






Creating an Amortization Schedule in Excel 2013

NOTE: In order to complete an amortization schedule, you must have the loan amount, interest rate, length of the loan term, and escrow; then use this information to calculate the P & I payment and total payment.


Steps:

1. Open an Excel Workbook. There should be 1 tab in the lower left corner named “Sheet 1.” Double click this tab and change the name to “Main Loan – XX Year.” In place of XX, put the number of years for your loan.
2. Click on the File menu and select the Print option. Near the bottom will be a link to “Page Setup” – click that link. A pop-up window will open with 4 tabs across the top – click on the one that says “Sheet.” Under this tab, click the box next to “Gridlines.” The gridlines will now automatically print. Click the arrow (top left) to return to the spreadsheet.
3. In Microsoft Excel, and in all other spreadsheet programs, each cell has an address. If you click on any rectangular region in the spreadsheet, the address will appear in the upper left hand corner. The address is also visible by looking at the row (horizontal) and column (vertical) components. The columns are labeled with capital letters; A, B, C, ... , etc. The rows are numbered 1, 2, ... , etc. Each rectangle is called a **cell**, and the way that operations are made to go more quickly is to reference a cell by its address. In the very upper left is cell “A1.” When you see a letter followed by a number, it is a reference to a particular cell.
4. Now it is time to label the columns you will be using. Click on Cell A1. Type in the words “Month #” without the quotes. From left to right, continue labeling the top row; you should end up with 8 columns. Title them: Month #; Total Pymt; Escrow; P & I pymt; Interest, Principal, Rem Balance, and Loan Ratio. To move left to right, you can type then click tab, or use the arrow keys. Typing ENTER will always cause you to move down, not over.
5. The columns B, C, D, E, F, and G will all be money. To format them as money, click on the column B and drag over to column G to highlight all of them. Then click on the little button on the toolbar that looks like "\$" (or click on the column and FORMAT-CELLS, "Currency"). Column H will be a percentage, so highlight that column and click on the percentage button on your toolbar to make sure all the numbers in that column are a percent.
6. One of the main components of Excel, and all spreadsheet programs, is the ability of the spreadsheet to do all of the calculations. All calculations work through **formulas** and all formulas start with the equal sign “=”.” If you type the equal sign, the spreadsheet knows that it will be doing whatever you want – and you can do a lot!
7. Now, go to cell A2 and type the number 0 and press enter. This will represent the initial loan, since you don’t make a payment at first. Move to the cell directly beneath it (A3), and type the equal sign. Now use the mouse to click on cell A2 then type “+ 1” without the quotes and press enter. Cell A3 should now read “1” as the spreadsheet took the value in cell A2 and added 1. You don’t need to repeat this process either – the computer can do all the work. These are the month number. When the formula in cell A3 is copied, the computer will repeat the instructions.
8. In Excel, the cursor (mouse pointer) can change depending on what you are hovering over.
 - a. Most everywhere, you’ll see this: .
 - b. When you are over the edge of the current cell, it changes to .
 - c. The mouse pointer changes again to this: , when you roll over the bottom right corner of the cell which looks like a tiny black square.

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9. To copy the formula down the entire column, make sure you know how many times you'll be paying on the loan. For example, if your loan is 15 year, then you'll be copying down to month number 180. If you have a 30 year loan, you'll be copying down to month number 360. Click on cell A3 and notice that the border of the cell has a small black box in the lower right hand corner. To copy the formula all the way down, **click and hold** that little box with the mouse turning to , then drag down the column until you have as many as you need. If you do release the button on the mouse, the formula will be copied to that point. You can click on the lowest cell again and repeat the process. Make sure that you have enough months to pay off the loan. If you put in too many months, you can use the mouse to highlight the cells then press "delete."
10. Move the mouse down to cell G2 and enter your loan amount. The computer will automatically change it to dollars so you don't need to type in "\$" at all.
11. Next, click in cell B3. This cell represents the total payment (including taxes and insurance). Type in the total monthly payment into this cell.
12. Now click on cell C3. This is the Escrow amount – enter only the amount of the total payment that is going towards insurance and taxes.
13. Click on cell D3. This will be your P & I payment *but don't type it in*. We'll let the computer do the work for this one! Since the P & I payment will be just the total payment minus escrow, type "=" then click on cell B3, type "-" then click on cell C3, then press ENTER. The P & I payment will show up exactly as you calculated it in the project. If this amount is not accurate, check your calculations. When done the formula will look like: "=B3 – C3"
14. Click on cell E3. This is the amount going to interest and it changes each time. Remember that interest is based on the current balance of the loan. Type "=" then click on cell G2, then type "*" (which is above the 8 key on the keyboard and represents multiplication) and type in your interest rate as a decimal, then type "/" (which is just left of the right shift key and represents division) and then 12. When done, press enter. The total formula should look like this if your interest rate was 7.6%: "= G2 * 0.076 / 12"
15. The "Principal" column represents how much of the payment actually goes to pay off the balance and is found by subtracting the interest from the P & I payment. The formula should look like "=D3 – E3" and will be located in cell F3.
16. The remaining balance is found by subtracting the amount paid to principal from the previous balance. The formula will be located in cell G3 and should be "=G2 – F3"
17. The Loan Ratio is the percent of the loan still remaining. For this formula, we'll calculate the remaining balance divided by loan amount. Since the remaining balance changes, but the loan amount doesn't, we'll use a little twist. In cell H2, type in "=G2/G\$2" Make sure you put in the \$... this symbol in the formula tells Excel to keep that portion the same. This will make sure you always divide by G2 (the loan amount). When finished, copy this down one cell to be in H3. Because percents don't have any decimal places to being with, both of these numbers could show up as 100%. Click on the "H" column and then click the button to force the computer to show more decimal places: . Click this until there are 2 decimal places showing.

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18. Now for the fun! Use the mouse to select all of the cells from B3 to H3. When finished, double-click on the little black box in the lower right hand corner of the selected area and all the formulas will be copied down to complete the amortization schedule! ☺
19. At the very bottom of the page (near your last payment), you'll see the remaining balance. It should be negative -- which signals that you have overpaid by a little bit. Type in a new amount for the Total Payment until the Balance is \$0.00. Once you have \$0.00 in the remaining balance, your loan is officially paid off.
20. To find the total interest paid, we'll add up all the interest amounts to this point. Click on the cell that is 2 below the last amount in the total payment column. Now we will use a formula to find the sum of all the payments! Type "=sum(" and then use the mouse to highlight all of the total payment column from payment 1 to the end. When done, type ")" and press enter. Copy this formula to the other columns from B to F. You can now see how much you paid total, how much in escrow, how much in interest, and how much in principal.
21. Click on the tab at the lower left hand corner. Right-click on it and you'll be given options. Select "Move or Copy" as the option. Now, click the bottom box to "make a copy" and click the "move to end" option. The sheet will make a copy of itself in a new tab. Change the name on this new tab to "Main loan – XX years".
22. Repeat step 21 to create new worksheets for the other parts of the project. Make sure that you rename them appropriately.
23. For the project, you'll want to hide most of the rows from view. Keep the first year and at least the last 6 payments but highlight all the rows between, then right click the selection and choose "Hide." The cells will be hidden but still computing what you wanted. This allows you to copy the remaining portion and paste into your project!
24. Arrange it so it looks nice when you do print. Make sure your titles fit in the cell when printed. You may need to adjust the column width -- especially if the numbers get very large and start showing up as #####. To do this, move the cursor to the separating line between two columns until it turns into . To make column "E" bigger, place the cursor on the line between the "E" and the "F." Then click and drag to make the column as large as you want.
25. Make sure that when you print, your printouts contain all of the data. It would be a shame to print and realize that one of your columns doesn't appear.
26. Good luck, this should get you going. If you have questions or problems, let me know.

The next page shows examples of spreadsheets in the project. I will choose a made up home loan amount of \$234,567.89 because I know that no home loan from the projects will be the same as this. Try to see the layout and how the spreadsheet looks when you copy it over. Here's how it should look:

(rate for 15 year is 3.25% and for 30 year is 4.33% - both have \$375 in escrow payment)

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30 year loan

Month #	Total Pymt	Escrow	P & I Pymt	Interest	Principal	Rem Balance	Loan Ratio
0						\$ 234,567.89	100.00%
1	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 846.40	\$ 318.55	\$ 234,249.34	99.86%
2	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 845.25	\$ 319.70	\$ 233,929.64	99.73%
3	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 844.10	\$ 320.85	\$ 233,608.78	99.59%
4	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 842.94	\$ 322.01	\$ 233,286.77	99.45%
5	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 841.78	\$ 323.17	\$ 232,963.60	99.32%
6	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 840.61	\$ 324.34	\$ 232,639.26	99.18%
7	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 839.44	\$ 325.51	\$ 232,313.75	99.04%
8	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 838.27	\$ 326.68	\$ 231,987.07	98.90%
9	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 837.09	\$ 327.86	\$ 231,659.20	98.76%
10	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 835.90	\$ 329.05	\$ 231,330.16	98.62%
11	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 834.72	\$ 330.23	\$ 230,999.92	98.48%
12	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 833.52	\$ 331.43	\$ 230,668.50	98.34%
355	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 24.89	\$ 1,140.06	\$ 5,758.82	2.46%
356	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 20.78	\$ 1,144.17	\$ 4,614.65	1.97%
357	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 16.65	\$ 1,148.30	\$ 3,466.35	1.48%
358	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 12.51	\$ 1,152.44	\$ 2,313.91	0.99%
359	\$ 1,539.95	\$ 375.00	\$ 1,164.95	\$ 8.35	\$ 1,156.60	\$ 1,157.31	0.49%
360	\$ 1,536.49	\$ 375.00	\$ 1,161.49	\$ 4.18	\$ 1,157.31	\$ (0.00)	0.00%
	\$ 554,378.54	\$ 135,000.00	\$ 419,378.54	\$ 184,810.65	\$ 234,567.89		

15 year loan

Month #	Total Pymt	Escrow	P & I Pymt	Interest	Principal	Rem Balance	Loan Ratio
0						\$ 234,567.89	100.00%
1	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 635.29	\$ 1,012.95	\$ 233,554.94	99.57%
2	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 632.54	\$ 1,015.70	\$ 232,539.24	99.14%
3	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 629.79	\$ 1,018.45	\$ 231,520.80	98.70%
4	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 627.04	\$ 1,021.20	\$ 230,499.59	98.27%
5	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 624.27	\$ 1,023.97	\$ 229,475.62	97.83%
6	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 621.50	\$ 1,026.74	\$ 228,448.88	97.39%
7	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 618.72	\$ 1,029.52	\$ 227,419.35	96.95%
8	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 615.93	\$ 1,032.31	\$ 226,387.04	96.51%
9	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 613.13	\$ 1,035.11	\$ 225,351.93	96.07%
10	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 610.33	\$ 1,037.91	\$ 224,314.02	95.63%
11	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 607.52	\$ 1,040.72	\$ 223,273.30	95.18%
12	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 604.70	\$ 1,043.54	\$ 222,229.76	94.74%
175	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 26.53	\$ 1,621.71	\$ 8,173.59	3.48%
176	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 22.14	\$ 1,626.10	\$ 6,547.49	2.79%
177	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 17.73	\$ 1,630.51	\$ 4,916.98	2.10%
178	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 13.32	\$ 1,634.92	\$ 3,282.05	1.40%
179	\$ 2,023.24	\$ 375.00	\$ 1,648.24	\$ 8.89	\$ 1,639.35	\$ 1,642.70	0.70%
180	\$ 2,022.15	\$ 375.00	\$ 1,647.15	\$ 4.45	\$ 1,642.70	\$ 0.00	0.00%
	\$ 364,182.11	\$ 67,500.00	\$ 296,682.11	\$ 62,114.22	\$ 234,567.89		