

# Detailed Instructions for Installation of metRology for Microsoft Excel

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# Basics

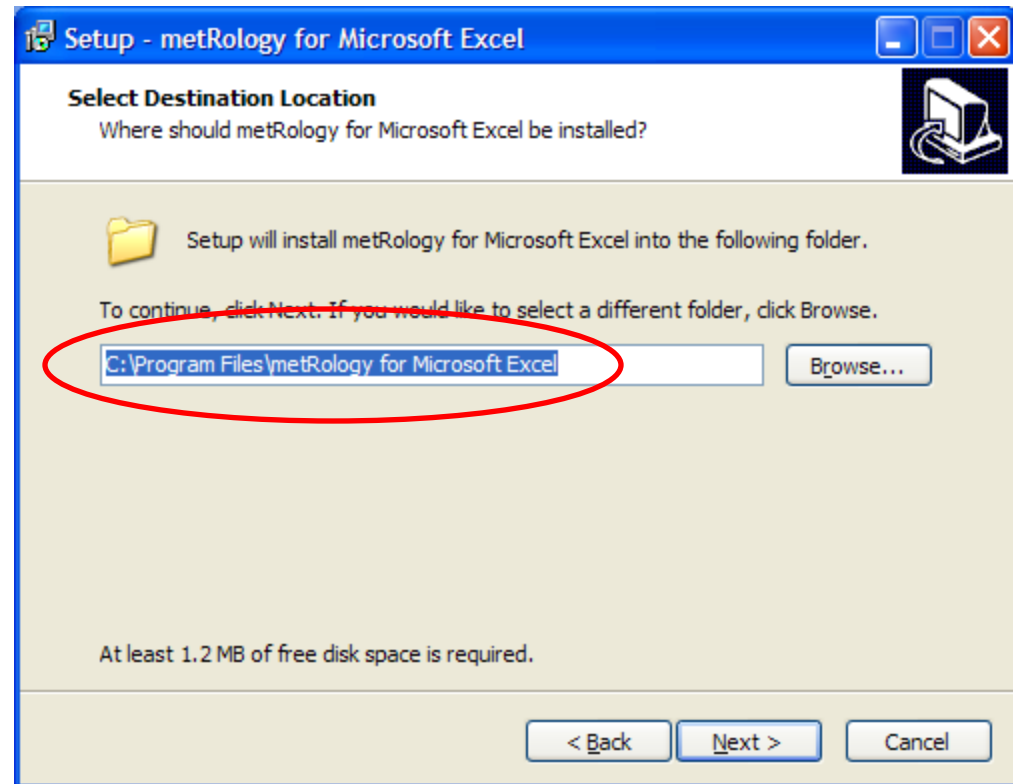
- metRology for Microsoft Excel requires the open-source statistical software R. If you do not already have R on your computer, the installation file will take you to the correct link to install it.
- Alternatively save the file at <http://cran.rstudio.com/bin/windows/base/release.htm> and then double click it to install R.
- You can accept all of the default suggestions when you run the R install script.

# Basics Continued

- After installing R, double click on the file `metRology-for-Microsoft-Excel-v1.01-setup.exe` to configure R and install the user interface.
- You can generally use the defaults throughout this install as well.
- One potential exception is the choice of installation directory for `metRology for Microsoft Excel`. Make sure it is installed in `C:\Program Files\metRology for Microsoft Excel`

# Potential Exception to Use of Defaults During Install

- You are most likely to find the installation script suggesting an alternative installation location if you have a 64-bit machine. If so, just **delete the “(x86)”** in the window at right during the install



# Configuring Excel

- When you install **metRology for Microsoft Excel**, the installation script will most likely open Excel during the install and a menu will appear that asks you to enable content or macros.
- Please click enable to allow installation of the Excel Add-in used to link Excel and R.
- After you enable the content, Excel will close automatically and the installation will finish.

# Testing the Software

- After completing the installation first reboot your computer and then you can run a test to make sure everything is working using one of the versions of the file

test-metRology-for-Microsoft-Excel.xls(m).

- use the [xls](#) file if you have Excel 2003
  - use the [xlsm](#) file if you have Excel 2007 or 2010
- To complete the test open the appropriate test file with Excel, then click the button labeled “Compute Uncertainty”. You should also see a menu item named “metRology” on the menu bar.

# Test File – Push Button Circled in Red

test-metRology-for-Microsoft-Excel.xlsm - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat metRology

GUM Uncertainty Analysis Consensus Mean Polynomial Regression

GUM Supplement 1 ASTM E691

Uncertainty Analysis Interlaboratory Studies Regression Analysis

E10

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		metRology for Microsoft Excel GUM Uncertainty Template for 1 Input												
2														
3			Uncertainty Analysis Input Table											
4		Input Variable Name	x1											
5		Units	mg											
6		Input Value, $x_i$	1.0000											
7		Standard Uncertainty, $u_i$	0.0120											
8		Degrees of Freedom, $\nu_i$	60.0											
9		Type of Uncertainty Evaluation	A											
10		Distribution	Normal											
11		Measurement Equation	exp(x1)											
12		← Show/Hide Options												
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← More

← Show/Hide Warnings and Error Messages

GUM Template 1 Input

Ready

93%

# Successful Test Results

test-metRology-for-Microsoft-Excel.xlsm - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat **metRology**

GUM Uncertainty Analysis Consensus Mean Polynomial Regression  
GUM Supplement 1 ASTM E691

Uncertainty Analysis Interlaboratory Studies Regression Analysis

K27

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
1		metRology for Microsoft Excel GUM Uncertainty Template for 1 Input													
2															
3			Uncertainty Analysis Input Table												
4		Input Variable Name	x1												
5		Units	mg												
6		Input Value, $x_1$	1.0000												
7		Standard Uncertainty, $u_1$	0.0120												
8		Degrees of Freedom, $\nu_1$	60.0												
9		Type of Uncertainty Evaluation	A												
10		Distribution	Normal												
11		Measurement Equation	exp(x1)												
22		← Show/Hide Options													
23															
24			Uncertainty Analysis Results												
25			Output Value	Combined Standard Uncertainty	Effective Degrees of Freedom	Nominal Level of Confidence	Coverage Factor = Student's t	Expanded Uncertainty	Approximate Attained Confidence Level						
26			$y=f(x_1, \dots, x_p)$	$u_c(y)$	$\nu_{\text{eff}}$	$100(1-\alpha)\%$	$k$	$U(y)$							
27		Compute Uncertainty	2.718	0.0326	60.0	95%	2.00	0.065	93.7%						
28			x1												
29		Contribution to $[u_c(y)]^2, \%$	100.0%												
30		Sensitivity Coefficient	2.7183												
31															
32															
33		No errors or warnings.													
34															
35															
48		← More													
49		← Show/Hide Warnings and Error Messages													
50															
51															

GUM Template 1 Input

Ready

93%



# More on Test Results and Final Notes

- The numbers in the output area of the test file do not need to match the screenshot exactly
- As long as there are numbers and no apparent errors, all should be well