These instructions describe how to use the Field Calculator in ArcMap to do the conversion from DMS to DD:

If you have geographic coordinates in degrees, minutes and seconds (DMS) and want to add locations to a map using ArcGIS you first need to convert these to decimal degrees (DD). The coordinates in DMS based on the North American Datum of 1983 for the City of Guelph are the 43˚ 33' 36.60" North and 80˚15' 53.72" West. In DD the coordinates are 43.56017 N and -80.26492 W.

First, assemble your coordinates in tabular format (Excel, text or .dbf) as illustrated in the example below. (The values must be stored in a table as degrees minutes seconds with no symbols.)

<table>
<thead>
<tr>
<th>Location, latitude, longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guelph, 43 33 36.60, 80 15 53.72</td>
</tr>
</tbody>
</table>

1. Add the tabular data to ArcMap. If the table is not in database format (.dbf) export the data:
   - Right-click the table in the table of contents, choose the option Data and then Export.
   - In the Export Data dialog box ensure that Export all records is selected in the first drop-down box.
   - For Output Table, Browse to provide a location and name for the table; choose dBase table from the Save as type drop-down box. Click Save, then OK.
   - Click Yes to add the table to the current map. The exported table will be in .dbf format.

2. Right-click on the .dbf table in the Table of Contents and select Open.
   - Click the Table Options button and select Add Field.
   - Enter Lat_DD in the Name field and select Double from the Type drop-down list.
   - Verify that the Scale and Precision is set to 0 and click OK.

3. Right-click on the Lat_DD field and select Field Calculator.
4. Click Yes if presented with a message box.
5. Check the Show Codeblock check box.
6. Paste the following code into the Pre-Logic VBA box:

   ```vba
   Dim Degrees
   Dim Minutes
   Dim Seconds
   Dim DMS
   Dim DD

   DMS = Split([Latitude])
   Degrees = CDbl(DMS(0))
   Minutes = CDbl(DMS(1))
   Seconds = CDbl(DMS(2))
   ```
If Degrees < 0 Then
    DD = -(Seconds/3600) - (Minutes/60) + Degrees
Else
    DD = (Seconds/3600) + (Minutes/60) + Degrees
End If

7. Find the line that begins ‘DMS = ’. The text within the brackets [] is the name of the field holding the latitude values. If the name of the field that stores the latitude values is different from your table replace it with the field name from your table.

8. Paste the following code into the Lat_DD = box at the bottom of the dialog box and click OK.

    CDbl(DD)

9. Repeat steps 2 through 8 to create longitude values in decimal degrees.

10. In the example for the City of Guelph, since the location is west of the Prime Meridian the longitude must be expressed as a negative value. To calculate these values right-click on the Long_DD field and select Field Calculator.

11. Enter the equation [Long_DD]*-1 and click OK.