") that the shift is required on any day.

III. SHIFTS SHEET

Each category that you defined on the "Setup" Sheet is shown on the "Shifts" Sheet where you specify the start and stop time for shifts associated for each category and indicate which days of the week the shift needs to be filled. One shift needs to be defined per employee. For example if you need 2 clerks from 8:00 AM to 5:00 PM, you need to enter the 8 to 5 shift two times under the "clerk" category. Likewise, if you need a clerk from 8:00 AM to 5:00 PM and another clerk from 10:00 AM to 3:00 PM you need to specify both the 8 to 5 shift and the 10 to 3 shift under the "clerk" category. The cells are formatted to show times in the AM/PM format but times can be input in either AM/PM format (4:00 PM) or in military time format (16:00). If a shift starts on one day and ends on the next day, you need to add 24 hours to the shift stop time. For example, if the shift starts at 9:00 PM (21:00) and stops at 3:00 AM (3:00) the next day, the stop time needs to be input as 27:00. Not 3:00 AM, but 27:00.

If you specified extra shifts on the Setup sheet to allow for future expansion, they will appear on this sheet. You don't need to give them a name, but you should give them a start and stop time (that you can change in the future) so they will appear on the Scheduling sheet to hold the position open for future needs. You don't need to indicate that these extra shifts are needed on any day (with an "X" in the day column) until you are ready to add them.

If you are scheduling employees to several different locations (store 1, store 2, etc.) put the name of the locations in the Shift/Location column. If you are scheduling a single location, you can put the department name or other descriptive shift name in this column. If you do not supply a Shift/Location name, the program will generate one based on the category name. If you have used duplicate category names, and do not specify a Shift/Location name the spreadsheet will assign duplicate Shift/Location names. For example, if you have a category "Waiter" and do not supply Shift/Location names for the waiter category, the spreadsheet will name them "Waiter 1", "Waiter 2", "Waiter 3" and so on through "Waiter 10". Now if you add a second "waiter" category and not provide Shift/Location names for those shifts, the spreadsheet will assign names "Waiter 1", "Waiter 2" etc. which will be duplicates of the first waiter category shift names. The Location/Shift name will appear on the "Scheduling" Sheet and on the various schedule output sheets.

You have the option of specifying the number of paid hours associated with each shift. If you do not specify the number of paid hours, the program assumes that all hours are paid.

If you use an "Off" category for scheduling, be sure to define a Shift/Location name for each of these shifts (Off is fine or you may want some called "Off" and others called "Vacation" or "Training"), or they will not appear on the "Scheduling" Sheet. Also, you should put an "X" in each column next to these shifts in order to make these shifts available for assignments each day on the "Scheduling" Sheet. If you specify a start and/or a stop time for the "Off" category shifts, you may get error signals on the Scheduling Sheet if these violate the age-related work rules. If the shift is a paid shift, you can specify a number in the "Hours" column and leave the Start and Stop times blank.

IV. WORK RULES SHEET

Age-related work rules are input on this sheet. If an employee is of an age where his or her shift assignments must conform with Federal or State age-related work rules, you need to enter the employee's date of birth and also indicate if the employee is engaged in a student work experience. You also need to input the student's school start and stop time so the program will be able to detect if you assign a shift to a student during school hours. If the employee is not subject to age-related work rules, you do not need to enter the date of birth.

You may also specify "School Hours" for employees who are not of school-age or actually in school, but are not available for some reason during part of the day. If you assign a shift to the person during his "School Hours", you will be notified by an error code on the Scheduling sheet.

Age-related work rules are input in the light green cells on the right side of this sheet. There is also a place for you to input school vacations and to define the "school year". The program needs to know only those vacation periods that overlap the current scheduling period. You can, however, include vacation periods that are outside of the current scheduling window.

At the top of the sheet are links to websites describing US and Canadian age-related work rules. These websites also provide information or links to State and Provincial age-related work rules.

V. EMPLOYEES SHEET

Employee names and qualifications/restrictions are input in the two tables on the "Employee" Sheet. Names and employee qualifications are placed in the table at the top of the sheet. You may indicate that an employee is qualified for more than 1 position. For example, an employee may be qualified as a waiter and as a bartender and if you want that person available for both jobs, put an "X" in both the "Waiter" column and the "Bartender" column. **If you have used a category name more than once**, the spreadsheet will read only the information you specify for the first occurrence (on the left) of the category name.

At the top of the sheet is a macro that will sort the employees names in alphabetical order while preserving employee-specific availability information you have specified at the bottom of the "Employees" Sheet, and employee Wages that you have input on the "Wages" Sheet, the employee availability you have specified on the Emp Avail sheet, the employee-specific information you input on the Work Rules sheet and the employee e-mail addresses you input on the E-Mail sheet..

Days when employees will not be available are indicated in the table at the bottom of the sheet. Place an "X" in the day column if the employee will not be available on that day.

VI. EMP AVAIL SHEET

Days when employees will not be available are indicated in the table on this sheet . Place an "X" in the day column if the employee will not be available on that day.

VII. EMP TIMES SHEET

The earliest start time and latest stop time for each employee for each day of the week can be placed in this table. If you leave the cell blank, the program assumes the employee is unavailable. If an employee's availability starts one day and ends the next day, you need to add 24 hours to the number you put in the "Latest Shift" column. For example if someone is available from 6:00 PM (18:00) to 6:00 AM the next day, you need to put 30:00 in the "Latest Shift" column.

If someone is not available during part of the day you can specify "School Day Start and Stop Times" for that person on the Work Rules sheet, even if the person is not of school-age. If you assign someone to a shift during this "non-available" time, you will be alerted with an error code.

VIII. SCHEDULING SHEET

The "Scheduling" Sheet is where you assign your employees to various shifts each day for up to 4 weeks. Select the names of qualified people from the drop-down menus. The youngest employees (according to the date of birth that you have specified on the Work Rules Sheet) will appear at the top of the drop-down menu. An employee's name will appear in the in the drop-down menu if you specified that employee as qualified for the category in the table at the top of the "Employees" Sheet. **All qualified employees will appear twice in the drop-down menu**, once with just the name and again below that with a "-2" following the name. You can therefore assign someone to 2 daily shifts, once with his regular name and once with his "-2" name. Both assignments will be shown on the individual schedules and the group schedule under the employee's regular name.

If a **cell is shaded light gray**, no one is required for the shift according to the information on the "Shifts" Sheet. You can still assign someone to the shift if you want. If you specified that someone is needed for a shift, the **cell is shaded light green**. You should assign someone from the drop-down menu to work this shift.

If you assign someone (or his double "-2") to more than one shift per day, the **cell will turn tan-colored** to indicate there is a problem since only the first (closest to the top of the sheet) assignment will show up on the Individual Schedules and on the Hours Summary Sheet. If you assigned someone to a shift when they are not available according to the shift start and stop times, other availability information you specified on the "Employees" Sheet, or age-related work rules that apply to the employee, the **cell will turn rose-colored** indicating there is a problem with the assignment.

If the cell is **rose-colored**, the thin cell to the left of the assignment will be color-coded to indicate the nature of the problem. If the thin cell is **black**, the person is not available as indicated in the Employee Availability table on the Employees Sheet. If the thin cell is **light orange**, the shift violates the age-related start and/or stop times (including cases where the shift times overlap the school hours for the employee that you input on the Work Rules Sheet). If the thin cell is **yellow**, the shift violates the age-related maximum daily hours. If the thin cell is **white**, the shift start/stop time is outside the employee's normal availability as indicated in the "Earliest Shift" and "Latest Shift" columns on the Employees Sheet.

The day names at the top of the sheet are normally turquoise-colored. If you have made a scheduling error the cell will change color as follows to indicate the nature of the mistake. **Turquoise** = Normal color everything is OK. **Rose** = You have assigned overlapping shifts. **Tan** = An assigned shift exceeds the maximum hours without a break specified on the work rules sheet. **Aqua** = Two shifts have been assigned without providing the minimum break specified on the "Work Rules" sheet.

The "Errors" sheet has a table of employee names with several different columns for the different types of errors listed at the top of the sheet. If a cell next to an employee name is Rose-colored, that employee's assignment is triggering the error alert.

Macro buttons located above each day can be used to remove all old scheduling information from that day. The wider button in the top left corner can be used to remove scheduling information from all days. Macro buttons are also available to copy the Day1 shift assignments to days 2 thru 7 where you can edit them as required to create the schedules for the rest of the week. Other macro buttons are provided to copy the Week 1 shift assignments to Weeks 2 - 5 where you can further edit them to create your schedule.

The Copy & Paste and the Cut & Paste commands as well as the Tools, Options menu have been disabled on this sheet to prevent you from moving the drop-down menus from one cell to another.

The print range has been set to print this worksheet on 35 sheets of paper. If you need only the top portion of the worksheet to be printed, you will need to change the print range.

IX. CALENDAR SHEET

The calendar sheet shows shift assignments for one week. You can select the calendar start date and employee category you would like to display from the drop-down menus above the calendar. Macro buttons to the right of the calendar control the number of employees displayed each day. If you want "Off" assignments to appear on the calendar you need to assign a start and stop time for the "Off" shift on the Shifts Sheet.

X. vCalendar SHEETS

The scheduling information can be saved as a file using the vCalendar data format that can be imported into MS Outlook or other software that can read vCalendar files. The file includes a "SUMMARY" field that shows the employee's name and his Category (as defined on the Setup Sheet), a "LOCATION" field that shows his "Shift/Location" and a "CATEGORIES" field that displays the word "Shift". A 7 day schedule for all employees is created on the vCalendar sheet and is saved in the vCalendar file. Select the start date from the drop-down menu and click the "Create the vCalendar Now" macro button to create the file. The macro will save scheduling spreadsheet under it's current name and then save the vCalendar file in your scheduling directory with the name shown in the cell below the macro button. After the vCalendar file is created, the spreadsheet will close. A 31 day schedule for a single employee is created on the vCalendar-2 sheet. Select the first day of the schedule from the drop-down menu and click on the macro button to create the single employee schedule. The hidden vCal Out sheet is used in the creation of the vCalendar fil

If there is already a file in your scheduling directory with the same name as the vCalendar file being created by the macro, Excel will ask if you want to replace the old file with the new one. If you select "No" the macro will display an error message. Simply select "End" and the macro will stop. Also, after the vCalendar file is saved, Excel will ask you if you want to save the changes in the ??????????.vcs file. You can select either "Yes" or "No" since the old file is the same as the new file.

XI. IMPORTING THE .vcs FILE INTO MS OUTLOOK

In MS Outlook select File, Import and Export. Then choose "Import an iCalendar or vCalendar file (.vcs)" and browse to your scheduling directory or other folder where you have stored the vCalendar file. Select file type = vCalendar and all of the .vcs files will be displayed. Click on the one you want to import and then click "Ok". The procedure to import a file into a PDA or other device is probably similar, but you may need to check your operating manual.

If you receive an error when importing the .vcs file into MS outlook, it is probably due to miscellaneous punctuation marks in the "SUMMARY" and/or "LOCATION" lines in the .vcs file. When Excel saves a worksheet as a text file, it puts quotation marks (" ") around lines containing certain punctuation marks such as a comma (,). MS Outlook can't import the lines with the quotes and will give you an error message. You can open the .vcs file with Notepad or other text editor and search for the lines containing quotation marks to locate the miscellaneous punctuation marks causing the problem.

The spreadsheet will convert employee names in the format "Last Name", "First Name" into "First Name" "Last Name" (without the comma) format in the .vcs file, so you can use employee names in the Last Name, First Name format. Likewise, if there is a comma in the spreadsheet item that appears in the "LOCATION" line of the .vcs file, the "before the comma" letters will be switched with the "after the comma" letters.

XII. WEEKLY SHIFTS SHEET

The Weekly Shifts sheet displays a 7 day schedule that looks much like the Scheduling Sheet. You select the first day of the schedule from the drop-down menu at the top of the sheet. The "Click Here to Copy This Sheet to a New Workbook" macro button at the top of the sheet will save the spreadsheet under its current name and then copy the information on the "Weekly Shifts" sheet to the "Shift Report" sheet (the tab at the far right) and then copy the "Shift Report" sheet into a new workbook that can be saved under whatever name you want.

XIII. WAGES SHEET

Employee hourly wages can be entered on this sheet if you want to use them to calculate weekly payroll budgets. A different wage can be specified for each employee and category. For example if someone is qualified to be both a waiter and a bartender, and the hourly rate is different for these two categories, you can specify the hourly rate for each. Also, if all of your employees do not receive the same wage for a single category, you can specify different rates for each person. If hourly rates are the same for several people or categories, you can input the rate once and copy it to other cells as appropriate. **If you have used a category name more than once**, the spreadsheet will read only the information you specify for the first occurrence (on the left) of the category name.

XIV. BUDGET SHEET

This sheet shows daily and weekly payroll budgets for each category of employee based on the hourly wages you provide on the "Wages" Sheet and the shift assignments you make on the "Scheduling" Sheet. At the top of this sheet are three light green boxes where you specify the number of hours per day and per week that can be worked without paying overtime, and the weekly overtime multiplier. If there is no daily maximum, for example, put 24 in this box. If there is no weekly maximum, put some large number like 100.

On the left side of the table are two light green columns. The first one is where you specify the overtime multiplier applicable to each day of the week. The second column is where you specify a daily salary differential multiplier. For example, if weekend pay is 10% greater than weekday pay, put 1.10 in the cells next to the weekends. Or if holiday pay is 25% greater, put a 1.25 next to the holidays.

The program calculates overtime such that a person receives overtime on both his daily and weekly overtime hours. For example if the daily and weekly maximums are 8 and 40 hours respectively, and someone works 9 hours one day and 8 hours for 4 days, he will be paid overtime at the daily overtime rate for 1 hour and at the weekly overtime rate for 1 hour. To continue this example, assume an employee's basic wage is \$10.00 per hour and the daily overtime rate is 2.0 (double time) and the weekly OT rate is 1.5 (time and a half). In this case he would receive an OT bonus of \$10.00 for the 1 daily OT hour plus \$5.00 for the 1 weekly OT hour for a total bonus of \$15.00 on top of his \$10/hour times 41 hours or \$410 + \$15 for a total of \$425 for the week.

Note: the weekly overtime calculator assumes that the overtime rules apply to the 7 day "week" beginning with the first day of the schedule. For example, if your monthly schedule begins on a Tuesday, the overtime "week" will be from Tuesday to Monday. If your overtime "week" is Sunday through Saturday, you need to use the spreadsheet to create 4 normal weekly schedules for proper weekly overtime calculations.

XV. INDIVIDUAL SCHEDULES SHEET

The Individual Schedules show the Position ("Category" Name from the "Setup" Sheet) and the Assignment (Shift/Location that you put on the "Shifts" Sheet) as well as the start and stop times and the number of hours associated with each shift. Schedules can be printed and distributed to each employee. The print range is set to print all of the schedules on separate sheets of paper. If you need less than all of the schedules, you will need to change the print range.

XVI. E-MAIL & ESCHEDULE SHEETS

You can e-mail individual schedules to your employees in the form of a small Excel spreadsheet. If you would like to do this, you first need to put your employee e-mail addresses in the table on the E-Mail sheet. The ESchedule sheet is created for each employee and attached to an e-mail message to that person when you click on the macro button on the Individual Schedules sheet.

If any of your employees do not have the Excel software, they can download a free Excel viewer from Microsoft at:

<http://www.microsoft.com/downloads/details.aspx?FamilyID=c8378bf4-996c-4569-b547-75edbd03aaf0&displaylang=EN>

Your e-mail client will probably alert you that a program is attempting to send a message and you will need to click "Yes" in order to send each message. This is okay for a few messages, but if you are sending schedules to all of your people, this can become bothersome and time-consuming. You can change the security settings for your e-mail client to allow a program to send e-mail messages without asking your permission. The down-side of changing the security settings is that some not-so-friendly program can flood the world with spam from your computer. You need to decide if the reward is worth the risk. Instructions on how to adjust the Windows security settings for Outlook Express, Outlook and Windows Mail can be found at:

<http://www.rondebruin.nl/mail/prevent.htm>

XVII. GROUP SCHEDULE SHEET

A group schedule showing each employee's daily start and stop time is provided. If someone is scheduled to a shift in the "Off" Category, the "Off" shift will not be shown in the Group Schedule. The print macro buttons at the top of the sheet allow you to print the schedule one-week-at-a-time. In the top-left corner is a place where you can choose to show "Category", "Shift/Location", "Both" or "Neither" in the Group Schedule. The two macro buttons on the top left allow you to show or hide the additional information.

XVIII. LOCATION SCHEDULE SHEET

The location schedule allows you to print a schedule for each location specified on the "Shifts" sheet. The schedule shows employee category name and shift start and stop times. You can choose the location from the drop-down menu in the top left corner of the sheet. You can create and print a location schedule for each location you are staffing. The print macro buttons at the top of the sheet allow you to print the schedule one-week-at-a-time. The two macro buttons on the top left allow you to show or hide the "Category" information.

XIX. HOURS SUMMARY SHEET

A summary of assigned hours is presented on the "Hours Summary" Sheet. If a shift starts one week and ends the next week, the hours will be shown on the first week

The Week 1-4 cells will be Rose-Colored if the weekly hours exceed the age-related weekly limits you specified in the Work Rules Table on the Work Rules Sheet. The Week 1-4 cell will be shaded if the weekly hours include overtime hours according to the value you specified on the Budget Sheet.

XX. PASSWORD PROTECTED SHEETS

All of the sheets have protected cells (cells that you may not use to input data). All of the unprotected cells for use in storing data are light green in color. Each worksheet is protected to prevent you from overwriting the information in the protected cells. We advise that you leave the worksheets protected unless you want to make changes on a worksheet that can not be made if the sheet is protected. For example, if you want to hide or unhide rows and columns or change cell colors you will need to unprotect the sheet (Tools, Protection, Unprotect Sheet). Be sure that you do not change the contents of the protected (non-light green) cells. You can, however, change the color, formatting, etc of the protected cells. After you have made the changes, be sure to protect the sheet (Tools, Protection, Protect Sheet). No password has been assigned to the sheet protection. You may wish to add a password (part of the Tools, Protection, Protect Sheet series).

XXI. CAUTIONS

The Copy & Paste and the Cut & Paste commands as well as the Tools, Options menu have been disabled on the Scheduling sheet to prevent you from moving the drop-down menus from one cell to another. **Sometimes the disabled copy/paste feature affects other spreadsheets.** If you experience such a problem simply open and then close the "Copy Restore.xls" spreadsheet that is included in the download package and your copy/paste commands will be restored.

Do not add or delete rows or columns on any of the worksheets, for it may corrupt the spreadsheet logic. Rows and columns may be hidden if you do not need them or do not want to see them.

If cells with input data are hidden (the light green cells), any data contained in those cells will still be used by the spreadsheet.

XXII. TECHNICAL SUPPORT

Technical Support is available by phone, fax or e-mail during normal business hours (Mountain Time).

Phone: (208) 855-2502

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