DataWright / OMEP Smart Talent
Training Tracker Manual

An Excel based application for tracking and managing employee's professional development

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1. General Information
   1.1. Description and overview of application

The Microsoft Excel file called 'Skill Tracker r124' was created by DataWright, LLC in conjunction with the Oregon Manufacturing Extension Partnership (OMEP). The purpose of this application is to provide companies with systematic method of collecting, organizing, and tracking their training records. The application uses controls such as password protection, data validation, and conditional formatting to reduce data entry errors, but since it is built on a common software platform, can still be customized and changed by a variety of resources.

Although the use of this application is intuitive, it is highly recommended that users read this manual prior to using the file. **In order to avoid file corruption, it is necessary that users who will be editing the table structure, modifying formulas, or completing other advanced changes thoroughly read this user manual. Please contact DataWright, LLC if you wish to discuss changes prior to making them or if you want the application customized. Advanced changes are often simple and DataWright can make them quickly. There is no charge for calls or work that takes less than 15 minutes.**

As of this version, a maximum of 50,000 rows of data for all tables is used to keep the application running quickly although this number can be increased if needed. To increase this number, see the description in the Workflows section or contact DataWright, LLC.

   1.2. Software (Version created on and requirements)

This application was created on Microsoft Office 365 for PC running Excel 2016 32-bit. Although using this file on earlier versions of Excel, or on a Mac, will likely work, backwards compatibility will sometimes lead to unexpected problems. Please contact DataWright, LLC if you encounter problems.

Versions of Excel prior to 2003 will not support this application since they do not use definable tables.

   1.3. Passwords

As created, the password for all sheets except 'Compensation' is 'train_omep'.

The password for the Compensation sheet is 'training_compensation'. As of this version, the Compensation functionality is not developed but is intended to track additional compensation that employees receive due to completing modules in their training pathway.

Passwords should only be entered by using the Protect Sheet and Unprotect Sheet buttons at the top of each protected worksheet; using these command buttons will ensure that passwords are kept constant since they use macros to assign the passwords. If a user changes a password to something other than those listed above, <u>it cannot be recovered</u>

<u>under any circumstances if forgotten.</u> If a password other than those listed above is desired, please see Changing Passwords in the Workflows section of this document. It is up to the user to document new passwords.

2. Technical Description

2.1. Description of sheets

It is generally not advised to change sheet names since the sheet name may be referenced in the code. If the sheet name is changed, macros may not execute properly unless the sheet name is also changed in the code. This can be done by finding all code references to the sheet name and replacing the old name with the new name. For help with this, please contact DataWright.

Input Tables: Contains and controls information which is then referenced on the Training Records and Dashboard sheets. By entering data here such as Trainee Names, Trainers, Module Names and Numbers, Departments, etc. here, the number of manual entries on the sheets is minimized.

Training Records: Contains the list of people who have completed training modules. Entries to the fields on this sheet are made by selecting values from dropdowns or automatically through lookups, which are populated from the Input Tables. A few fields, such as the Training Time and the Comments, require the user to make manual entries.

Dashboard: This sheet displays the graphical and numerical summaries that are of interest to management. Source information is from the Input Tables and Training Records. If additional charts are desired, they can be created by using the Charts and PivotCharts function. Calculations supporting the visual displays are contained in columns T and greater.

Trained on Module: This is a report that will allow the user to select a module name, and then generate a report by clicking on the button on the sheet. The output of the report is a list of all the trainee names, some supporting information such as their Shift, Department and Job, and then, under the “Trained on Module?” header, either the modules name if they have received the training or “Not Trained” if they haven’t received the training.

Modules Received and Needed: This is a report where the user selects a Trainee and up to four processes, and clicks the button to run a report which returns all of the modules associated with the processes and whether or not the person has completed the module. If the person has received the training, then their name will appear under the “Training Received?” header and if they have not, “Not Received” will appear.

Missing_Report_Person: This is a sheet which is normally hidden and is used as a temporary holding place for information when the “Modules Received and Needed” report is executed. The users should not need to display or interact with this sheet. **It must not be deleted.**

Compensation: As of this version, this sheet is not yet fully developed. Its intent is to calculate training based compensation (raises or bonuses) that are tied to the completion of training modules.

NameLog: This is a hidden sheet that contains a list of the of the Skill Tracker's file path and file name, along with a date and time stamp of when the file was saved. The macro m27_logfilename executes each time the user saves the file using the Save or SaveAs command and logs the data. The primary purpose of this sheet is so that DataWright and functinos easily find the correct version if future work needs to be done on the application. It may also aid the user in troubleshooting. Notes regarding customization or revision changes can also be entered here.

2.2. Table Names, Descriptions, and Field Details

It is generally not advised to change table and field names since the names may be referenced in code or as defined names. If the names are changed, macros or functions may not work properly unless the names are also changed in the code. This can be done by finding all code references to the name and replacing the old name with the new name. The names must also be changed in the name manager. For help with this, please contact DataWright.

You should also not delete or add columns. Blank columns have been left between tables on the Input Tables sheet, which are hidden, but can be unhidden and used to add new fields.

Note: If the bullet regarding the "Populated by" method says that the dropdown comes from a list source of the format =Range_Name, or says that it come from an equation such as =Function, then if the cell becomes corrupted, you may copy the information from the bullet, from and including the = through and including the final) and paste into the cell or the list source box in the data validation to correct the corruption. Simply put, the =Expression information is a record of what the cell or list source box should contain.

2.2.1. Description of table **Trainee** (located on Sheet 'Input Tables' in Columns 'A:Q')

This table's primary purpose is to contain the list of trainee names and secondarily to contain supporting information that applies at the trainee level such as their shift, department, and location. This allows information to be entered once on this table and then automatically referenced whenever a new training record is added.

Each field below will reference its column location. It should be noted that on the Input Tables sheet, not all columns in a sequence will be listed. For example, Column Q is shown but not columns R:AB. The next column used is AC. This is because these columns are currently blank and are hidden but can be used if additional fields are desired without having to add a column which would change certain cell references.

2.2.1.1. Trainee Field **Trainee_Name**

- Located in Column A
- Visible in default view
- Populated from manual entry. Format should be Last Name, First Name
- This is a list of all of the people that have or will receive training at the site. This field is referenced on the Training_Records sheet and provides the names for the dropdown which specifies the name of the person receiving the training. Names must be entered here before a training record can be entered for a person

2.2.1.2. Trainee field **Status**

- Located in Column B
- Visible in default view
- Populated from dropdown where Active and Inactive are the list values
- This status describes whether or not the person is active, which will typically mean whether or not they are still employed. If they are Inactive, they are not available as a selection to create a new training record. Statuses can be changed and if a person leaves and then returns to the organization, their status should be changed instead of entering them again as a trainee. The use of this field allows for reporting to distinguish between training that has been conducted over time versus the amount of training provided to the active personnel.

2.2.1.3. Trainee field **Date**

- Located in Column C
- Visible in default view
- Populated from manual entry in date format of MM/DD/YYYY. Dates are restricted to values between 1/1/1970 and 1/1/2030 to reduce the chance of typographical errors. This limit can be changed through the columns data validation.
- This is a date that is associated with the trainee and although its exact meaning is meant to be determined by the user, it will typically either be the date they were added to the Trainee list or the date of their hire. This field is not referenced anywhere else in the application other than the error check for required fields.

2.2.1.4. Trainee field **Shift**

- Located in Column D
- Visible in default view
- Populated from dropdown from data validation with list source =Shifts, where Shifts is the field of that name in the table Shift_list on the Input Tables sheet.

- This is the current shift to which the person is assigned. If the person changes shift, this field should be updated. When a new record is added to the Training Records, this field is capture twice: once as a static value and once as a live reference. This allows reports to be generated which will show how training on various shifts has been conducted over time (static value) and the training composition as it currently stands on each shift (live value).

2.2.1.5. Trainee field **Department**

- Located in Column E
- Visible in default view
- Populated from dropdown from data validation with list source =Department_Name, where Department_Name is the field of that name in the table Departments on the Input Tables sheet.
- This is the department that the person currently works in and if they change departments, this field should be updated. When a new record is added to the Training Records, this field's current value is captured.

2.2.1.6. Trainee field **Job**

- Located in Column F
- Visible in default view
- Populated from dropdown from data validation with list source =INDIRECT(SUBSTITUTE($E2," ","_")), where $E2 represents the value on the current row in Column E (2 will change with the row number of the row selected). This function replaces any spaces in the E2 cell with an underscore. Each value option available in E2 is a named range so that the data validation list options in the dropdown are contingent upon the value selected in E2.
- This is the Job that the person is currently working in and this field should be updated if their job changes. Since Column E is the Department name, the dropdown options become the Jobs associated with Department shown in the table located in BZ:AH on the Input Tables sheet. Please note, named ranges do not accommodate spaces so the substitute command replaces any spaces with _ which allows the Department names in column BZ to contain spaces.

2.2.1.7. Trainee field **Location**

- Located in Column G
- Visible in default view
- Populated from dropdown from data validation with list source =Locations, where Locations is the field of that name in the table Location on the Input Tables sheet.
- This is the location where the person is currently working and if the person changes locations, this field should be updated. If the company only has

one site, then only one value should be entered in the Location table and only one option will be available in this list.

2.2.1.8. Trainee field **Comments**

- Located in Column H
- Visible in default view
- Populated from manual entry as free form text entry. Field may be left blank.
- Any notes that the user desires to have associated with this trainee may be entered here. Field is not referenced anywhere else in application.

2.2.1.9. Trainee field **status_entered**

- Located in Column I
- Hidden in default view
- Populated from equation =IF(AND([@[Trainee_Name]]<>"",[@Status]=""),1,0)
- This is an error check rule that says once a line is entered and a name is added, then the field Status is a required field and cannot be blank. If the rule is violated, then a value of 1 is displayed and the line turns red until all errors are addressed. If the rule is not violated, then a value of 0 is displayed.

2.2.1.10. Trainee field **date_entered**

- Located in Column J
- Hidden in default view
- Populated from equation =IF(AND([@[Trainee_Name]]<>"",[@Date]=""),1,0).
- This is an error check rule that says once a line is entered and a name is added, then the field Date is a required field and cannot be blank. If the rule is violated, then a value of 1 is displayed and the line turns red until all errors are addressed. If the rule is not violated, then a value of 0 is displayed.

2.2.1.11. Trainee field **Format**

- Located in Column K
- Hidden in default view
- Populated from equation =IF(ISERROR(FIND(", ",[@[Trainee_Name]])),1,0)
- This is an error check designed to help enforce the Trainee naming convention of Last Name, First Name. If looks for a comma followed by a space in the Trainee_Name field. If this patterns is not found, then a value of 1 is displayed and the line turns red until all errors are addressed. If the pattern is found, then a value of 0 is displayed.

2.2.1.12. Trainee field **Count**

- Located in Column L
- Hidden in default view
- Populated from equation =IF(COUNTIF([Trainee_Name],[@[Trainee_Name]])<>1,1,0).
- This is an error check that looks for duplicate names and highlights rows where names appear multiple times. If a row is highlighted, it must be either deleted or the name changed. Please note, the rule will not highlight in the case of a person being entered using alternative names (e.g. Smith, Robert and Smith, Bob are considered different names although they could be the same person). The same is true of duplicate entries where one of the entries is misspelled. Alternatively, if there are two trainees with the same name, some method, such as using a middle initial must be used (e.g. Smith, Robert A and Smith, Robert B).

2.2.1.13. Trainee field **no_shift**

- Located in Column M
- Hidden in default view
- Populated from equation =IF([@Shift]="",1,0)
- This is an error check that will highlight the row until the required field shift is entered.

2.2.1.14. Trainee field **no_dept**

- Located in Column N
- Hidden in default view
- Populated from equation =IF(AND([@[Trainee_Name]]<>"",[@Department]=""),1,0)
- This is an error check that will highlight the row until the required field dept is entered.

2.2.1.15. Trainee field **no_job**

- Located in Column O
- Hidden in default view
- Populated from equation =IF(AND([@[Trainee_Name]]<>"",[@Job]=""),1,0)
- This is an error check that will highlight the row until the required field job is entered

2.2.1.16. Trainee field **no_location**

- Located in Column P
- Hidden in default view
- Populated from equation =IF(AND([@[Trainee_Name]]<>"",[@Location]=""),1,0)
- This is an error check that will highlight the row until the required field location is entered.

2.2.1.17. Trainee field **any_error**

- Located in Column Q
- Hidden in default view
- Populated from equation =IF(SUM(Trainee[@[status_entered]:[no_location]])>0,1,0)
- This is the sum of previous error checks and allows for handling of multiple errors. If any of the previous rules are violated, this cell's value is 1 and the corresponding row is red.

Note on error checks: All error checks are set up so that if the rule is violated, the error check cell's value is 1. The any_error field sums the other error checks and returns a 1 if any rule is violated. It is this cell's value that drives the conditional formatting and turns the row red.

2.2.2. Description of table **Managers** (located on Sheet Input Tables in Columns AC:AI)

This table's purpose is to contain the list of manager's names. This allows information to be entered once on this table and then automatically referenced whenever a new training record is added.

2.2.2.1. Managers field **Manager_Name**

- Located in Column AC
- Visible in default view
- Populated from manual entry. Format should be Last Name, First Name
- This is a list of all managers within the organization. This field is referenced on the Training_Records sheet and provides the names for the dropdown wherever the data validation uses the list source Manager_Name, which specifies the manager of the person receiving the training. Names must be entered here before the person can be referenced as a manager on a training record. Using the field allows for tracking of and reporting against managers.

2.2.2.2. Manager field **Date**

- Located in Column AD
- Visible in default view
- Populated from manual entry in date format of MM/DD/YYYY. Dates are restricted to values between 1/1/1970 and 1/1/2030 to reduce the chance of typographical errors. This limit can be changed through the columns data validation.
- This is a date that is associated with the manager and although its exact meaning is meant to be determined by the user, it will typically either be the date they were added to the manager list or the date of they became a manager. This field is not referenced anywhere else in the application other than the error check for required fields.

2.2.2.3. Manager field **Comments**

- Located in Column AE
- Visible in default view
- Populated from manual entry as free form text entry. Field may be left blank.
- Any notes that the user desires to have associated with this trainee may be entered here. Field is not referenced anywhere else in application.

2.2.2.4. Manager field **date_entered**

- Located in Column AF
- Hidden in default view
- Populated from equation =IF(AND([@[Manager_Name]]<>"",[@Date]=""),1,0)
- This is an error check rule that says once a line is entered and a name is added, then the field Date is a required field and cannot be blank. If the rule is violated, then a value of 1 is displayed and the line turns red until all errors are addressed. If the rule is not violated, then a value of 0 is displayed.

2.2.2.5. Manager field **format**

- Located in Column AG
- Hidden in default view
- Populated from equation =IF(ISERROR(FIND(", ",[@[Manager_Name]])),1,0)
- This is an error check designed to help enforce the manager naming convention of Last Name, First Name. If looks for a comma followed by a space in the manager_name field. If this pattern is not found, then a value of 1 is displayed and the line turns red until all errors are addressed. If the pattern is found, then a value of 0 is displayed.

2.2.2.6. Manager field **count**

- Located in Column AH
- Hidden in default view
- Populated from equation =IF(COUNTIF([Manager_Name],[@[Manager_Name]])<>1,1,0)
- This is an error check that looks for duplicate names and highlights rows where names appear multiple times. If a row is highlighted, it must be either deleted or the name changed. Please note, the rule will not highlight in the case of a person being entered using alternative names (e.g. Smith, Robert and Smith, Bob are considered different names although they could be the same person). The same is true of duplicate entries where one of the entries is misspelled. Alternatively, if there are two trainees with the same name, some method, such as using a middle initial must be used (e.g. Smith, Robert A and Smith, Robert B).

2.2.2.7. Manager field **any_error**

- Located in Column AI
- Hidden in default view
- Populated from equation =SUM(Managers[@[date_entered]:[count]])
- This is the sum of previous error checks and allows for handling of multiple errors. If any of the previous rules are violated, this cell's value is 1 and the corresponding row is red.

Note on error checks: All error checks are set up so that if the rule is violated, the error check cell's value is 1. The any_error field sums the other error checks and returns a 1 if any rule is violated. It is this cell's value that drives the conditional formatting and turns the row red.

2.2.3. Description of table **Modules** (located on Sheet 'Input Tables' in Columns 'AU:BK')

The primary purpose of this table is to contain a list of the training modules along with supporting information which is linked to the module names. When a new training record is entered on the Training Records tab and a module is chosen, the additional supporting information is automatically imported. The supporting information includes: module number, module type, revision date, revision number, days that the training is valid for, the process to which the module applies, and the typical department and job of people taking the training.

2.2.3.1. Modules field **Module_Name**

- Located in Column AU
- Visible in default view
- Populated from manual entry and any sting of text/numbers is allowed
- This is the name of the training module. Although any value is allowed, a standardized naming convention will allow for clarity and easier searching.

2.2.3.2. Modules field **Module_Number**

- Located in Column AV
- Visible in default view
- Populated from manual entry. Must be a number between 1000 and 1000000 (this can be changed at the users discretion by updating the data validation and associated error rule check).
- This is the document number associated with the module name. Although any value between 1000 and 1000000 is allowed, thought should be given to the assignment of numbers and if a structure is given to the numbering convention, it will allow for greater clarity and meaning. It is also wise to allow numbering space between existing module number so that if future, new modules are developed, they can be inserted in the correct sequence. For instance, if training is conducted in module number sequence, then it is better to number sequenced modules as 1000 and 1100 (instead of 1000 and 1001) so that if a new module that should be conducted between the two is developed, it can be called 1050.

2.2.3.3. Modules field **Module_Type**

- Located in Column AW
- Visible in default view
- Populated from dropdown from data validation with list source =Module_type_list, where Module_type_list is the field of that name in the table Module_types on the Input Tables sheet.
- The Module_Type is intended to serve as categorical descriptions of the Module_Name. Current options are Skill (something the trainee can do) or Knowledge (something the trainee knows) but this can be tailored to the specific user's needs.

2.2.3.4. Modules field **Date_of_Revision**

- Located in Column AX
- Visible in default view
- Populated from manual entry of date in form MM/DD/YYYY. Values are restricted to 1/1/1950 to 1/1/2050 to help avoid typographical errors. This restricted to range can be changed by the user by updating the data validation.
- This field is used to track the latest revision date for the module and should be updated when the rev is changed.

2.2.3.5. Modules field **Current_Rev_Number**

- Located in Column AY
- Visible in default view
- Populated from manual entry. Any value is allowed but values can be restricted by adding data validation.
- This field is used to track the latest rev and should be changed as updates are made and the rev changed. This field is automatically imported to a new training record when the module name is entered. It is added to the record as both a static and live field, which allows for tracking of both the revision the person was trained to and the current revision. If there is a mismatch between these entries, it indicates that they have not been trained to the latest rev and flags the entry so that their training can be updated. Once the person is trained to the latest rev, the training record must be manually updated to reflect this.

2.2.3.6. Modules field **Days_training_valid_for**

- Located in Column AZ
- Visible in default view
- Populated from manual entry of any number between 0 and 1000000
- This field allows for tracking and recertification of any training that expires, and therefore requiring recertification. When a new training record is entered, the training date is captured and this date is compared to today's date and the Days_training_valid_for value. When this calculation indicates

that the training is expired, the row is highlighted and the flagging cell indicates the reason for the training expiration (either expired due to time passing or expired due to a new rev being used). If the training does not expire, then a large value like 1000000 should be entered.

2.2.3.7. Modules field **Process**

- Located in Column BA
- Visible in default view
- Populated from dropdown from data validation with list source =Process, where Process is the field of that name in the table Processes on the Input Tables sheet.
- This field contains the process to which the training applies.

2.2.3.8. Modules field **Preferred_Module_Department**

- Located in Column BB
- Visible in default view
- Populated from dropdown from data validation with list source =Department_Name, where Department_Name is the field of that name in the table Departments on the Input Tables sheet.
- This field contains the department that the module is normally associated with.

2.2.3.9. Modules field **Preferred_Module_Job**

- Located in Column BC
- Visible in default view
- Populated from dropdown from data validation with list source =INDIRECT(SUBSTITUTE($AL2," ","_")), where $AL2 represents the value on the current row in Column E (2 will change with the row number of the row selected). This function replaces any spaces in the AL2 cell with an underscore. Each value option available in AL2 is a named range so that the data validation list options in the dropdown are contingent upon the value selected in AL2.
- This field contains the job that this modules is normally associated with.

2.2.3.10. Modules field **Review required when this module is completed?**

- Located in Column BD
- Visible in default view
- Populated from dropdown from data validation list with source values of Yes, No
- For companies that tie performance reviews, wage consideration, or promotions to training, this field designates which modules drive this training. When a trainee completes a module that has a “Yes” value for this field, the entry in the training records will turn red and indicated that the review is required. Once the review is completed and the “Review

completed" field in the training records is set to "Yes", then the line will no longer be red.

2.2.3.11. Modules field **Comment**

- Located in Column BE
- Visible in default view
- Populated from manual entry. Not a required field and anything can be entered.
- Any comments that the user desires to have associated with the module entry can be placed here.

2.2.3.12. Modules field **any_blank**

- Located in Column BF
- Hidden in default view
- Populated from equation =IF(AND([@[Module_Name]]<>"",OR([@[Module_Type]]="",[@[Module_Number]]="",[@[Date_of_Revision]]="",[@[Current_Rev_Number]]="",[@[Days_training_valid_for]]="",[@Process]="",[@[Preferred_Module_Department]]="",[@[Preferred_Module_Job]]="",[@[Review required when this module is completed?]]="")),1,0)
- This is an error check that will turn the row red until all the required fields are filled in.

2.2.3.13. Modules field **Date_entered**

- Located in Column BG
- Hidden in default view
- Populated from equation =IF(AND([@[Module_Name]]<>"",[@[Date_of_Revision]]=""),1,0)
- This is an error check that will turn the row red until the revision date is entered.

2.2.3.14. Modules field **any_error**

- Located in Column BH
- Hidden in default view
- Populated from equation =IF(SUM(Modules[@[any_blank]:[Date_entered]],[@[Count digits]],[@[Module_Rev_Expired?]])>0,1,0)
- This fields tests to see if any of the error checks show an error status. If any do, a 1 is displayed and this drives the red row formatting. If there are now errors, a 0 is displayed.

2.2.3.15. Modules field **count digits**

- Located in Column BI
- Hidden in default view

- Populated from equation =IF(LEN([@[Module_Number]])>3,0,1)
- This is an error check that makes sure that any module number contains more than 3 digits.

2.2.3.16. Modules field **Modules_Rev_Days_Valid_for**

- Located in Column BJ
- Visible in default view
- Populated from manual entry. Numerical values between 1 and 1000000000 are allowed.
- This field specifies the number of days that can elapse after the date of revision until the module must be reviewed for accuracy. Once the module becomes invalid and is then reviewed, the date_of_revision should be updated.

2.2.3.17. Modules field **Module_Rev_Expired**

- Located in Column BK
- Hidden in default view
- Populated from equation =IF(TODAY()-[@[Date_of_Revision]]>[@[Module_Rev_Days_Valid_for]],1,0)
- This field compares today's date to the date_of_revision. If the number of days that have passed since the revision date is greater than the Module_Rev_Days_Valid_for, then the equation returns a 1; otherwise it returns a 0. This value ties to the any_error field and turns the row red if too many days have passed. Also, this field links to the training records and all training records that list the expired module will also turn red, and the count of these errors will show up on the dashboard.

2.2.4. Description of table **Certifications** (located on Sheet 'Input Tables' in Columns 'BW:BX')

The purpose of this table is to contain a record of the certification levels and a description of those levels. The certification level attained when a training record is entered is entered by the user and the description of that level is then imported.

2.2.4.1. Certifications field **Certification_Level**

- Located in Column BW
- Visible in default view
- Populated by manual entry and all entries are accepted
- This is a list of the certification levels used by the organization (e.g. 1, 2, 3 or A, B, C or Beginner, Intermediate, Expert)

2.2.4.2. Certifications field **Certification_Level_Description**

- Located in Column BX
- Visible in default view
- Populated by manual entry and all entries are accepted

- This is a description of the corresponding Certification_Level which is meant to convey the meaning or intent of the level.

2.2.5. Description of table **Departments** (located on Sheet 'Input Tables' in Column 'CJ') and associated **Jobs within departments** (located on Sheet 'Input Tables' in Columns 'CK:CR')

The table Department_Name contains a list of the department in which the trainees may work. To the right of each department name is a list of the jobs that people may work in within that department. When a new trainee name is added to the trainee table, their department is then selected. The next selection is their job and the only jobs that will be available to select are those associated with the chosen department.

The Department_Name is typical of this application in that it is both a defined table, and a named range that can be referenced by data validation lists. The Jobs within departments area is different in that it has been formatted to appear like the automatic table formatting for appearance only. It is not actually a table but is a defined range so that if a department is selected from a list, the corresponding jobs will appear in a related list. Special attention should be paid to adding departments and jobs. See workflow for more detail.

2.2.5.1. Department_Name field **Department_Name**

- Located in Column CJ
- Visible in Default view
- Populated by manual entry and all entries are accepted
- This is a list of the department names within the organization.

2.2.5.2. Department_Names associated fields **Jobs within departments**

- Located in Columns CK:CR.
- Visible in default view
- Populated by manual entry and all entries are accepted
- The jobs that exist within each department are located in that department's row in the cells to the right of the department name

Note: Properly defining the Department_Names so that they are available as options in the dropdowns and so that they then reference the Jobs within departments requires special steps. Please see the comment attached to the Jobs within departments header cell for details on this process. More information can also be found in the workflows section.

2.2.6. Description of table **Trainers** (located on Sheet 'Input Tables' in columns 'DD')

The table Trainer contains a list of the approved Trainers at the site. When a new training record is created, the trainer that provided the instruction should be selected. The options that will appear are those that are entered in this list.

2.2.6.1. Trainers field **Trainer**

- Located in Column DD
- Visible in default view
- Populated by manual entry and all entries are accepted

- This is a list of the trainers at the site. There is only one column in this table.

2.2.7. Description of table **Quarterly_designation** (located on Sheet 'Input Tables' in columns 'DP:DU')

The table Quarterly_designation allows the user to specify which months of the year correspond to the organization's fiscal or reporting quarters, which in turn enables reporting based on the quarters.

2.2.7.1. Quarterly_designation field **Month_Num**

- Located in Column DP
- Visible in default view
- Populated through manual entry of numbers.
- This field is numbered 1 through 12 and should not be changed.

2.2.7.2. Quarterly_designation field **Month**

- Located in Column DQ
- Visible in default view
- Populated through manual entry of month names
- This field contains the names of the months and should not be changed.

2.2.7.3. Quarterly_designation field **Quarter**

- Located in Column DR
- Visible in default view
- Populated through manual entry of numbers
- The quarter designation for each month should be entered. There should be values of 1 – 4 for the four quarters and each number should appear 3 times since there are 3 months in each quarter.

2.2.7.4. Quarterly_designation field **count**

- Located in Column DS
- Hidden in default view
- Populated through equation =COUNTIF([Quarter],[@Quarter])
- This is field supports the error check that ensures that each quarter contains exactly 3 months.

2.2.7.5. Quarterly_designation field **max**

- Located in Column DT
- Hidden in default view
- Populated through equation =MAX([count]) (in first row of table only)
- This field checks to see if any quarter has more than 3 months. If this rule is violated, then the header cell for Quarter turns red.

2.2.7.6. Quarterly designation field **min**

- Located in Column DU

- Hidden in default view
- Populated through equation =MIN([count]) (in first row of table only)
- This field checks to see if any quarter has fewer than 3 months. If this rule is violated, then the header cell for Quarter turns red.

2.2.8. Description of table **Shift_list** (located on Sheet 'Input Tables' in Column 'BS')

This table contains the names of the shifts that the trainees work in. This field is referenced in the trainee table to indicate which shift the trainee is working on.

2.2.8.1. Shift_list field **Shifts**

- Located in Column EG
- Visible in default view
- Populated through manual entry and all entries are accepted
- This field contains the names of the shifts that the organization uses

2.2.9. Description of table **Processes** (located on Sheet 'Input Tables' in Columns 'ES:EY')

This table contains the Processes that exist in the organization, which is then referenced in a dropdown in the Modules table. Also, so that the organization can track progress towards their training objectives, the table contains the target number of training modules for each department and calculates the actual number of modules. Error checks exist to ensure the table is completed properly.

2.2.9.1. Processes field **Process**

- Located in Column ES
- Visible in default view
- Populated through manual entry and all entries are accepted
- This field contains the list of Processes that exists within the organization. This list is referenced through a dropdown in the Modules table so that the process to which the module pertains to can be recorded. From the Modules table, the information is imported into the training records table.

2.2.9.2. Processes field **Target_number_of_modules**

- Located in Column ET
- Visible in default view
- Populated through manual entry and values between 1 and 1000 are accepted.
- This field contains the target (or goal) number of modules for the Process, which allows the organization to track progress for training module creation relative to its goals. This number serves as the denominator in the percent_of_target calculation.

2.2.9.3. Processes field **Actual_number_of_modules**

- Located in Column EU
- Visible in default view

- Populated through equation =COUNTIF(Modules[Process],[@Process])
- This field calculates number of modules created for each process by counting the number of times the Process name occurs in the table Modules. This number serves as the numerator in the percent_of_target calculation. **Please note, this field is shaded gray to indicate that it should not be typed over, and that it will automatically calculate. The field is not protected and can be overwritten. If the field is accidentally overwritten, it can be corrected by copying the equation from a cell above or below the edited one. If the entire column is accidentally edited, then the equation can be replaced by copying and pasting the equation shown in the previous bullet.**

2.2.9.4. Processes field **Percent_of_target**

- Located in Column EV
- Visible in default view
- Populated through equation =IFERROR(([@[Actual_number_of_modules]]/[@[Target_number_of_modules]])*100,0)
- This field calculates the actual number of modules as a percent of the target. The error statement in the equation is there to account for processes with no created modules and returns a 0 in this instance. **Please note, this field is shaded gray to indicate that it should not be typed over, and that it will automatically calculate. The field is not protected and can be overwritten. If the field is accidentally overwritten, it can be corrected by copying the equation from a cell above or below the edited one. If the entire column is accidentally edited, then the equation can be replaced by copying and pasting the equation shown in the previous bullet.**

2.2.9.5. Processes field **any_blank**

- Located in Column EW
- Hidden in default view
- Populated through equation =IF(AND([@Process]<>"",OR([@[Target_number_of_modules]]="",[@[Actual_number_of_modules]]="",[@[Percent_of_target]]="")),1,0)
- This is an error check that will turn the row red until if any of the required fields are blank.

2.2.9.6. Processes field **duplicate**

- Located in Column EX
- Hidden in default view
- Populated through equation =IF(COUNTIF(Process,[@Process])>1,1,0)
- This is an error check that will turn a row red if the Process name has been entered more than once. Please be aware that if alternative names for the same process is used, the error check cannot detect this.

2.2.9.7. Processes field **anyerror**

- Located in Column EY
- Hidden in default view
- Populated through equation =IF(SUM(Processes[@[any_blank]:[duplicate]])>0,1,0)
- This field checks to see if either of the other two error checks are violated and turns the row red if one of the violations exists.

2.2.10. Description of table **Sign_offs** (located on Sheet 'Input Tables' in Column 'FK)

This table contains the list of people approved to sign off, or approve as complete, the training of a person on a module. This list hear supplies the names available for selection in the Module Sign Off field when a new training record is added.

2.2.10.1. Sign_offs field **Module_Sign_Off**

- Located in Column FK
- Visible in default view
- Populated through manual entry. Any value is accepted.
- This field supplies the names available for selection in the Module Sign Off field when a new training record is added.

2.2.11. Description of table **Staffing** (located on Sheet 'Input Tables' in Columns 'FW:GD')

This table contains the organization's staffing target by Department and Job so that progress towards their staffing objectives can be tracked. The user enters the staffing targets and the table automatically calculates the actual staffing by counting the entries in the Trainee table. Error checks exist to ensure the table is completed properly. Only jobs which have a staffing target need to be entered here since the table serves no other purpose.

2.2.11.1. Staffing field **Department Name**

- Located in Column FW
- Visible in default view
- Populated from dropdown from data validation with list source =Department_Name, where Department_Name is the field of that name in the table Departments on the Input Tables sheet.
- This field allows the user to select the department name to which a staffing target applies. Once a department name is chosen, a job from within that department must be selected.

2.2.11.2. Staffing field **Job**

- Located in Column FX
- Visible in default view
- Populated through dropdown from indirect range reference =INDIRECT(SUBSTITUTE($CF3," ","_"))

- This field allows the user to select a job from within a chosen department to which a staffing target applies.

2.2.11.3. Staffing field **Staffing_Target**

- Located in Column FY
- Visible in default view
- Populated through manual entry. Whole numbers ranging from 1 to 1000 are accepted.
- This is the target staffing number for this Department and Job combination and is used as the denominator in the percent_of_target calculation.

2.2.11.4. Staffing field **Number_in_job**

- Located in Column FZ
- Visible in default view
- Populated through equation =COUNTIFS(Trainee[Job],[@Job],Trainee[Department],[@[Department Name]])
- This field calculates number of people in the selected Department and Job combination. It does this by counting the number of times this combination occurs in the Trainee table. This number serves as the numerator in the percent_of_target calculation. **Please note, this field is shaded gray to indicate that it should not be typed over, and that it will automatically calculate. The field is not protected and can be overwritten. If the field is accidentally overwritten, it can be corrected by copying the equation from a cell above or below the edited one. If the entire column is accidentally edited, then the equation can be replaced by copying and pasting the equation shown in the previous bullet.**

2.2.11.5. Staffing field **Percent_of_target**

- Located in Column GA
- Visible in default view
- Populated through equation =IFERROR(+([@[Number_in_job]]/[@[Staffing_Target]])*100,0)
- This field calculates the actual staffing as a percent of the target. The error statement in the equation is there to account for process/job combinations with no staffing and returns a 0 in this instance. **Please note, this field is shaded gray to indicate that it should not be typed over, and that it will automatically calculate. The field is not protected and can be overwritten. If the field is accidentally overwritten, it can be corrected by copying the equation from a cell above or below the edited one. If the entire column is accidentally edited, then the equation can be replaced by copying and pasting the equation shown in the previous bullet.**

2.2.11.6. Staffing field **any_blank**

- Located in Column GB
- Hidden in default view
- Populated through equation =IF(AND([@[Department Name]]<>"",OR([@Job]="",[@[Staffing_Target]]="",[@[Number_in_job]]="",[@[Percent_of_target]]="")),1,0)
- This is an error check that will turn the row red until if any of the required fields are blank.

2.2.11.7. Staffing field **duplicate**

- Located in Column GC
- Hidden in default view
- Populated through equation =IF(COUNTIFS([Department Name],[@[Department Name]],[Job],[@Job])>1,1,0)
- This is an error check that will turn the row red if a Department and Job combination is entered more than once.

2.2.11.8. Staffing field **anyerror**

- Located in Column GD
- Hidden in default view
- Populated through equation =IF(SUM(Staffing[@[any_blank]:[duplicate]])>0,1,0)
- This field checks to see if either of the other two error checks are violated and turns the row red if one of the violations exists.

2.2.12. Description of table **Location** (located on Sheet 'Input Tables' in Columns 'GP')

For organizations with more than one location, the site names can be entered here. This field is referenced through a dropdown on the Trainee table to assign people to locations. Once the information is entered on the Trainee table, it is automatically imported when a new training record is created and the trainee chosen. If a person switches locations, their information in the trainee table should be updated. All training records will update if the person's location is changed.

2.2.12.1. Location field **Locations**

- Located in Column GP
- Visible in default view
- Populated through manual entry. All entries are accepted.
- This field contains the list of locations within the organization

2.2.13. Description of table **Module_types** (located on Sheet 'Input Tables' in Column HB)

This table contains the list of Module_types that are used to categorize the modules into groups such as Skill or Knowledge, or the user may prefer a system categorizing the modules like Preventative Maintenance, Quality, Startup, Operation, etc. The exact meaning of module type is up to the user.

2.2.13.1. Module_types field **Module_type_list**

- Located in Column HB
- Visible in default view
- Populated through manual entry. All entries are accepted.
- This field contains the list of module types

2.2.14. Description of table **training** (located on Sheet 'Training Records' in Columns 'A:BD')

This table contains the history of the training that has taken place. Each row is a record of the training that a person has received, other related information, and a set of error checks to ensure that the record has been completed correctly. If the record isn't completely filled out, the line will remain red until the correction is made.

There are also checks that ensure that the records are kept up to date by notifying the user if a recertification needs to occur due to elapsed time or due to a new revision of the training module being created. It also notifies the user if the trainee has completed a module that is used to trigger an employee review. If one of these situations occurs, then the line and the header will turn red until the situation is remedied.

Fields are typically filled in by selecting a value from a dropdown or automatically by looking up information based on previously completed fields. The comment field is the only manually entered, free-form field where any information can be entered without restriction.

2.2.14.1. Training field **Trainee Name**

- Located in Column A
- Visible in default view
- Populated through dropdown from range =active_trainees. Active_trainees is a named range that does not appear on any sheet. It is automatically created from the list of trainee names and their Active or Inactive Status. It does this by displaying a number of trainee names equal to the count of Actives statuses. For this to work properly, the 'Sort and Save' macro button must be ran after updating the Trainee table. This macro also automatically runs whenever the file is saved. The function for the active_trainees field is =OFFSET(Trainee[[#Headers],[Trainee_Name]],1,0,COUNTIF(Trainee[Status], "Active"),1)
- This field contains the name of the trainee that received the training for this record.

2.2.14.2. Training field **Manager Name**

- Located in Column B
- Hidden in default view. This field is hidden as of this version because it isn't currently needed but was created for users that do want to track trainee's managers. In order to make this a functioning field, just remove its column from the macro attached to the 'Display Default Columns' button and add it to the any_blank error check column.

- Populated from dropdown from data validation with list source =Manager_Name, where Manager_Name is the field of that name in the table Managers on the Input Tables sheet.
- This field contains the name of the manager that the trainee reports to. This field allows the user to track training progress and sort records by manager.

2.2.14.3. Training field **Department**

- Located in Column C
- Visible in default view
- Populated through equation =VLOOKUP([@[Trainee Name]],Trainee[[Trainee_Name]:[Comments]],5,FALSE). This equation imports the department that the trainee works in at the time the training takes place. If the trainee changes departments and their information is updated in the trainee table, only new records will show the update.
- This is the department that the trainee works in at the time of the training. This field allows the user to track training progress and sort records by department.

2.2.14.4. Training field **Job**

- Located in Column D
- Visible in default view
- Populated through equation =VLOOKUP([@[Trainee Name]],Trainee[[Trainee_Name]:[Comments]],6,FALSE). This equation imports the job that the trainee works in at the time the training takes place. If the trainee changes jobs and their information is updated in the trainee table, only new records will show the update.
- This is the job that the trainee works in at the time of the training. This field allows the user to track training progress and sort records by job.

2.2.14.5. Training field **Module Name**

- Located in Column E
- Visible in default view
- Populated from dropdown from data validation with list source =Module_Name, where Module_Name is the field of that name in the table Modules on the Input Tables sheet.
- This is the Module Name that the person was trained on and that this record pertains to.

2.2.14.6. Training field **Module Number**

- Located in Column F
- Visible in default view
- Populated through equation =VLOOKUP([@[Module Name]],Modules[[Module_Name]:[Comment]],2,FALSE). This equation

looks up the Module Number from the Modules table once the Module Name is entered.
- This is the Module Number that is associated with the Module Name.

2.2.14.7. Training field **Module Type**
- Located in Column G
- Visible in default view
- Populated through equation =VLOOKUP([Module Name],Modules[[#All],[Module_Name]:[Comment]],3,FALSE). This function looks up the Module Type from the Modules table once the Module Name is entered.
- This field allows the user to categorize the training modules with descriptions such as Skill or Knowledge.

2.2.14.8. Training field **Module Rev Used for Training**
- Located in Column H
- Visible in default view
- Populated through equation =VLOOKUP([@[Module Name]],Modules[[Module_Name]:[Comment]],5,FALSE). This function looks up the Module Rev Used for Training from the Modules table once the Module Name is entered. If the person is retrained on a later rev, **the sheet should be Unprotected and the field updated with the new revision. A new record should not be entered in this instance.**
- This field captures the rev used when the training was given and allows the application to compare the value to the revision shown in the Modules table. If a mismatch is found, the line and the sheet header will turn red indicating that the person's training needs to be updated to the current rev. Once the training is updated, this field should be manually updated by Unprotecting the sheet and updating this field to the current rev. Do not enter a new record for a module rev update.

2.2.14.9. Training field **Certifcation Level**
- Located in Column I
- Visible in default view
- Populated from dropdown from data validation with list source =Certification_Level, where Certification_Level is the field of that name in the table Certifications on the Input Tables sheet.
- This field allows the user to describe the expertise that the trainee has achieved on this module.

2.2.14.10. Training field **Certification Level Description**
- Located in Column J
- Visible in default view

- Populated through =VLOOKUP([Certification Level],Certifications[#All],2,FALSE). This function looks up the description once the Certification Level is entered.
- This field displays the verbal description of the Certification Level.

2.2.14.11. Training field **Trainer**

- Located in Column K
- Visible in default view
- Populated from dropdown from data validation with list source =Trainer, where Trainer is the field of that name in the table Trainers on the Input Tables sheet.
- This field allows the user to capture the trainer that oversaw the training of this person on this module.

2.2.14.12. Training field **Training Time**

- Located in Column L
- Visible in default view
- Populated through manual entry of a numerical value between 0 and 1000. These limits can the changed by highlighting all completed rows for this field and entering new data validation limits.
- This field captures the training time that the person completed towards certification in this module.

2.2.14.13. Training field **Solo Practice Time**

- Located in Column M
- Hidden in default view. This field is hidden as of this version but was created for organizations that find this important. In order to make this a functioning field, just remove its column from the macro attached to the 'Display Default Columns' button and add it to the any_blank error check column.
- Populated through manual entry of a numerical value between 0 and 1000. These limits can the changed by highlighting all completed rows for this field and entering new data validation limits.
- This field captures the practice time that the person completed towards certification in this module.

2.2.14.14. Training field **Total Time**

- Located in Column N
- Hidden in default view. This field is hidden as of this version but was created for organizations that find this important. In order to make this a functioning field, just remove its column from the macro attached to the 'Display Default Columns' button and add it to the any_blank error check column.

- Populated through equation =+[@[Training Time]]+[@[Solo Practice Time]]. This equation sums the training and practice times for a total value.
- This field captures the total time that the person completed towards certification in this module.

2.2.14.15. Training field **Module Sign Off**

- Located in Column O
- Visible in default view
- Populated from dropdown from data validation with list source =Module_Sign_Off, where Module_Sign_Off is the field of that name in the table Sign_offs on the Input Tables sheet.
- This field captures the person that verifies that the trainee has met the qualifications for certification on this module at the level shown.

2.2.14.16. Training field **Entry Date**

- Located in Column P
- Visible in default view
- Populated through equation =today(). When a new row is added, the macro captures today's date through this function and then saves the date as a value. Although this date is entered by code, it may need to be modified so the date is restricted to values between 1/1/1970 and 1/1/2030 to reduce the chance of typographical errors. This limit can be changed through the columns data validation.
- This field captures the date when the record is created. If the person is recertified on this module because of a rev update or because of retraining due to a time-based expiration, then this field will need to be manually updated when the recertification occurs. To do this, just use the button to unprotect the sheet, manually enter the new training date, and protect the sheet.

2.2.14.17. Training field **Comments**

- Located in Column Q
- Visible in default view
- Populated through manual entry. All entries are accepted.
- This field captures any additional information that the user wishes to have associated with this record.

2.2.14.18. Training field **Status**

- Located in Column Q
- Visible in default view
- Populated through equation =VLOOKUP([@[Trainee Name]],Trainee[[#All],[Trainee_Name]:[Comments]],2,FALSE). This function looks up whether the person is of Active or Inactive status from the Trainee

table. This equation remains live and old records will update if the status is changed.

- This field allows the user to distinguish between all training conducted and the training that only people currently in the organization have received.

2.2.14.19. Training field **Shift when trained**

- Located in Column S
- Visible in default view
- Populated through equation =VLOOKUP([@[Trainee Name]],Trainee[[#All],[Trainee_Name]:[Comments]],4,FALSE). This equation looks up the shift assigned to the trainee at the time of the training. This value is static once the entry is made and does not change if their shift changes.
- This field shows the shift of the trainee at the time the training was received.

2.2.14.20. Training field **Recertification Needed**

- Located in Column T
- Visible in default view
- Populated through equation =IF([@[Was the most recent rev used]]>0,"Trained to Old Rev",IF([@[Expired Training]]>0,"Certification Expired","")).
- Recertification is needed if either the training is expired due to the number of days since the training was received or if the person was not trained to the most recent revision. These two situations are looked for separately in the next two fields (field names 'Was the most recent rev used' and 'Expired Training'). This field returns a text description of the particular situation causing the need for recertification. If both rules are violated, only 'Trained to old rev' is displayed. Also, if these rules are violated then both the line and the header will turn red, and the number of expired certifications will be displayed in Cell B1 on the Dashboard sheet.

2.2.14.21. Training field **Was the most recent rev used**

- Located in Column U
- Hidden in default view
- Populated through equation =IFERROR((IF([@[Module Rev Used for Training]]=VLOOKUP([@[Module Name]],Modules[[Module_Name]:[Comment]],5,FALSE),0,1))*[@[Status_Active=1]],0)
- This field determines if the most recent rev was used by comparing the revision found when the record was created to the current rev in the modules table and it does this through two steps. First, if the two records match, a 0 is returned but if they don't, then a 1 is returned. Second, the function checks to see if the person shown in the line is active and returns a

1 if they are active and a 0 if they are not. Then the product of these two steps is taken so that a 1 is returned if the person is active and the rev is not current; otherwise, a 0 is returned. If a 1 is returned, the line turns red, the header turns red, and the previous cell returns the message "Trained to Old Rev". The error statement at the beginning of the function is there to prevent false 1's (error flags) prior to the entering all of the required preceding information.

2.2.14.22. Training field **Expired Training**

- Located in Column V
- Hidden in default view
- Populated through equation =IFERROR((IF(TODAY()-[@[Entry Date]]>VLOOKUP([@[Module Name]],Modules[[Module_Name]:[Comment]],6,FALSE),1,0))*[@[Status_Active=1]],0).
- This field determines if the training is expired due to the number of days that have elapsed since the training record was entered. The first steps is to determine the elapsed number of days by subtracting today's date from the date recorded when the training was given. Second, it looks up the days_training_valid_for from the Modules table. If the elapsed days is greater than the days_training_valid_for, then the function determines that the training is expired and returns a value of 1. The error statement at the beginning of the function is there to prevent false 1's (error flags) prior to the entering all of the required preceding information.

2.2.14.23. Training field **any_blank**

- Located in Column W
- Hidden in default view
- Populated through equation =IF(AND([@[Trainee Name]]<>"",OR([@[Module Name]]="",[@[Module Type]]="",[@[Certification Level]]="",[@[Certification Level Description]]="",[@Trainer]="",[@[Training Time]]="",[@[Module Sign Off]]="")),1,0).
- This field tests to see if any of the required fields in this row are blank and turns the line red until all required fields have an entry. The required fields are shown in the equation.

2.2.14.24. Training field **anyblankerror**

- Located in Column X
- Hidden in default view
- Populated through equation =IF(ISERROR([@[any_blank]]),1,IF([@[any_blank]]=1,1,0))
- This field adjusts the any_blank field for situations where required fields return an error statement (#N/A) due to missing information on the Input

Tables sheet. If an error is returned, the statement turns this into a 1. If no error is found, this function returns the 1 or 0 value from the any_blank field. This field is actual field that drives the red line color for missing information.

2.2.14.25. Training field **year**

- Located in Column Y
- Hidden in default view
- Populated through equation =YEAR([@[Entry Date]]). This function uses the year command to determine the year of the entry date. A 4 digit year number is returned.
- The year is determined to aid in reporting of the training data. The year equation is kept live, meaning that it is not stored as a value but always calculates the year from the date so that if the date is updated due to recertification, the year is kept current.

2.2.14.26. Training field **month**

- Located in Column Z
- Hidden in default view
- Populated through equation =MONTH([@[Entry Date]]). This function uses the month command to determine the month of the year of the entry date. A value of 1 – 12 is returned.
- The month is determined to aid in reporting of the training data. The year equation is kept live, meaning that it is not stored as a value but always calculates the year from the date so that if the date is updated due to recertification, the month is kept current.

2.2.14.27. Training field **week**

- Located in Column Z
- Hidden in default view
- Populated through equation =WEEKNUM([@[Entry Date]]). This function uses the weeknum command to determine the week of the year of the entry date. A value of 1 – 53 is returned.
- The week is determined to aid in reporting of the training data. The week equation is kept live, meaning that it is not stored as a value but always calculates the week from the date so that if the date is updated due to recertification, the week is kept current.

2.2.14.28. Training field **quarter**

- Located in Column AB
- Hidden in default view
- Populated through equation =VLOOKUP([@month],Quarterly_Designation[#All],3,FALSE). This function

looks up the previously calculated month in the Quarterly_Designation table and returns the associated quarter.

- The quarter is determined to aid in reporting of the training data. The quarter equation is kept live, meaning that it is not stored as a value but always calculates the quarter from the date so that if the date is updated due to recertification, the quarter is kept current.

2.2.14.29. Training field **year-month**

- Located in Column AC
- Hidden in default view
- Populated through equation =IF([@month]<10,[@year]&" - "&0&[@month],[@year]&" - "&[@month]). This function concatenates the year and month into a single text string for reporting purposes. This allows reports to distinguish between entries of the same month on different years. The if statement adds a 0 in front of the month numbers 1-9, which allows Excel to properly sort the data (otherwise month 1 would be followed by month 10, 11, and 12 instead of 2).
- The field is used by reports on the dashboard to track certification progress over time on a monthly basis.

2.2.14.30. Training field **year-week**

- Located in Column AD
- Hidden in default view
- Populated through equation =IF([@week]<10,[@year]&" - "&0&[@week],[@year]&" - "&[@week]). This function concatenates the year and week into a single text string for reporting purposes. This allows reports to distinguish between entries of the same week on different years. The if statement adds a 0 in front of the week numbers 1-9, which allows Excel to properly sort the data (otherwise week 1 would be followed by weeks 10 - 19 instead of 2).
- The field is used by reports on the dashboard to track certification progress over time on a weekly basis.

2.2.14.31. Training field **year-quarter**

- Located in Column AE
- Hidden in default view
- Populated through equation =[@year]&" - "&[@Quarter]. This function concatenates the year and quarter into a single text string for reporting purposes. This allows reports to distinguish between entries of the same quarter on different years.
- The field is used by reports on the dashboard to track certification progress over time on a quarterly basis.

2.2.14.32. Training field **Status_Active=1**

- Located in Column AF
- Hidden in default view
- Populated through equation =IF([@Status]="Active",1,0). This function translates the trainee's status into a numerical value: 1 if Active and 0 if Inactive. This field is live so that if the trainee's status changes, the value is updated to reflect current information.
- This field is used in certain scenarios to ensure that calculations only apply to Active personnel. The 0 value is used in the calculation to translate a calculated value to 0 for inactive trainees.

2.2.14.33. Name field **duplicate record**

- Located in Column AG
- Hidden in default view
- Populated through equation =IF(COUNTIFS([Trainee Name],[@[Trainee Name]],[Module Name],[@[Module Name]])>1,1,0). Calculates the number of times a Trainee Name / Module Name combination appears in the training records and returns a 1 if this value is greater than 1.
- This field is used to flag duplicate entries. Any time this info combination is entered more than once, all duplicated rows and the header will turn red. The number of duplicate entries will also be displayed on the 'Dashboard' sheet in cell 'B2'.

2.2.14.34. Training field **any error**

- Located in Column AH
- Hidden in default view
- Populated through equation =IF(ISERROR([@[Review flag]]),1,SUM([@anyblankerror],[@[duplicate record]],[@[Review flag]],[@[expired or old rev]],[@[Is the module revision expired?]])). This function checks all of the various error checking fields and returns a 1 if any detects an error and a 0 if no error is found.
- If a value of 1 is found in this field, the line turns red until all errors are cleared. This is the field that is actually used in the conditional formatting rule.

2.2.14.35. Training field **Process**

- Located in Column AI
- Visible in default view
- Populated through equation =VLOOKUP([@[Module Name]],Modules[[Module_Name]:[Comment]],7,FALSE). This function finds the Module Name in the training record, then looks up that name in the Modules table and returns the associated Process. This equation is live so that if the process is changed in the Modules table, all training records will be updated.

- This field allows tracks the processes associated with Modules to be tracked and allows the user to create dashboard reports based on this information. It is also used in the 'Modules Received and Needed' report so that the user can specify the process and determine the Modules that a person has been trained on for the given process.

2.2.14.36. Name field **Trainee_Name_Duplicate**

- Located in Column AJ
- Hidden in default view
- Populated through equation =+[@[Trainee Name]]. This field duplicates the Trainee Name found in Column A of the Training table. This function is live so that if the Trainee Name is entered incorrectly and later corrected, the field will reflect the updated info.
- Certain reports use a vlookup command that requires that the Trainee Name be found to the right of the value being looked up in order to return the Trainee Name. This fields accomplishes this.

2.2.14.37. Training field **Shift current**

- Located in Column AK
- Visible in default view
- Populated through equation =VLOOKUP([@[Trainee Name]],Trainee[[Trainee_Name]:[Comments]],4,FALSE). This function looks up the Trainee Name from the Trainee table and returns the shift to which they are currently assigned.
- Whereas the field 'shift when trained' is a static field that is locked once the training record is saved (an automatic process when a new training record is entered), this field records the information in a live format so that the trainee's current shift is always displayed. This allows the user to create reports reflecting both the training that has taken place on a given shift and also the training composition of a shift at any point in time.

2.2.14.38. Training field **Review Required**

- Located in Column AL
- Visible in default view
- Populated through equation =VLOOKUP([@[Module Name]],Modules[[Module_Name]:[Comment]],10,FALSE). This function looks up the module name from the training record and returns the 'Review required when this module completed?' value from the Modules table.
- This field contains a Yes or No value indicating whether or not a performance review is required due to the completion of this module. If this fields value is Yes and the Review Completed field's value is No, then the line and the header will turn red until the Review Completed value is changed to Yes after the review is conducted.

2.2.14.39. Training field **Review Completed**

- Located in Column AM
- Visible in default view
- Populated from dropdown from data validation with list source values of No, Yes. A default value of No is entered when the record is created.
- This field contains whether or not a performance review was conducted due to the completion of this module. If this fields value is No and the Review Required field's value is No, then the line and the header will turn red until the this field's value is changed to Yes after the review is conducted. Once a review is completed, the default No value should be changed to Yes by Unprotecting the sheet and selecting Yes in the dropdown for this field in the desired row.

2.2.14.40. Training field **Review Flag**

- Located in Column AN
- Hidden in default view
- Populated through equation =IFERROR(IF(AND([@[Review Required]]="Yes",[@[Review Completed]]="No"),1,0),0). This function compares the entries in the Review Required and Review Completed fields and if Review Required value is Yes and the Review Completed value is No, then a 1 is returned, indicating a required review has not been conducted.
- If the Review Required field returns a Yes value and this field contains a No value, then the Review Flag value is a 1, which will turn the line and header red indicating that this person needs to receive a performance review. Once the review is complete, the 'Review Completed' can be changed to Yes, and the line and header will no longer be red. The iferror statement prevents false 1s from being determined prior to all necessary information being entered.

2.2.14.41. Training field **nameyearweek**

- Located in Column AN
- Hidden in default view
- Populated through equation =[@[Trainee Name]]&[@year]&[@week]. This function concatenates the Trainee Name, year of the entry date, and the week of the entry date into a single text string.
- One of the initial specifications was to be able to report on the number of people that had received training during a given week. This concatenated value is part of the calculation.

2.2.14.42. Training field **desired week**

- Located in Column AP
- Hidden in default view
- Populated through equation =IF([@[year - week]]=Dashboard!$U$24,1,0). This function compares the week of the date of entry for the line to the

value in Cell U24 on the Dashboard sheet. If the values match, then the function returns a 1 and a 0 otherwise.

- One of the desired metrics was to know how many modules had people been trained on during the last week. For this calculation, it was necessary to know if a training module occurred during the previous calendar week. On the dashboard, cell U20 calculates today's date and from that, the current week is determined. From that value, the previous week is determined in Cell U24, which is used in this equation.

2.2.14.43. Training field **desired week**

- Located in Column AP
- Hidden in default view
- Populated through equation =IF([@[year - week]]=Dashboard!$U$24,1,0). This function checks to see if the year – week value based on the line's entry date matches with the previous calendar week. If it does then a 1 is returned and if not, a 0 is returned.
- For reports showing what activities happened during the past week, this function translates the week of interest (the previous week) into a numerical value that can be used in subsequent calculations.

2.2.14.44. Training field **first entry**

- Located in Column AQ
- Hidden in default view
- Populated through equation =IF(COUNTIF($AO$2:AO2,[@nameyearweek])=1,1,0)method. This function is set up differently than most in this application in that it uses the cell references $AO$2:AO2 instead of the table field name. This equation is entered by a macro into the first line and then copied and pasted to the end of the table. Doing this indexes the second AO2 reference so that the row reference is always to the current row. This allows the equation to find the first entry of each nameyearweek value no matter the order of the sequence.
- In order to report on the number of people that had received training during a given week, this function was created. By identifying the first entry of a name on each week, you find each person that was trained without counting people that were trained on multiple modules during a week multiple times. This value could be summed per week to show the unique people trained each week.

2.2.14.45. Training field **week and first entry**

- Located in Column AR
- Hidden in default view
- Populated through equation =+[@[desired week]]*[@[first entry]]. This function multiplies the 1 or 0 values in these fields so that a 1 is returned

only if the line represents the first entry of a name on a given week and the week is the one of interest (the previous week).

- Summing this column will give the total number of unique person's trained on the previous week.

2.2.14.46. Training field **expired or old rev**

- Located in Column AS
- Hidden in default view
- Populated through equation =IF(SUM(training[@[Was the most recent rev used]:[Expired Training]])>0,1,0). This function sums the 1 and 0 values in the error checks looking for conditions where people need recertification due to the time elapsed since training or due to being trained to old revisions. If either of these conditions is met, then a value of 1 is returned; otherwise, a 0 is returned.
- This field is used in three ways. First, it is used in the conditional formatting for the row through the 'any error' field. Second, it is used in the expired certification calculations on the dashboard (currently cells B1 and U32. Third, it is used in the Training Records header conditional formatting which is tied to the dashboard values.

2.2.14.47. Training field **days when trained**

- Located in Column AT
- Hidden in default view
- Populated through equation =IF([@[Shift when trained]]='Input Tables'!$BS$3,1,0). This function compares the 'shift when trained' value to the shift shown in cell BS3 in the shift_list table on the Input Tables sheet. If the values match, then a 1 is returned and a 0 otherwise. The header is titled 'days when trained' because table headers cannot use a variable name and the current value of BS3 is days. If the shift list value for this cell is changed, the header can be changed if desired for clarity; reporting will still function properly even if the header is not changed. If the header name is changed, all macro code references to this field name must also be changed to the new header name.
- By converting the shift name to a numerical value, reports and calculations can more easily be made specific to this shift. Specifically, the shift specific reporting on the dashboard utilizes information contingent on this field.

2.2.14.48. Training field **nights when trained**

- Located in Column AU
- Hidden in default view
- Populated through equation =IF([@[Shift when trained]]='Input Tables'!$BS$4,1,0). See 'days when trained' for analogous information.
- See 'days when trained' for analogous information.

2.2.14.49. Training field **weekends when trained**
- Located in Column AV
- Hidden in default view
- Populated through equation =IF([@[Shift when trained]]='Input Tables'!$BS$5,1,0). See 'days when trained' for analogous information.
- See 'days when trained' for analogous information.

2.2.14.50. Training field **week and first entry and days**
- Located in Column AW
- Hidden in default view
- Populated through equation =IFERROR(+[@[days when trained]]*[@[week and first entry]],0). This function multiplies the 1 or 0 values from 'days when trained' by 'week and first entry' to return a 1 if the row's values are days, the week of interest, and the first entry for the person during that week. The iferror statement is there to handle situations where not all information is yet entered.
- This field is used for reporting and allows tracking of the number of unique person's trained during a week by shift.

2.2.14.51. Training field **week and first entry and nights**
- Located in Column AX
- Hidden in default view
- Populated through equation =IFERROR([@[nights when trained]]*[@[week and first entry]],0). See 'week and first entry and days' for analogous information.
- See 'week and first entry and days' for analogous information.

2.2.14.52. Training field **week and first entry and weekend**
- Located in Column AY
- Hidden in default view
- Populated through equation =IFERROR([@[weekends when trained]]*[@[week and first entry]],0). See week and first entry and days for analogous information.
- See week and first entry and days for analogous information.

2.2.14.53. Training field **desired week and days**
- Located in Column AZ
- Hidden in default view
- Populated through equation =IFERROR([@[days when trained]]*[@[desired week]],0). This function multiplies the two fields' shown 1 or 0 value to generate a 1 if the line contains days in the 'shift when trained' field and the week of entry matches the week desired in cell U24 on the dashboard (the previous calendar week). The iferror statement is there to handle situations where not all information is yet entered. The header is titled 'desired week

and days' because table headers cannot use a variable name and the current value of BS3 is days. If the shift list value for this cell is changed, the header can be changed if desired for clarity; reporting will still function properly even if the header is not changed. If the header name is changed, all macro code references to this field name must also be changed to the new header name.

- This field exists to allow reporting on the number of modules people were trained on during the previous week for the day shift.

2.2.14.54. Training field **desired week and nights**

- Located in Column BA
- Hidden in default view
- Populated through equation =IFERROR([@[nights when trained]]*[@[desired week]],0). See 'desired week and days' for analogous information.
- See 'desired week and days' for analogous information.

2.2.14.55. Training field **desired week and weekend**

- Located in Column BB
- Hidden in default view
- Populated through equation =IFERROR([@[weekends when trained]]*[@[desired week]],0). See 'desired week and days' for analogous information.
- See 'desired week and days' for analogous information.

2.2.14.56. Training field **Location**

- Located in Column BC
- Visible in default view
- Populated through equation =VLOOKUP([@[Trainee Name]],Trainee,7,FALSE). This function looks up the trainee name in the Trainee table in the Input Tables sheet and returns the shift to which the person is assigned. This function is live so that if the person changes shift and their information is updated in the Trainee table, all entered rows will update.
- This field is there to allow reporting and tracking of the location at which the person works. If the organization only has one location, then only one value should be entered into the Locations table and that value used for all entries.

2.2.14.57. Training field **Is the module revision expired?**

- Located in Column BD
- Hidden in default view
- Populated through equation =IFERROR(VLOOKUP([@[Module Name]],Modules,17,FALSE),0)

- This field returns the value from the module's corresponding value in the module table's field Module_Rev_Expired? This allows the flag for an expired module to appear on both the module table and on the training record table.

2.3. Dashboard

2.3.1. Description

The dashboard is a visual, graphical, and numerical summary that displays the metrics that the organization finds important to managing its training activities. The graphical summary is located on the left side of the worksheet while the calculations and pivot tables that support the graphs are on the right. The discussion below pertains to the dashboard as of this version but part of the advantage of using Excel is that many users with a basic understanding of charting and pivot charts can create their own custom reports to display what they view as important. Additional charts can be created on this sheet or on a new sheet that the user adds.

2.3.2. Macro Buttons

Macro Buttons and controls that are embedded into the sheet. When these are clicked, they execute code to accomplish a task.

2.3.2.1. Button: Update Charts and Tables with New Records Data

- Appearance:

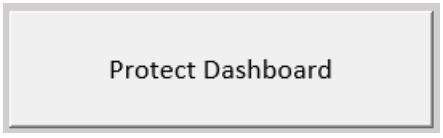
- Function: This button simplifies the process of displaying new data in the Pivot Charts. As a habit, this button should be clicked each time the dashboard is reviewed to ensure that the most up-to-date data is displayed.

  Pivot tables and charts do not update automatically and if new data is added, the Pivot Table Refresh tool needs to be used to display new data. Further complicating this process is that sheets with password protection must be unprotected prior to updating the charts. Also, if a filter is applied to the source data, then any data filtered out will not be captured by the pivot table or chart. The assigned macro removes password protection, removes any filters on the source data, refreshes the tables and charts, and re-establishes password protection.

- Macro assigned: m17_refresh

2.3.2.2. Button: Protect Dashboard

- Appearance:



- Function: This button password protects the Dashboard sheet. Using this button ensures that the correct password (the one established in the code) is implemented. See section "Changing Passwords" for more information.

- Macro assigned: m24_password_dashboard

2.3.2.3. Button: Unprotect Dashboard

- Appearance:

- Function: This button opens the dialog box where the user can enter the sheet's password to unprotect the sheet.

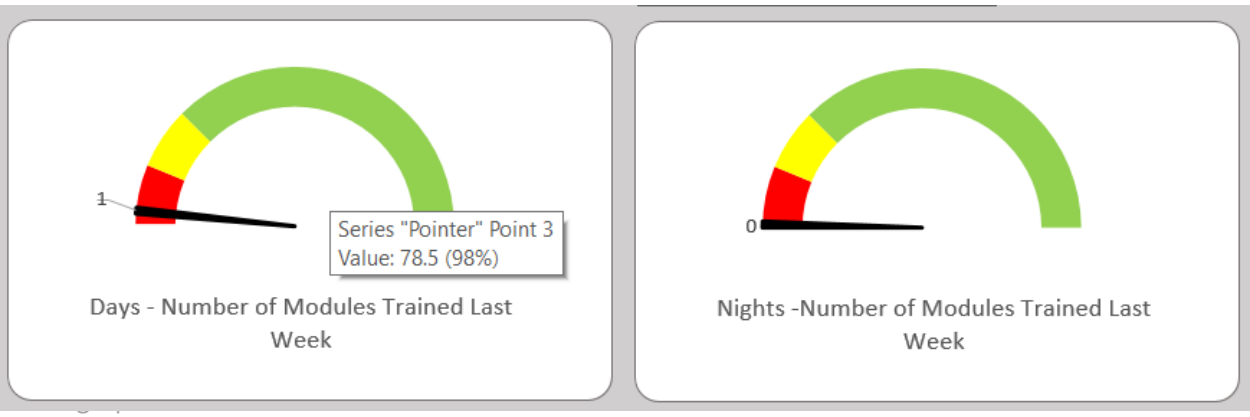
- Macro assigned: m03_unprotect_tables

2.3.3. Custom Displays

Custom displays are the charts and other visual displays not built on Excel's standard charting and pivot chart functions. These graphs rely on the calculated fields located to the right of the displays. These calculated fields are located inside of boxes created from cell borders; the custom displays do not depend on the pivot charts located to the right of the graphical displays.

2.3.3.1. Display: Number of Modules Trained Last Week

- Appearance:



- Description: These charts display a "speed gauge" which communicates the Number of Modules Trained Last Week (i.e. the number of people certified on a module during the past week) by shift (a separate chart exists for each shift).

  The pointer, or black wedge, displays the count of the number of certifications completed during the last week while the gauge indicates the organizations goals based on red (unacceptable), yellow (marginally acceptable), and green (acceptable) ranges.

  This display was created from combining two charts: a pie chart and a donut chart. The pie chart has a black wedge based on the count of certifications and the pointer width that the user can define. The donut chart has red, yellow, and green zones that the user also defines.

  Please note: editing these charts can be difficult because it can be hard to select the zone that you want. Also, if you copy and paste the charts not all of the properties may paste and the charts can change in unexpected ways. If you want to edit the charts, you should first make a back-up of the file and it may be easier to create a new chart. YouTube tutorials for creating speed gauge charts are very helpful.

- Supporting calculations:

Number of Modules Trained last week

Days	Gauge
Start	0
Red Size	5
Yellow Size	5
Green Size	30
Max	40
	Pointer
# of people trained last week	1
Modules trained last week	1
Pointer Width	0.5
End	78.5

Number of Modules Trained last week

Nights	Gauge
Start	0
Red Size	5
Yellow Size	5
Green Size	30
Max	40
	Pointer
# of people trained last week	0
Modules trained last week	0
Pointer Width	0.5
End	79.5

The screen capture above shows the cells with information that feeds into the speed gauge charts, with one block for each shift. The gauge information is located at the top of the block and the pointer information at the bottom. The following explains the information in the blocks using the day shift block as an example (each is identical except for the columns referenced for the different shifts).

Days: This displays the shift that this block pertains to. The cell value comes from the formula =+'Input Tables'!BS3.

Start: The 0 value associated with the starting position should not be changed, and this cell cannot be edited when the sheet is locked. This value keeps the red/yellow/green zone properly oriented.

Red, Yellow, and Green Size: The numbers associated with these values define the size of the red, yellow and green zones. In the example above, the red zone is from 0 to 5, the yellow zone from 5 to 10, and the green zone from 10 to 40 since the sizes add to form the zone borders. These values can be set by the user to any positive value and the numerical values can be changed even when the sheet is unlocked. The intuitive interpretation of the zones is that the red zone indicates unacceptable performance, the yellow zone shows marginally acceptable performance, and the green zone indicates acceptable performance. The actual values entered here are dependent on the size and goals of the company.

Max: This field is the sum of the zone sizes through the formula =SUM(U5:U8) and this function must not be changed. This calculation is necessary for the chart to display properly.

# of people trained last week: This field was created for graphical display in an earlier version of the dashboard and although the chart was removed, the numerical display was left. This field shows the number of unique people trained during the previous calendar week. In this case, if a person was trained on two modules during the previous week, they would still only be counted one time. This field is calculated from the formula =SUM(training[week and first entry and days]).

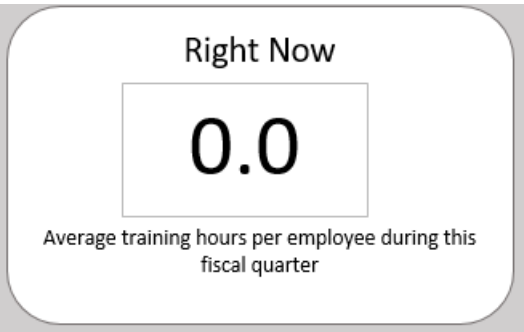
Modules trained last week: This is the information that is displayed by the pointer on the speed gauge and indicates the number of module certifications that were created during the previous calendar week. In this case, if a person was trained on two modules, they would be counted twice. This is accomplished through the formula =SUM(training[desired week and days]).

Pointer width: This is a fixed value that the user can enter based on the appearance they prefer. A larger number correlates with a wider pointer on the speed gauge. This field can be edited when the sheet is protected.

End: This is a function that is necessary for the pointer to display properly and this function should not be changed. The equation associated with this cell is =+SUM(U5:U9)-(U15+U16).

2.3.3.2. Display: Average training hours per employee during this fiscal quarter

- Appearance:



- Description: This display is composed of two shapes. The outer is a rectangle with rounded corners and contains the text. The inner rectangle contains the cell reference =$U$28 and displays this cell's value. This is the cell that contains the numerical calculation. The number displayed is the average training hours per employee for active employees during the current fiscal quarter.

- Supporting Calculations:

Date Transformations for charts		
Today		1/18/2017
this year		2017
this week		3
last week number		2
year and last week number	2017 - 02	
month		1
this quarter		2
year - quarter	2017 - 2	
training hours this quarter		0.0

This screen capture shows the date transformation that are used in this calculation, along with the average training hours calculation linked to this display. The following explains these calculations:

Today: This field always displays the current date based by using the function =TODAY().

This year: Determines the current year from today's date by using the function =YEAR(U20).

This week: Determines the current week from today's date by using the function =WEEKNUM(U20)

Last week number: Determines the week number of the previous week for displays based on the last week through the function =IF(WEEKNUM(U20)-1<1,52,WEEKNUM(U20)-1). This function subtracts 1 from the current week number but if this number is less than 1, which happens on the first week of the year, then the function returns 52. Please note that calculations based off of this field will not return information for the partial week 53 of each year.

Year and last week number: Reports that are based on the previous week must know that they are getting information from the previous week number for the correct year. This cell determines the year and week of the previous week through the function =IF(U23=52,IF(U23<10,(U21-1)&" - "&0&U23,(U21-1)&" - "&U23),IF(U23<10,U21&" - "&0&U23,U21&" - "&U23)). Values in this field are matched to the year – week value in the training records to return information for the last week. This function returns week 52 of the previous year during the first week of the year. Week numbers less than 10 get a 0 placed in front of the week number to ensure that they are sorted correctly.

Month: This field calculates the month of the current date from the function =MONTH(U20).

This quarter: This function determines the current fiscal quarter by looking up the current month number in the table Quarterly_Designation which is located on the Input Tables sheet. The expression used to do this is =VLOOKUP(U25,Quarterly_Designation,3,FALSE).

Year – quarter: This function combines the current year and quarter through the expression =U21&" - "&U26. Displays based on the current quarter find information in the training records where the record's year and quarter match this value.

Training hours this quarter: The average training hours per employee for active employees, which is shown in this display, is based on the function =SUMIFS(training[Training Time],training[year - quarter],Dashboard!U27,training[Status],"Active")/COUNTIF(Trainee[Status],"Active"). This function sums the training time for training that took place during this year and quarter for active employees, and then divides this number by the current count of active employees found in the Trainee table.

2.3.3.3. Display: Percent of training for active people that need recertifications

- Appearance

- Description: This display is composed of two shapes. The outer is a rectangle with rounded corners and contains the text. The inner rectangle contains the cell reference =$U$33 and displays this cell's value. This is the cell that contains the numerical calculation. The number displayed is the percentage of training records achieved by people that are currently active that need recertification. The recertifications can be due to either a person being trained to an old revision or to the amount of time elapsed since the training was conducted.

- Supporting Calculations:

Recertifications Required Calculations	
modules trained for active people	409
modules expired for active people	0
percent needing recertification	0

This screen capture shows the calculations that support this display. The following explains these calculations:

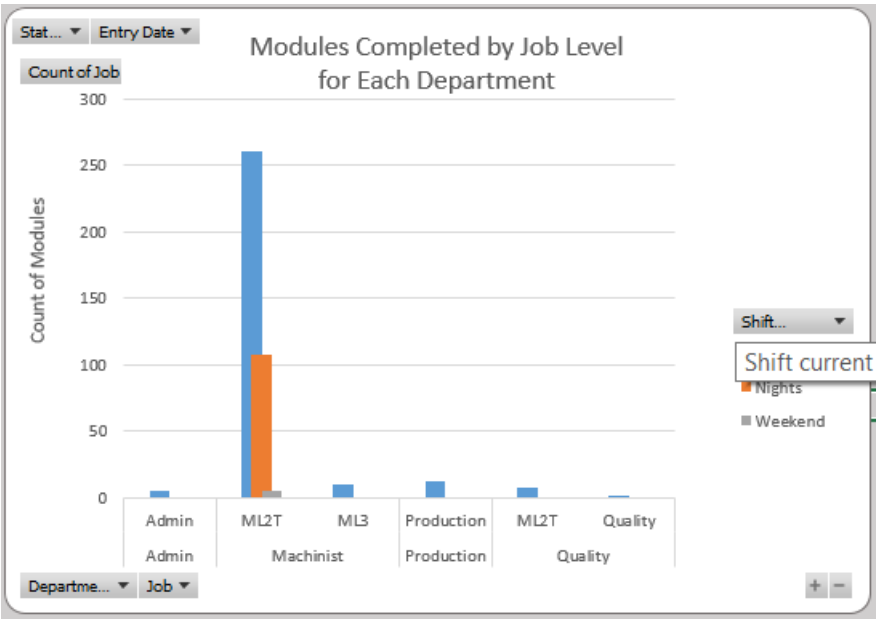
Modules trained for active people: This field displays the total count of training records that exist for active personnel through the function =COUNTIF(training[Status],"Active"). This is the denominator in the percentage calculation.

Modules expired for active people: This field displays the number of active personnel training records that are expired for any reason through the calculation =COUNTIFS(training[expired or old rev],1,training[Status],"Active"). This is the numerator in the percentage calculation.

Percent needing recertification: This is the calculation of the percentage of active personnel trainings that require certification. This cell's equation is =+(U32/U31)*100, which divides the numerator described above by the denominator described, and then multiplies this ratio by 100 to transform it into a percentage.

2.3.3.4. Display: Modules Completed by Job Level

- Appearance:



- Description: This chart is a bar graph which displays the count of the modules completed for each job level. Since the same job level could exist for multiple departments, the X axis also displays the department that the job level pertains to. Within the chart, there are 4 dropdowns which allow the users to filter the data that is displayed. They are as follows:

  Status: Active or Inactive depending if you are interested in trainings for employees that are currently employed (Active) or all trainings that have ever occurred (both Active and Inactive).

  Entry Date: Entry dates allow you to specify the time range of interest. Unfortunately Excel will not allow you to specify the dates through a range entry and you must check the dates to display in the dropdown. Data will only be displayed for the dates that are checked.

  Department: Check the departments that you want to display.

  Job Level: Check the job levels that you wish to display information for. If a job level for one department is to be displayed, it must be displayed for all departments.

  Shift: Check the shifts that you wish to display.

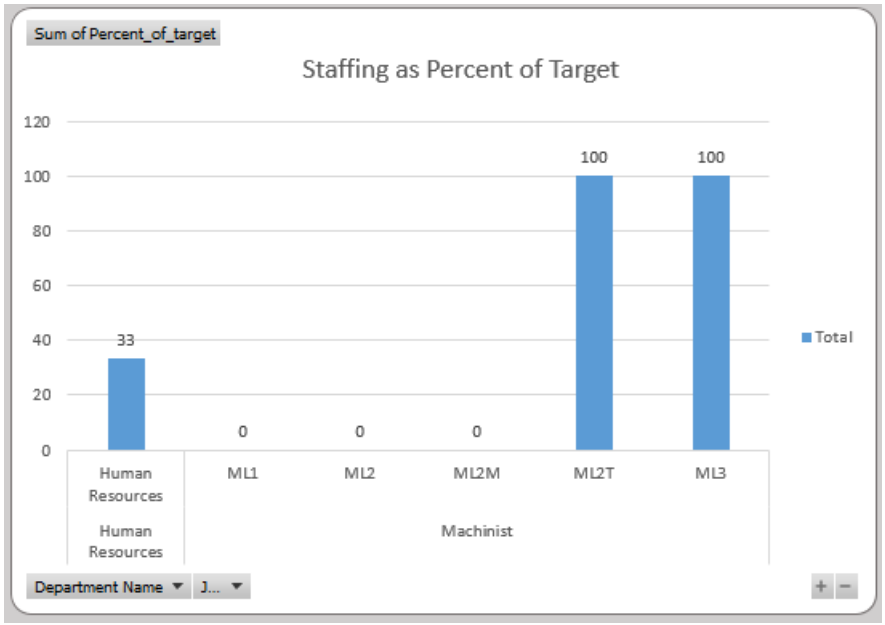
- Supporting Calculations:

Status	(All)			
Entry Date	(All)			
Count of Job	**Column Labels**			
Row Labels	**Days**	**Nights**	**Weekend**	**Grand Total**
Admin	**5**			**5**
Admin	5			5
Machinist	**270**	**108**	**5**	**383**
ML2T	260	108	5	373
ML3	10			10
Production	**12**			**12**
Production	12			12
Quality	**9**			**9**
ML2T	7			7
Quality	2			2
Grand Total	**296**	**108**	**5**	**409**

The chart is a pivot chart created from the pivot table shown above. The dropdowns shown in the pivot table are tied to the dropdowns in the charts so that if one is changed, the analogous one in the other location also changes. If the chart needs to be edited (e.g. another filter is desired), click inside of the pivot table. Then, from the menu at the top of Excel, choose PivotTable Tools --> Analyze and select the Field List to show all of the fields. Fields can be dragged into the desired location of filters, columns, rows, or values.

2.3.3.5. Display: Staffing as Percent of Target

- Appearance:



- Description: This chart is a bar graph which displays the staffing as a percent of its target level. Since the same job level could exist for multiple departments, the X axis also displays the department that the job level pertains to. Within the chart, there are 2 dropdowns which allow the users to filter the data that is displayed. They are as follows:

  Department: Check the departments that you want to display.

  Job Level: Check the job levels that you wish to display information for. If a job level for one department is to be displayed, it must be displayed for all departments.

- Supporting Calculations:

Row Labels	Sum of Percent_of_target
Human Resources	**33**
Human Resources	33
Machinist	**200**
ML1	0
ML2	0
ML2M	0
ML2T	100
ML3	100
Grand Total	**233**

The chart is a pivot chart created from the pivot table shown above. If the chart needs to be edited (e.g. another filter is desired), click inside of the pivot table. Then, from the menu at the top of Excel, choose PivotTable Tools --> Analyze and select the Field List to show all the fields. Fields can be dragged into the desired location of filters, columns, rows, or values.

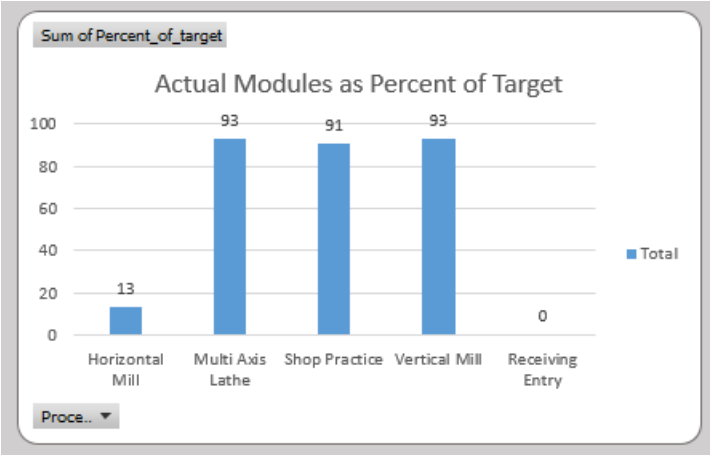
This PivotTable's source data is from the following table on the Input Tables sheet:

Department Nan	Job	Staffing_Targ	Number_in_job	Percent_of_targe
Human Resources	Human Re	3	1	33
Machinist	ML1	5	0	0
Machinist	ML2	5	0	0
Machinist	ML2M	5	0	0
Machinist	ML2T	21	21	100
Machinist	ML3	6	6	100

More information on this table can be found in its section in the User Manual section for the table Staffing.

2.3.3.6. Display: Actual Modules as Percent of Target

- Appearance:



- Description: This chart is a bar graph that displays the number of modules created by process area as a percent of its target level. Within the chart, there is a dropdown which allow the users to filter the data that is displayed. It is as follows:

  Process: Select the processes for which data is to be displayed.

- Supporting Calculations:

Row Labels	Sum of Percent_of_target
Human Resources	**33**
Human Resources	33
Machinist	**200**
ML1	0
ML2	0
ML2M	0
ML2T	100
ML3	100
Grand Total	**233**

The chart is a pivot chart created from the pivot table shown above. If the chart needs to be edited (e.g. another filter is desired), click inside of the pivot table. Then, from the menu at the top of Excel, choose PivotTable Tools --> Analyze and select the Field List to show all of the fields. Fields can be dragged into the desired location of filters, columns, rows, or values.

This PivotTable's source data is from the following table on the Input Tables sheet:

Process	Target_number_of_modul	Actual_number_of_modul	Percent_of_target
Horizontal Mill	15	2	13
Multi Axis Lathe	14	13	93
Receiving Entry	11	0	0
Shop Practice	22	20	91
Vertical Mill	14	13	93

More information on this table can be found in its section in the User Manual section for the table Processes.

2.3.3.7. Display: Formatting rules for the Training Records Header Conditional Formatting

- Appearance:

Number of Expired Certifications	0
Number of Duplicate Entries	0
Number of Reviews Needed	3
Number of records based on expired training	23

- Description: The header row of the Training Records sheet will turn red when certain conditions are met. While most conditional formatting rules pertain to a new row when it is being entered, there are four which may trigger rows already entered to turn red. Since these rows may not be visible on the screen, the header turns red to alert the user to their condition. When this happens, the user may view this section to understand the specific rule(s) being violated and the count of the violations. The violated rule will also appear red here. The user will need to scroll through Training Records entries to find the specific entries affected.

- Supporting Calculations: The calculations involved in the rules above are as follows:

  Number of Expired Certifications: The associated value is from the equation =SUM(training[[Was the most recent rev used]:[Expired Training]]). This formula calculates the total number of training entries expired for either:

  a) The revision the trainee was trained to is not the current revision ([Was the most recent rev used])
  b) The time elapsed since the training was conducted is greater than the limit set in the Input Tables table Modules field 'Days training valid for'

  Number of Duplicate Entries: The associated value is from the equation =SUM(training[duplicate record])/2. This formula calculates the number of entries that appear more than once. The denominator of two appears since each duplicate row is flagged once for each entry. This entry displays the number of rows that must be located and removed to correct the errors. If a row is entered more than two times, the value will not be accurate.

  Number of Reviews Needed: The associated value is from the equation =SUM(training[Review flag]). This formula tracks the number of people that are entitled to a performance review, but have not received one, due to completing one of the triggering modules. The modules that trigger a performance review are indicated as such in the Input Tables table Modules field 'Review required when this module is completed?' value of yes. Once the review has been completed and the Training Records field 'Review

Completed' value has been set to Yes, the red conditional formatting will be removed.

Number of records based on expired trainings: The associated value is from the equation =SUM(training[Is the module revision expired?]). This formula calculates the number of training entries that are entered on modules which need to be reviewed for accuracy due to the amount of time that has passed since the revision date. The line for this module will also be red in the modules table on the Input Tables sheet. Once the module is reviewed and updated if necessary, then the date_of_revision in the modules table should be updated.

2.4. Reports

2.4.1. Trained on Modules

A	B	C	D	E	F	G	H	I	J
Trainee_Name	Shift	Department	Job	Trained on Module?		Specify Module:	HM Control Panel		
Ayers, Brad	Days	Machinist	ML2T	Not Trained					
Barndt, Andrew	Weekend	Machinist	ML2T	Not Trained					
Berg, Josh	Days	Machinist	ML3	Not Trained					
Berukoff, Joel	Days	Production	Production	Not Trained					
Boyer, Shane	Days	Machinist	ML3	Not Trained					
Carter, Ethan	Nights	Machinist	ML2T	Not Trained					
Cochran, Russell	Days	Admin	Admin	Not Trained					
Colliflower, Jack	Weekend	Machinist	ML2T	Not Trained					
Comfort, Jared	Days	Machinist	ML2T	Not Trained					
Cook, Richard	Days	Admin	Admin	Not Trained					

Find Who is Trained on this

2.4.1.1. Summary: This report allows the user to specify a module of interest from a dropdown list, then click on the button "Find Who is Trained on this" to generate the report. The report output is a list of all the names in the organization, some supporting information, and then, under the header "Trained on Module?", either "Not Trained" if the person has not received the training, or their name if they have received the training. If they have received the training but the training is expired, the report will still state that they are trained.

2.4.2. Modules Received and Needed

A	B	C	D	E	G	I	J	M	N
Module_Name	Module_Number	Module_Type	Date_of_Revision	Current_Rev_Number	Process	Training Received?	Review required when this module is completed?		Person
GL Control Panel	2000	Skill	2/24/2016	0	Gang Lathe	McQuiggin, Kyle	No		McQuiggin, Kyle
GL Install Workholding-Collet-Spindle Liner-Bar Feed	2010	Skill	3/30/2016	0	Gang Lathe	McQuiggin, Kyle	No		
GL Load Program Run G10's	2020	Skill	8/30/2016	0	Gang Lathe	Not Received	No		
GL Parts Per Bar	2030	Skill	11/16/2016	1	Gang Lathe	Not Received	No		Enter up to 4 processes or leave blank for all
GL Basic Program Reading G&M Codes	2040	Skill	8/25/2016	0	Gang Lathe	Not Received	No		
GL Single Block	2050	Skill	8/16/2016	0	Gang Lathe	Not Received	No		
GL Set Centerline	2060	Skill	9/27/2016	0	Gang Lathe	Not Received	No		
GL FAR Offset Adjustment	2070	Skill	10/10/2016	1	Gang Lathe	Not Received	No		
GL Back Up Program & Offsets	2080	Skill	10/5/2016	0	Gang Lathe	Not Received	No		
GL Practice Setup	2998	Skill	12/12/2016	0	Gang Lathe	Not Received	No		

Create Report

2.4.2.1. Summary: This report allows the user to specify a particular person (i.e. trainee) along with up to four processes, and generate a list of all the modules associated with those processes, some supporting information, and then, under the header "Training Received?", either "Not Received" if the person has not been certified on that module or their name if they have been. If the person has received the training but the certification is expired, they will still show as being certified. If the four

processes fields are all left blank, the report will return information for all processes in the system.

3. Workflows - The Major Tasks That Need to Be Done and How to Do Them

3.1. Entering a New Row of Data in a Table

Note: If you are entering data in the file for the first time and the file contains only generic or sample data, then you should enter your new data below the sample information, and then delete the sample lines once at least one new row has been fully entered. Instructions on entering and deleting data is below.

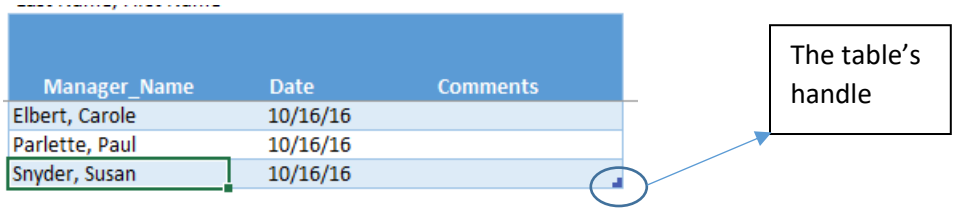
3.1.1. Input Tables (for all tables except Department Name and Jobs within Departments)

3.1.1.1. Unprotect the sheet by clicking on the "Unprotect Sheet" button at the top of the sheet and entering the password

3.1.1.2. Go to the bottom of the table of interest and enter the new value in the first blank line below the table. Start with the left-most column and use tab to move to the right until all fields are entered. The table should automatically expand to include the new entry.

3.1.1.2.1. If an arrow appears on the right side of the cell, then one of the values in the arrow's dropdown must be used. If the desired entry isn't shown, then it is because that value does not appear in the associated data table or list. Find the field in the previous Tables section and update accordingly.

3.1.1.2.2. If the table is not automatically expanding to include the new entry, select a cell in the last row of the table, grab the "handle" in the lower right corner, and drag down a row to expand the table. The fields can then be entered.



3.1.1.2.3. If the line is red, then a required field has not been completed, the line is a duplicate entry, or another error is occurring. The error should be corrected before moving on.

3.1.1.3. Protect the sheet when done by clicking the "Protect Sheet" button at the top of the sheet. This button uses the password that is contained in the code. Do not use the Protect Sheet function used in the Review menu of the Excel ribbon. Using this creates the risk that an improper password will be entered. See the section "Changing Passwords" for more information.

3.1.2. Input Tables Department Name and Jobs within Departments

3.1.2.1. Add a new Department Name according to the process in 3.1.1

3.1.2.2. Define the Department Name as a range so that its Jobs will show up as values in dropdowns according to the following steps:

3.1.2.2.1. After the new Department Name is added, the adjacent Jobs within Department cell will lack formatting and will look like this:

Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
New Dept Name								

3.1.2.2.2. Add formatting to the Jobs within Departments section by first selecting and copying a blue or white line from above (choose one that keeps the alternating color scheme that you want). Select all cells under the Jobs within Departments header. When selected and copied, it should look like this:

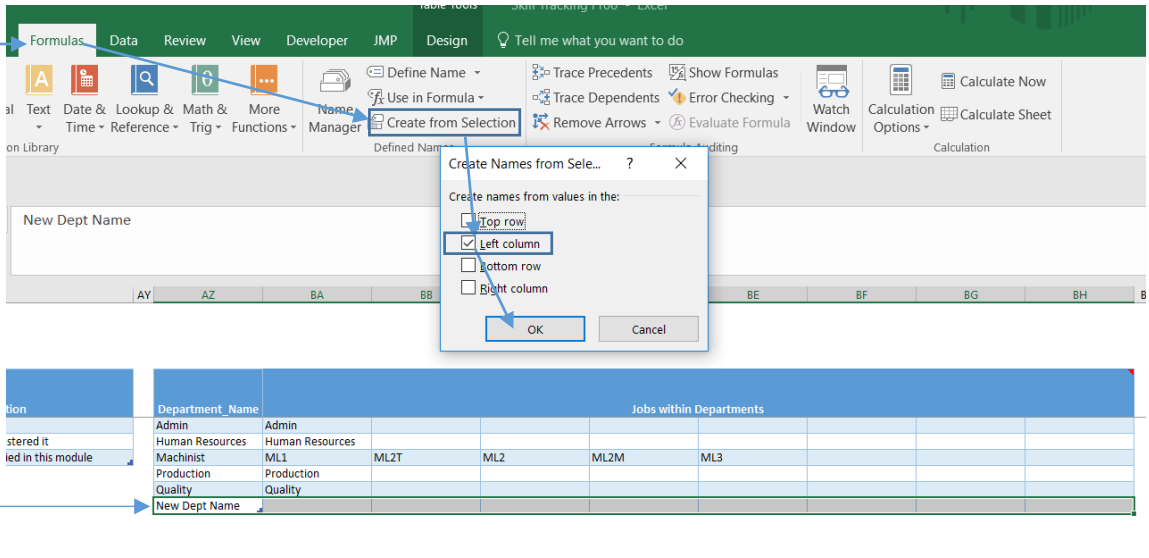
Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
New Dept Name								

3.1.2.2.3. Then select the new row under the Jobs within Departments and right click --> Paste Special --> Formats -->OK. It should then look like this:

Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
New Dept Name								

3.1.2.2.4. Select the new department name and all of the cells under the Jobs within Departments header. Go to the Formulas tab and choose: Create from Selection --> Left Column --> OK. This creates the named range.

2. With row highlighted, go to Formulas tab --> Create from Selection --> Left Column --> OK



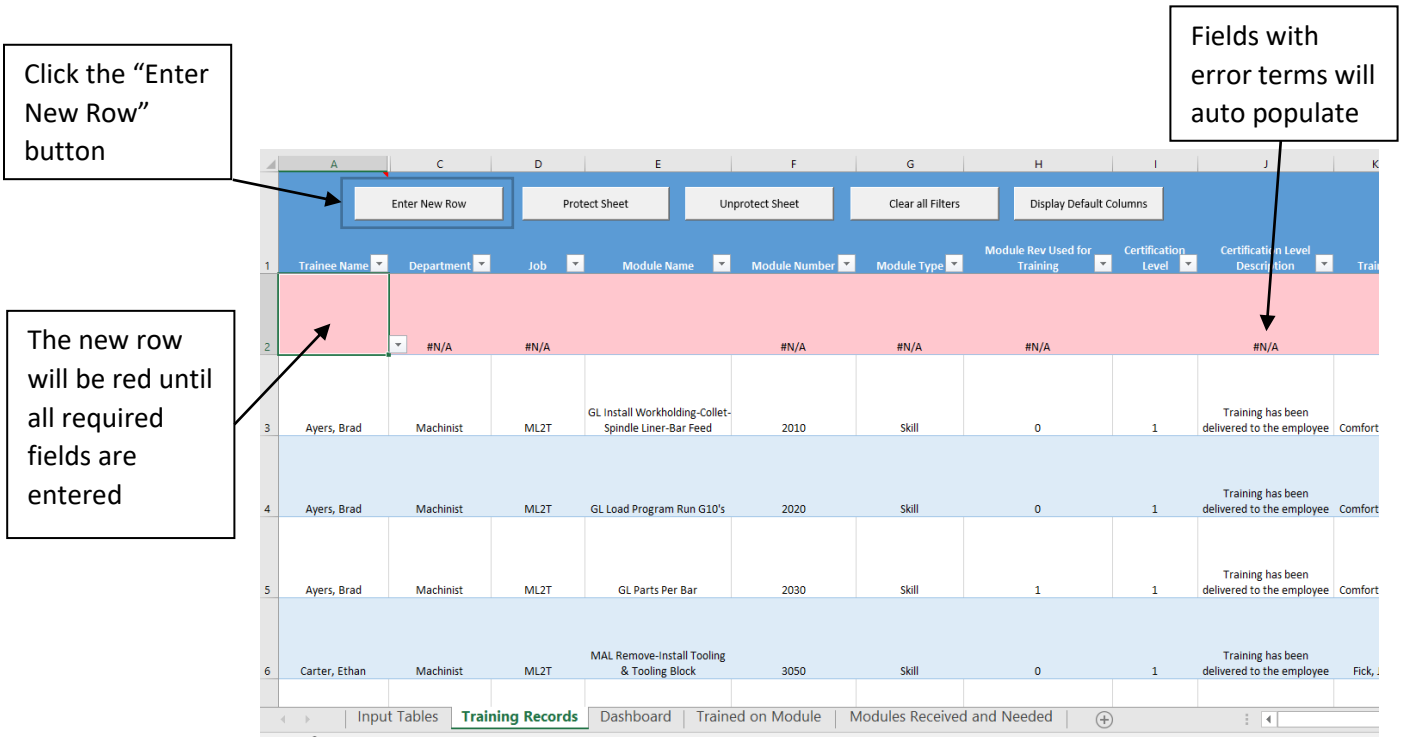
1. Highlight these cells

3.1.2.3. Then enter the Jobs that are associated with the new department and you are finished. Only enter the number of jobs you have for the department up to the maximum number; not all fields need to be filled in. The final result should look like this:

Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
New Dept Name	New Job 1	New Job 2	New Job 3					

3.1.3. Entering a New Training Record

3.1.3.1. On the training records sheet, click on the Enter New Row button. The screen may blink a few times and a red row should appear. The row will remain red until all the required fields are entered. The fields with error terms are those that will automatically be populated based on prior entries.



3.1.3.2. Use tab to move from field to field and enter data as you go. All fields except Training Time and Comments use a dropdown list.

3.1.3.2.1. If the header turns red while you are entering the information, it means that this is a duplicate entry. Look at cells B1:B3 on the dashboard to see the total number of header errors.

3.1.3.2.2. If the desired entry isn't shown in the dropdown, then it is because that value does not appear in the associated data table or list. Find the field in the previous Tables section and update accordingly.

3.2. Editing Existing Records

3.2.1. Note: If a field is edited that is tied through dropdowns to other records in the Input Tables or Training Records, those other records may need to be updated to properly reflect the changes. For example, if a Modules name is changed, training records previously recorded under the old name will not reflect the module number and other contingent information. To correct this, find the old Module name in the Training Records and update those records to the new name.

3.2.2. Input Tables (all tables except Department Name and Jobs within Departments can be edited according to this process)

3.2.2.1. Note: Edits will typically only be made to correct typos and incorrect entries. If the line of data is no longer valid, it should be deleted and new rows added for new information. Cells shaded grey are equations used to drive reports and should not be edited.

3.2.2.2. Click the 'Unprotect Sheet' button at the top of the sheet and enter the password.

3.2.2.3. Find the field to correct and type in the correct information or use the dropdown to select the correct value.

3.2.2.4. Protect the sheet when done by clicking on the "Protect Sheet" button at the top of the sheet. This button uses the password that is contained in the code. Do not use the Protect Sheet function used in the Review menu of the Excel ribbon. Using this creates the risk that an improper password will be entered. See the section "Changing Passwords" for more information.

3.2.2.5. Save the file.

3.2.3. Input Tables field Department Name

3.2.3.1. Note: The Department Name is more than just an entered piece of data, it is also the name of a range that allows for jobs to be selected contingent upon the Department Name that is selected.

3.2.3.2. Click on the 'Unprotect Sheet' button at the top of the sheet and enter the password.

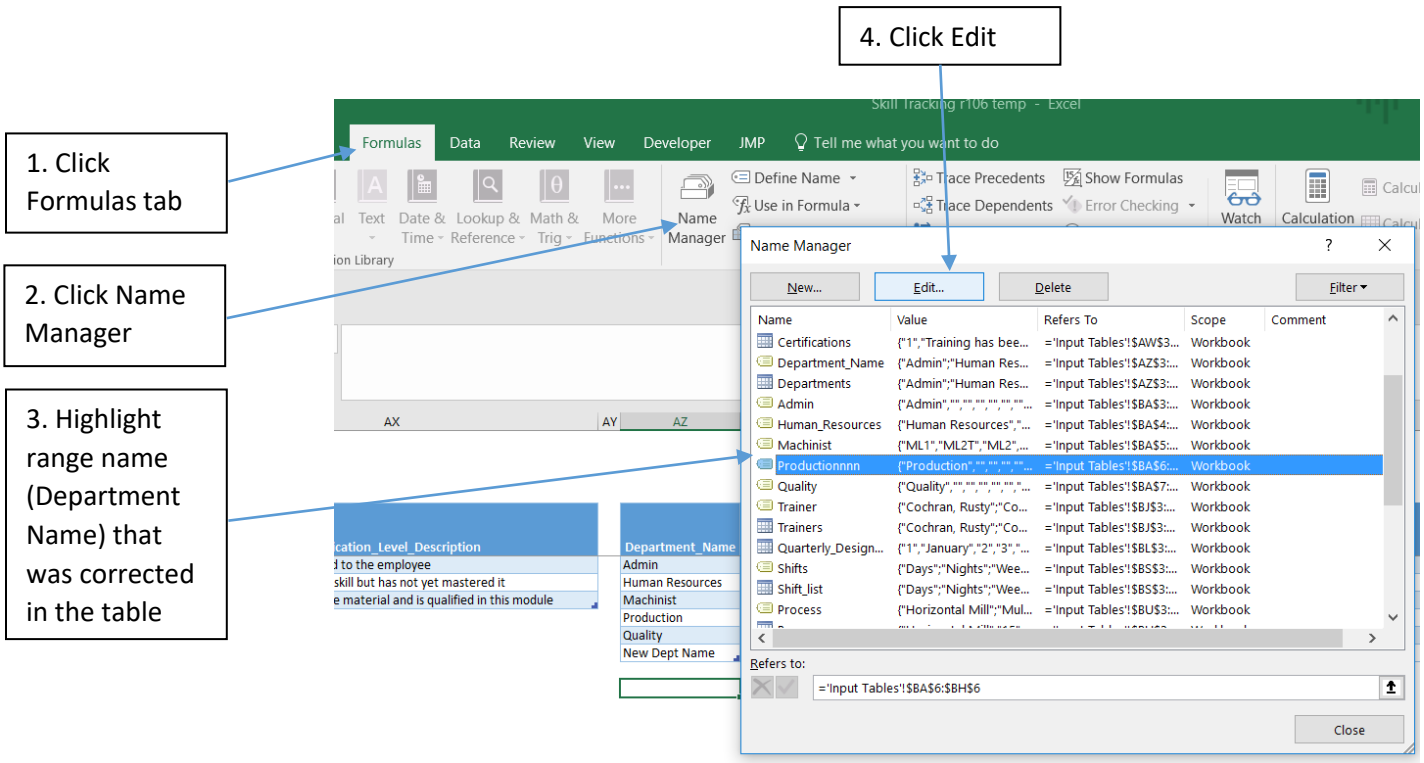
3.2.3.3. Find the incorrect Department Name and correct the entry. In this example, Production included extra n's at the end and the spelling should be fixed.

Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Productionnnn	Production							
Quality	Quality							
New Dept Name	New Job 1	New Job 2	New Job 3					

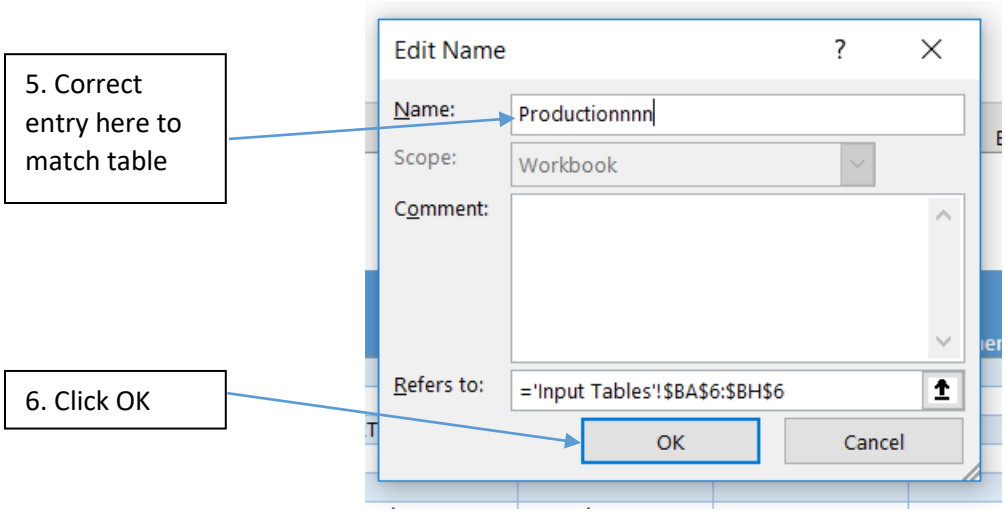
Here it is with the error corrected.

Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
New Dept Name	New Job 1	New Job 2	New Job 3					

3.2.2.2. On the Formulas tab, click Name Manager, then highlight the range name (Department Name) that was corrected, and click Edit.



3.2.2.3. In the edit pop-up, correct the range name (Department Name) to match the new entry in the table and click OK.



3.2.2.4. Click the 'Protect Sheet' button at the top of the sheet.

3.2.2.5. Save the file.

3.2.3. Training Records

3.2.3.1. Click the 'Unprotect Sheet' at the top of the page, find the record to be updated, and use the dropdown or type to enter the new information.

3.2.3.2. Click 'Protect Sheet' at the top of the sheet

3.2.3.3. Save the file.

3.2.3.4. Note: Most fields in the training records will only need to be updated if an error is found. Exceptions to this are:

3.2.3.4.1. Field: Module Rev Used for Training – This field auto populates to reflect the rev of the module when the record is entered. If the module's revision changes (as will occur with module updates), then the line and header will turn red to reflect that the person's training is out of date. Once the person is trained to the new material, the rev should be updated to the current rev to clear the error.

3.2.3.4.2. Field: Certification Level – When a new training record is entered, the user enters a Certification Level from a dropdown. If the person's certification level changes, the appropriate new value should be selected.

3.2.3.4.3. Field: Training Time – When a new training record is entered, the user types in a numerical value to represent the number of hours of training the person received. If the person receives more training, the value should be updated.

3.2.3.4.4. Field: Entry Date – This field auto populates with the current date when the record is entered. This field both tracks the entry and is used to calculate expired training based on elapsed days since the training being greater than the associated value in the modules table. When the person's training expires, the line and the header will turn red to notify the user of the condition. Once the person's training is updated, the date should be changed to the date of the update.

3.2.3.4.5. Field: Review Complete – When a person completes a module that triggers a review, the header and the line will turn red. Once the performance review is completed, this field should be changed to a 'Yes' value. Note: Do not change the 'Review Required' field.

3.3. Deleting Records

3.3.1. Note: Deleting a record in a table means deleting the entire line of a table

3.3.2. Input Tables (for all tables except Department Name and Jobs within Departments)

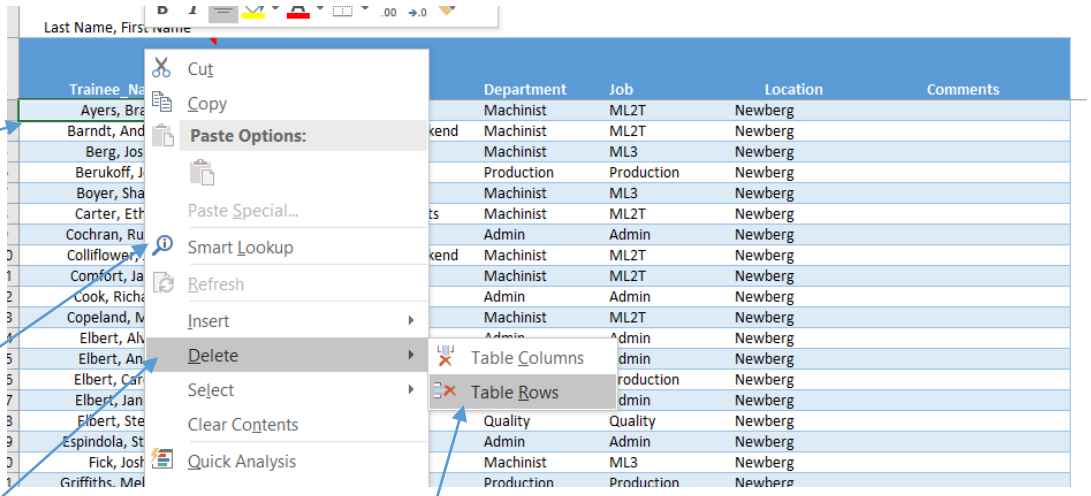
3.3.2.1. Click the 'Unprotect Sheet' button at the top of the sheet

3.3.2.2. Click a cell in the row to delete, right click, select Delete, then select Table Rows

1. Select a cell in the row to be deleted. In this example, the first row is to be deleted

2. Right click to get the menu to get the expanded menu

3. Select delete



4. Click Table Rows to delete the record (i.e. the row)

Note: If the wrong row is removed or if Column is accidentally selected, Ctrl+Z will undo the deletion

3.3.2.3. Click 'Protect Sheet' button at top of sheet when all deletions are completed.

3.3.2.4. Save the file.

3.3.3. Input Tables Department Name and Jobs within Departments

3.3.3.1. Department Name

3.3.3.1.1. Delete Department Name as above. In this example, 'New Dept Name' is being deleted.

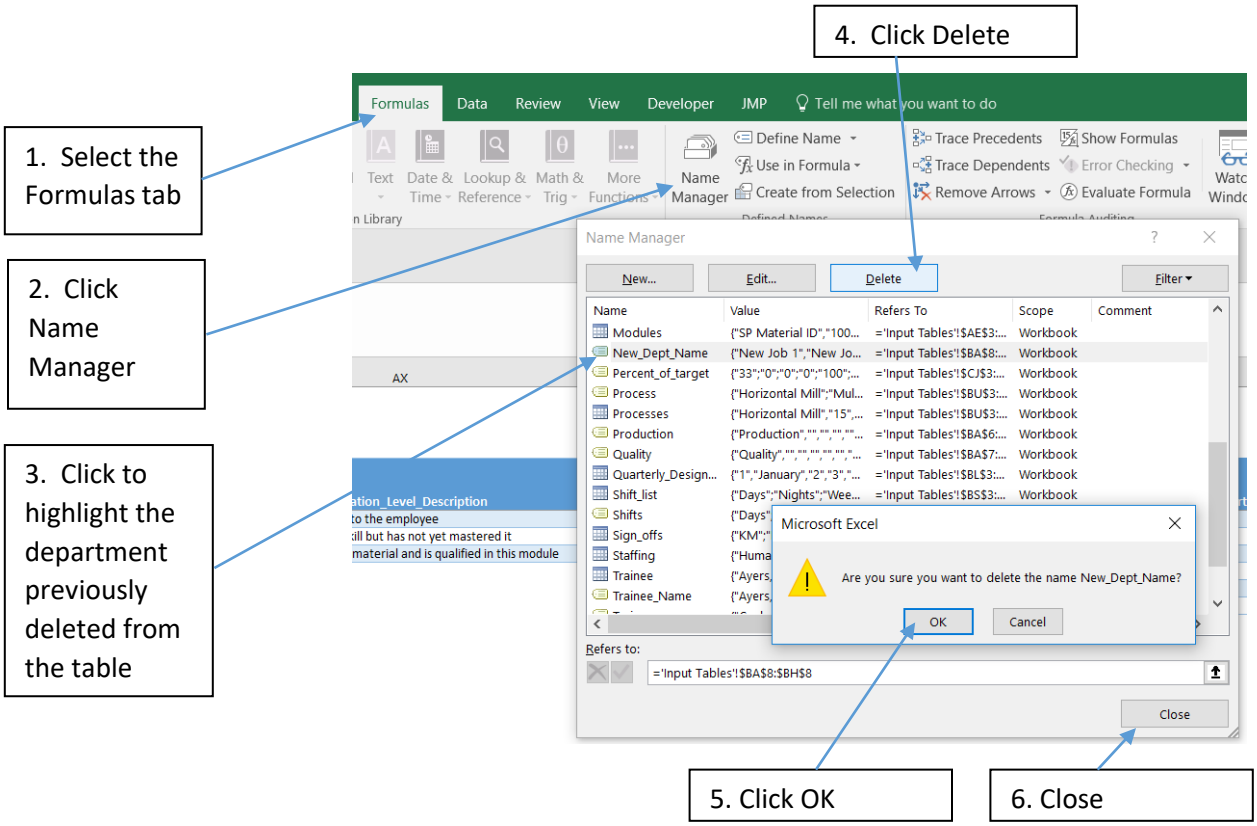
Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
New Dept Name	New Job 1	New Job 2	New Job 3					

After it is deleted, it looks like this:

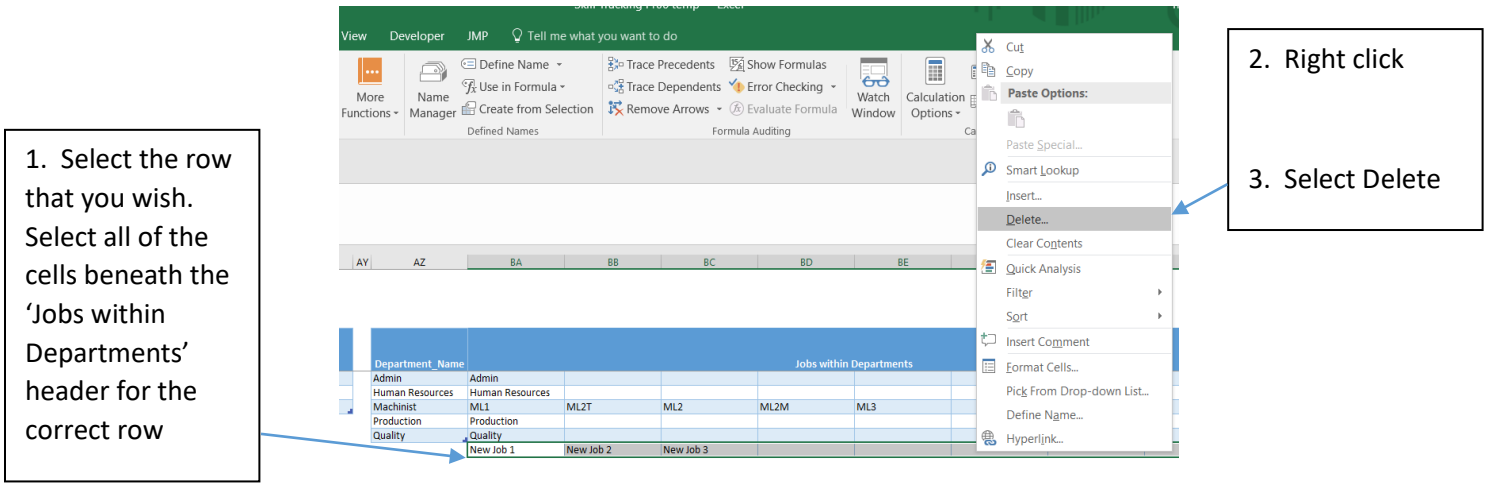
Department_Name	Jobs within Departments							
Admin	Admin							
Human Resources	Human Resources							
Machinist	ML1	ML2T	ML2	ML2M	ML3			
Production	Production							
Quality	Quality							
	New Job 1	New Job 2	New Job 3					

Note: If the name being deleted is not in the last row, the jobs will no longer line up properly with the departments. To correct this, follow the instructions in the section 3.3.3.1.3.

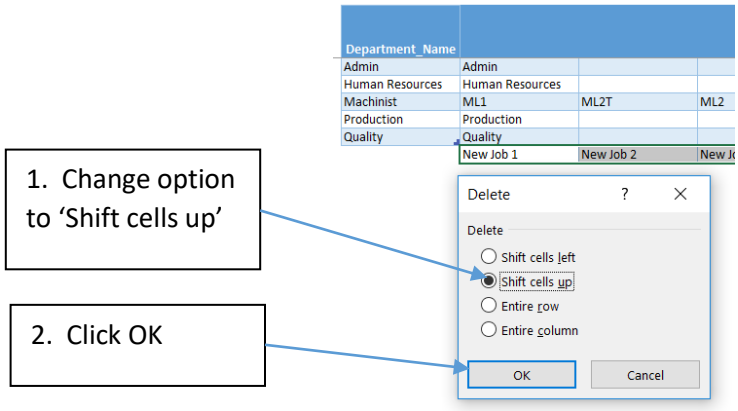
3.3.3.1.2. On the Formulas tab, click Name Manager, highlight the previously deleted department name, click Delete, click OK in the pop-up, and close the Name Manager. (Note: In the Name Manager, names in the table that had spaces will have those spaces replaced by "_")



3.3.3.1.3. Highlight the Jobs within Departments row associated with the previously deleted Department Name, right click, and select Delete. **(Note: This may not be the last row in the group. It is important that you select and delete the jobs group that you actually want to delete. Highlight all of the cells beneath the header and only the cells beneath the header.)**



3.3.3.1.4. Change the delete option to 'Shift cells up' and click OK.



3.3.3.1.5. Click the 'Protect Sheet' button at the top of the sheet.

3.3.3.1.6. Save the file.

3.3.3.1.7. If necessary, modify the formatting of the section under the Jobs within Departments area for consistency.

3.4. Changing Passwords

3.4.1. There are two passwords used in the application and both are set by the user. Unless the user updates this document, then this document will not list the correct password. It is up to the user to maintain and control all passwords.

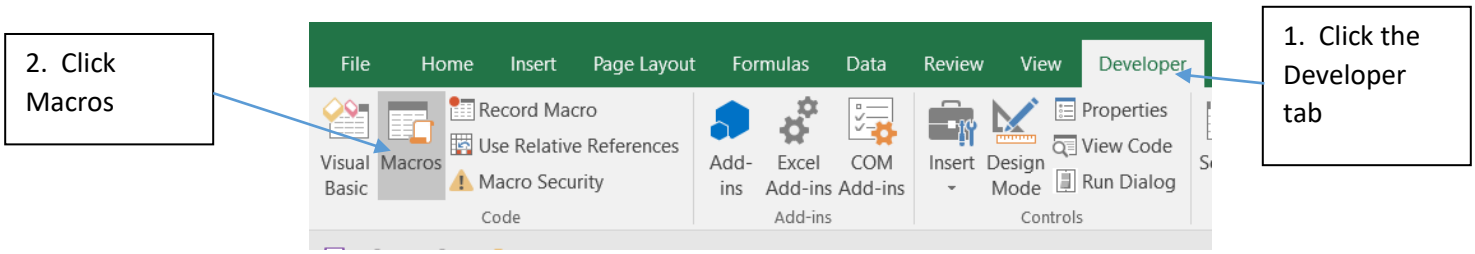
3.4.2. The primary password is used to protect the sheets, ensuring the majority of the records are only changed by the authorized user and that they are not accidentally modified. This password is contained in the code and protecting and unprotecting the sheets should only be done by using the gray buttons at the top of the sheets.

3.4.3. The second password pertains to the Compensation sheet and helps ensure that only authorized users can view and edit the Compensation sheet. If the Compensation sheet is not in use, then the code related to it, which includes the password, will be deactivated.

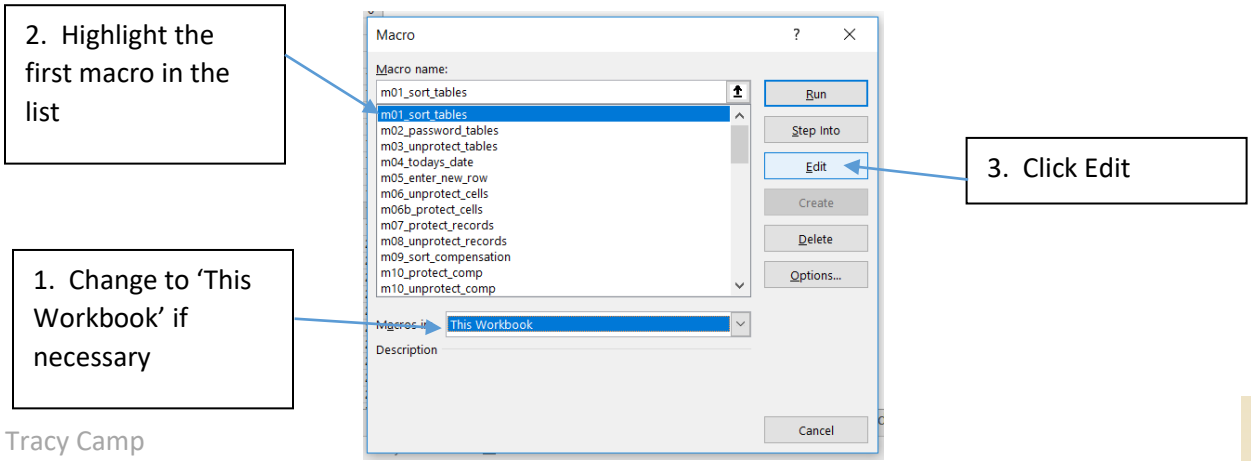
3.4.4. **Note on selecting passwords: since the passwords are contained multiple places in the code, the easiest was to change them is through the find and replace function. However, this requires that the password be something that is not a word which might appear elsewhere. This is easily accomplished by adding a number or special character to the end of the password. For instance, if you wanted to use 'training' as your password, that word will appear other places in the application code. If you used the find and replace function, you would replace all instances of training with the new password and not just the ones that exist as the password. Instead, use training!, training8, or something similar.**

3.4.5. Both passwords are changed by the same process as follows (example of replacing old password 'password8' with new password of 'training!'):

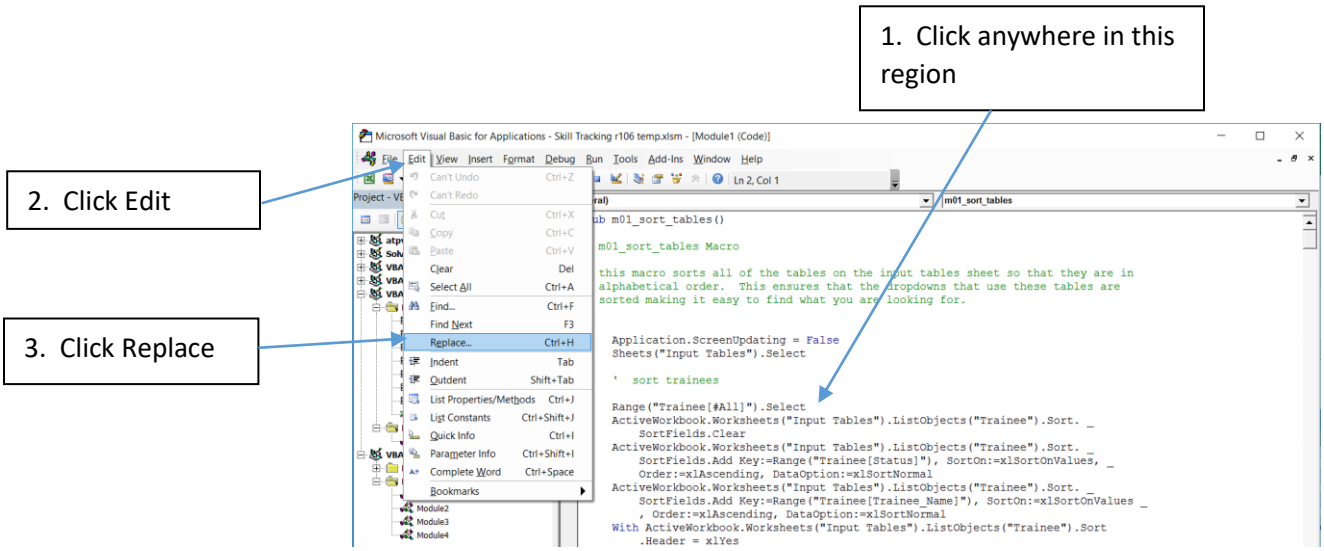
3.4.5.1. In the file, go to the Developer tab and click on Macros



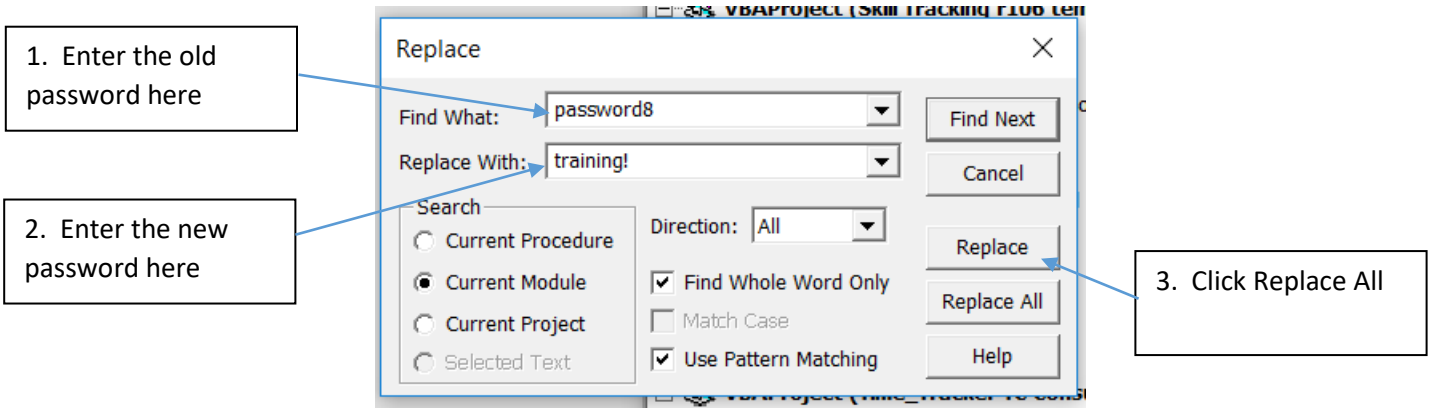
3.4.5.2. In the pop-up, change 'Macros in:' to 'This Workbook' if necessary, select the first macro in the list, and click Edit.



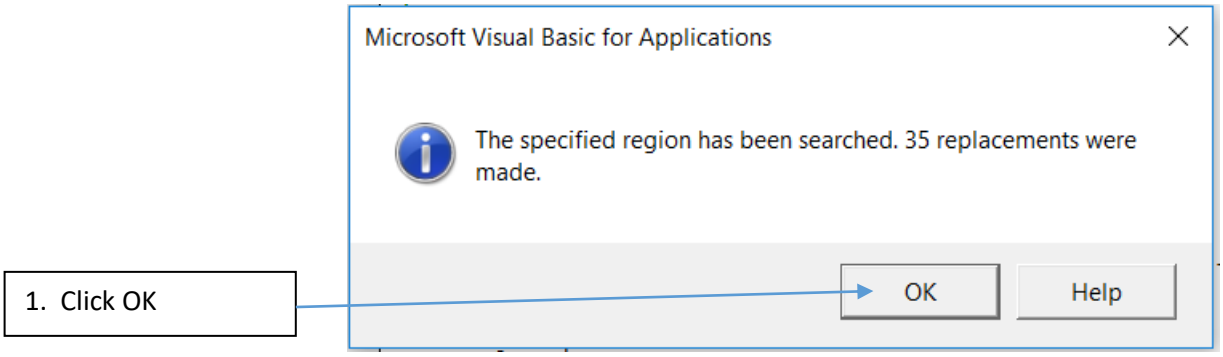
3.4.5.3. Clicking Edit opens the Visual Basic editor. From here, click anywhere in the code area, go to edit and click replace



3.4.5.4. In the pop-up, enter the old password into the 'Find What:' field and the new password in the 'Replace With:' field, then click 'Replace All'.



3.4.5.5. A message window will appear which states the number of replacements that were made. Click OK.



3.4.5.6. Save the file

3.5. Understanding Errors

3.5.1. The Skill Tracker application has many error checks built in that notify the user of their occurrence by turning the line to which they refer red and in some instances, by turning the sheet's header red or displaying an error message. There are too many to discuss each in detail but this section will highlight the most common ones and explain how to find and interpret errors in general.

3.5.2. General Error Check Functionality

3.5.2.1. To display the error checks, unhide all columns in the table which has the error. See the user manual section on unhiding columns for instructions on how to do this.

3.5.2.2. Error check rules translate to a 0 or 1 value with 0 meaning the rule is not violated and 1 meaning the rule is violated.

3.5.2.3. Each table has a field called any_error, which sums the individual error checks and returns a 1 if any rule is violated, and a 0 if none are violated. This is the field that actually drives the red conditional formatting.

3.5.2.4. To find the rule(s) that are causing the row to be red, find the individual rule checks that display a 1 value. The column's header (i.e. field name) can then be referenced in the Table Names, Descriptions, and Field Details section of the user manual for more information

3.5.3. Common Errors

3.5.3.1. Training Records header errors: The header row of the Training Records sheet will turn red when certain conditions are met. While most conditional formatting rules pertain to a new row when it is being entered, there are some which may trigger rows already entered to turn red. Since these rows may not be visible on the screen, the header turns red to alert the user to their condition. When this happens, the user may view the display in the upper left corner of the dashboard for more information. The violated rule will also appear red here. The user will need to scroll through Training Records entries to find the specific entries affected. See the dashboard section of the user manual for more information.

3.5.3.2. Missing fields: Most fields in tables are required and if any required field is blank, the row will be red. Before unhiding columns to inspect the rule violations, simple check the entries for that row to see if there are any missing fields and if there are, then fill in those fields. When a new row is entered, it will be red until all required fields are filled in.

3.5.3.2.1. The Comments field is the only field that is typically not required to be completed.

3.5.3.2.2. If the user has chosen to not use a field, then that field will be hidden in the standard view and it will be removed from required fields error check.

3.5.3.3. Duplicate entries: Most tables have a field, or combination of fields, that that should appear only once.

3.5.3.3.1. For instance, in the Training Records, a trainee name and module name combination should not appear more than one time. If this combination does appear more than once, then the row, header, and dashboard info on this entry will turn red.

3.5.3.3.2. Also, most of the tables in the Input Tables sheet will contain a duplicate check which may be called duplicate or count. For instance, the trainee names in the Trainee table should only appear once as should the module names in the modules table. If a new line is entered, all required fields are filled in, and the row is still red, then the most likely culprit is that it is a duplicate entry. One of the entries will need to be deleted. See the user manual section on deleting records for details on how to do this.

3.6. Hiding/Unhiding columns

3.6.1. Columns are hidden for two main reasons: either they contain information that the user has decided to not display, or they contain error check rules that would clutter the view if displayed.

3.6.2. To display columns that are typically hidden:

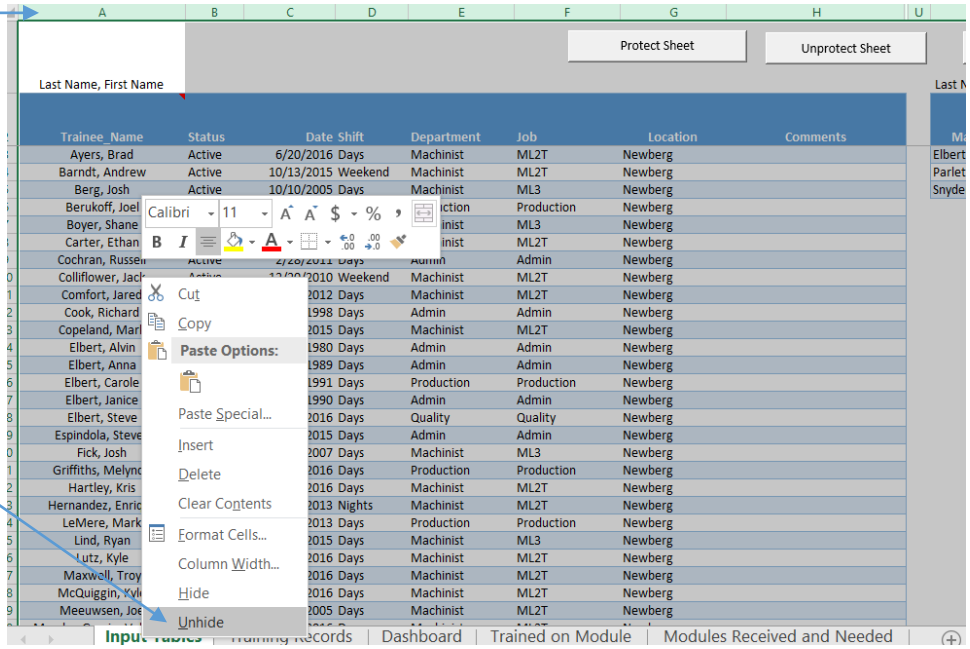
3.6.2.1. Click on the Unprotect Sheet button and enter the password

3.6.2.2. Click on the columns letter header use the right or left arrow to highlight the columns you wish to display. (It is ok to highlight all the columns if you wish to display all of the hidden columns). Then right click to get the menu and click Unhide.

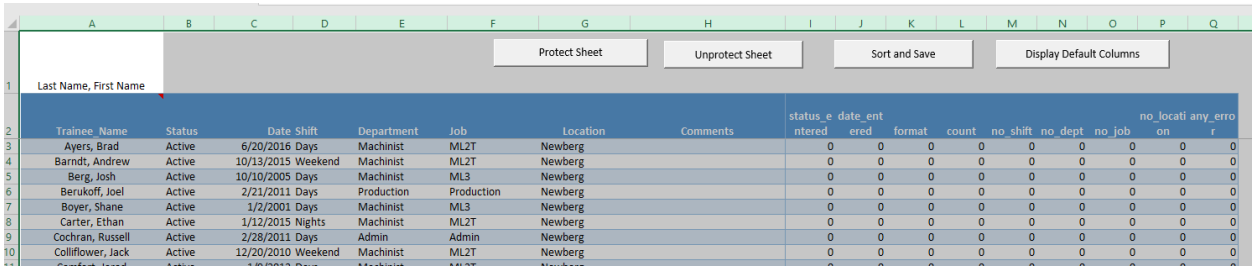
1. Click on a column's letter header

2. Use the arrow keys to select the columns you wish to unhide

3. Right click to expose the menu then click Unhide

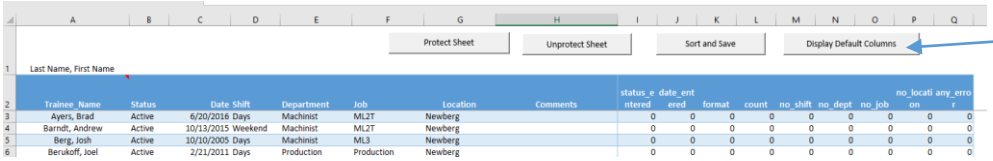


3.6.1.3. After the hidden columns are displayed, new columns are visible such as I:Q in the example below.



3.6.3. Returning the display to the default view (i.e. hiding displayed columns that are typically hidden).

3.6.3.1. Click on the Display Default Columns button at the top of the sheet. This button runs the code that hides columns and returns the view to the default. This ensures that the view is standard and that no needed columns are inadvertently hidden. It also saves time by automating the process.



Click on the 'Display Default Columns' button

After the button is clicked, the view returns to the default.

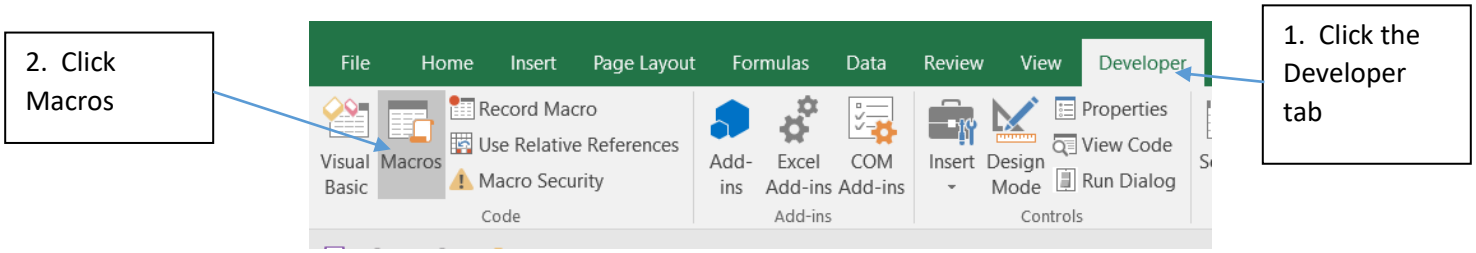
Last Name, First Name

Trainee_Name	Status	Date	Shift	Department	Job	Location	Comments
Ayers, Brad	Active	6/20/2016	Days	Machinist	ML2T	Newberg	
Barndt, Andrew	Active	10/13/2015	Weekend	Machinist	ML2T	Newberg	
Berg, Josh	Active	10/10/2005	Days	Machinist	ML3	Newberg	
Berukoff, Joel	Active	2/21/2011	Days	Production	Production	Newberg	
Boyer, Shane	Active	1/2/2001	Days	Machinist	ML3	Newberg	

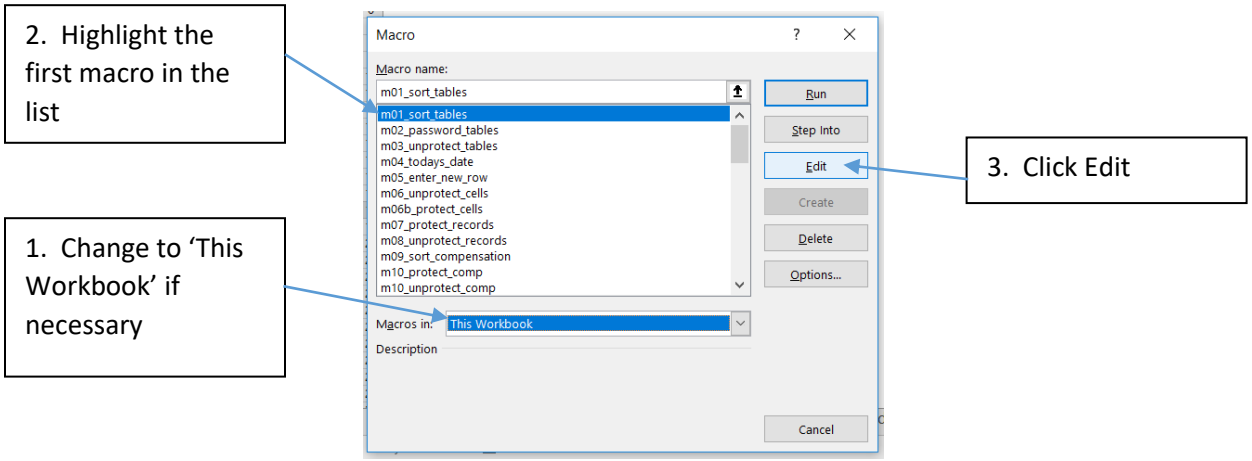
3.7. Increasing the Maximum Number of Rows

3.7.1. In order to speed up the application, there is currently a limit of 50000 training records. In the event that this needs to be increased, the following process can be used:

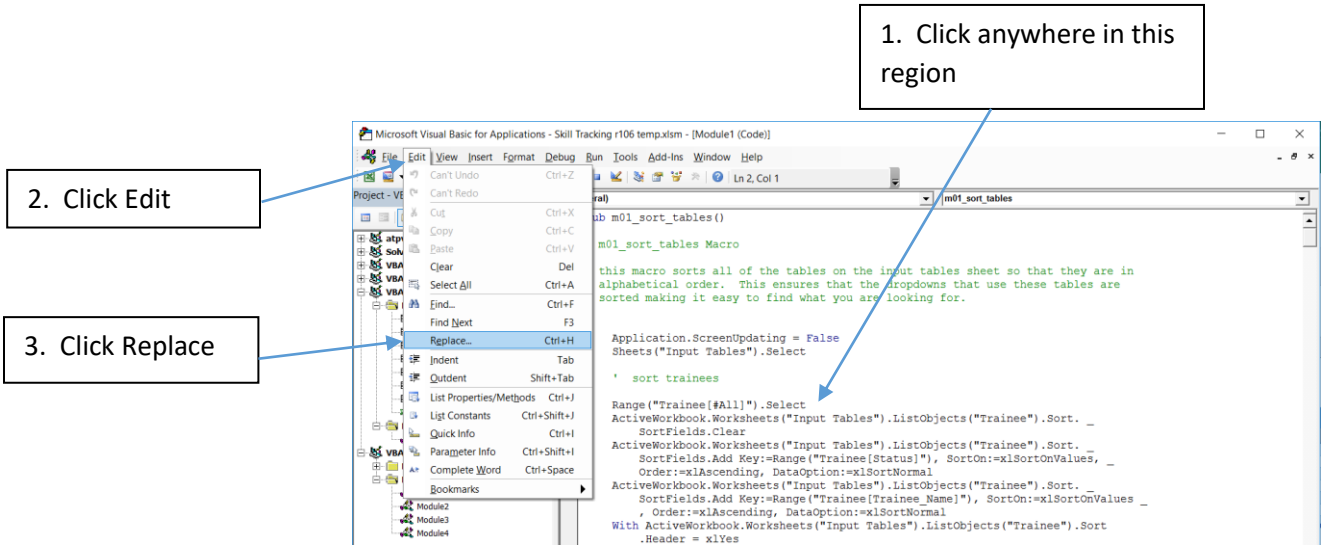
3.7.1.1. In the file, go to the developer tab and click on Macros



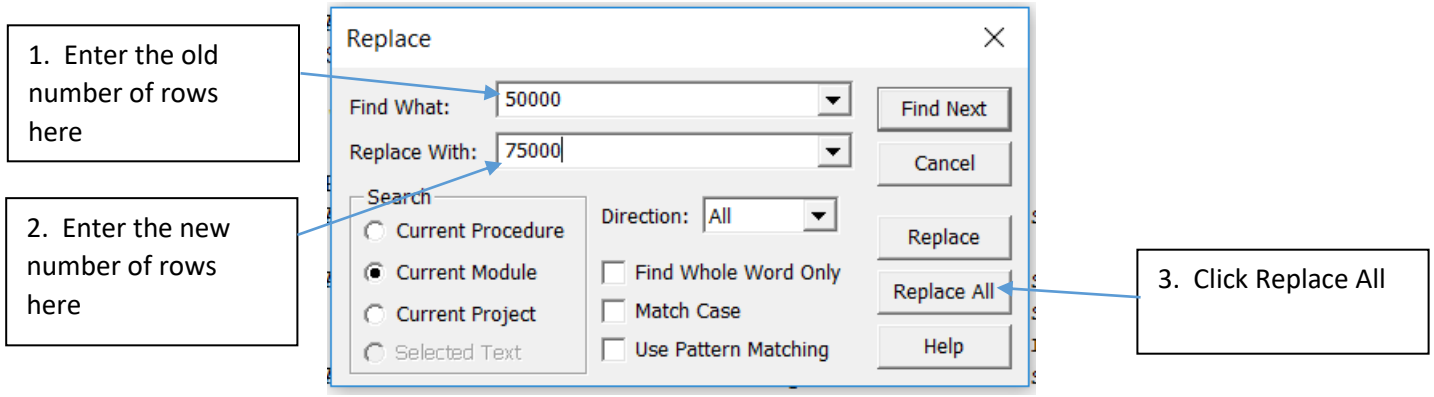
3.7.1.2. In the pop-up, change 'Macros in:' to 'This Workbook' if necessary, select the first macro in the list, and click Edit.



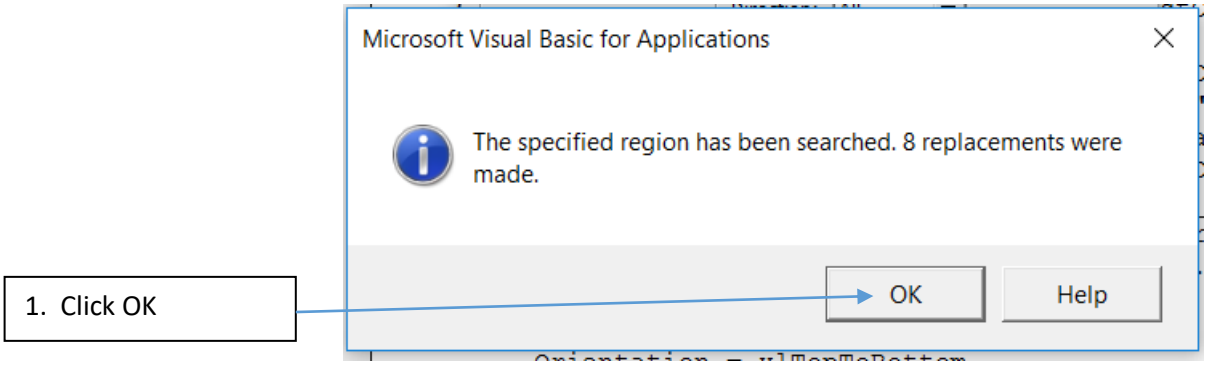
3.7.1.3. Clicking on Edit opens the Visual Basic editor. From here, click in the space where the code is, go to the Edit dropdown menu and click Replace



3.7.1.4. In the pop-up, enter the current maximum number of rows (50000 as of this rev) into the Find What: field and enter the new desired maximum into the Replace With: field (e.g. 75000). Then click Replace All



3.7.1.5. A message window will appear which states the number of replacements that were made. Click OK.



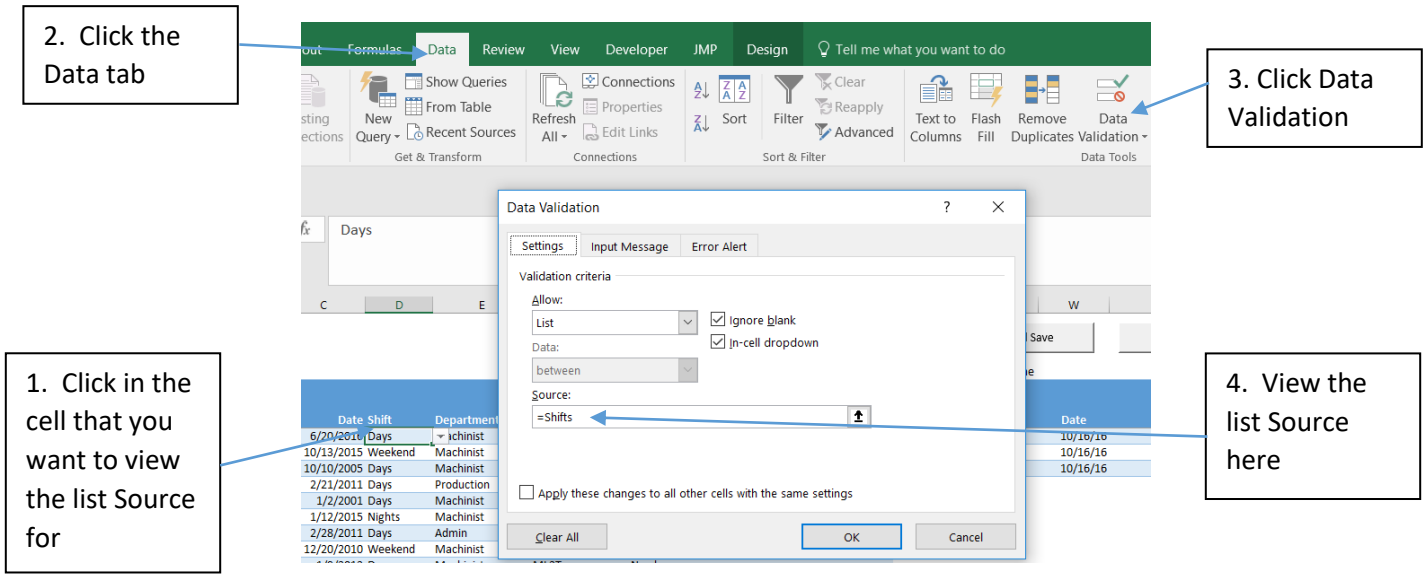
3.7.1.6. The code that references the maximum number of rows also needs to be able to find the last row in the set. It does this by going to an arbitrary position (currently row 50010 or 10 rows past the end of the column) beyond the end of the data and then finding the last row. To keep this functionality working properly, repeat the previous steps except instead of finding and replacing 50000 with 75000 (or your desired number), <u>you should find and replace 50010 with 75010 (or 10 rows more than your desired number).</u>

3.7.1.7. Save the file.

3.8. Changing Dropdown List Values

3.8.1. Viewing the list source

3.8.1.1. Click the Unprotect button and enter the password, then click in the cell that you want to find the list source for, then click Excel's Data tab, then select Data Validation to view the list's Source. Finding the field in the Input Tables with the same name as the source will show you the options available in the dropdown. New items added under the field name in the Input Tables will automatically show up as options in the dropdown.

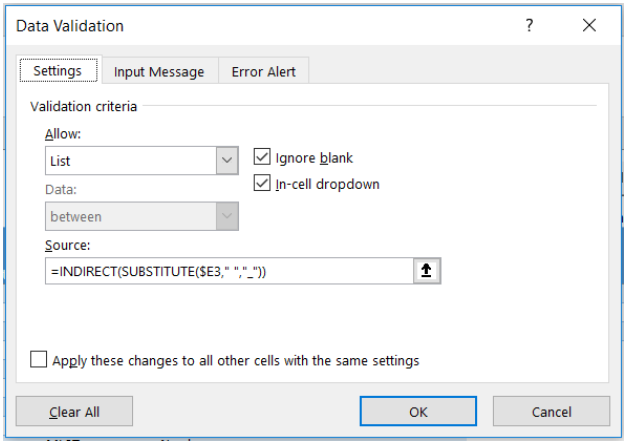


3.8.2. Lists using named ranges as sources: As shown in the example above, the most common way for dropdowns to receive their values is from data validation where a list is used and the source equals a named range. In this case, if a new entry is added to the named range, or a value is changed, then the new entry will automatically show up as an option in the dropdown. For instance, in the Input Table's table Trainee, the Shift field lists the shifts that are available to choose from. Looking at the data validation for this field will show you that its source is =Shifts. The table Shifts also exists in the Input Tables sheet and provides the options for this dropdown. The user manual section Table Names, Descriptions, and Field Details will help explain the source

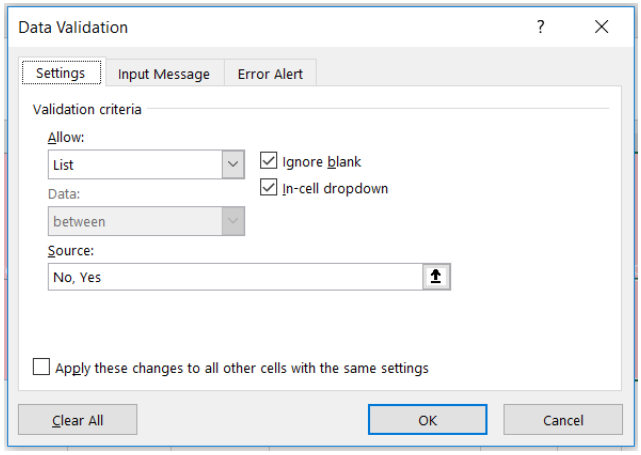
3.8.3. Lists that are contingent upon other entries: A less common and more complicated way that lists are determined is when the list displayed in the dropdown is contingent upon a previously entered value. For instance, the 'Jobs within Departments' options that are displayed in the Trainee table are dependent upon the department to which the trainee is assigned. These relationships are determined by the Input Table's Department_Name table and the 'Jobs within Departments' section. User manual section 'Entering a new row of data in a table: Input Tables Department Name and Jobs within Departments' provides more information on how these relationships are set up.

The screen capture below shows the data validation for this scenario. In this case, the list source is the field that the user enters in cell E3, where the options available for E3 are

defined field names. The Indirect command tells Excel to get the field name from cell E3 and the Substitutes command substitutes any spaces in that name with underscores (_) since Excel automatically does this when defining a named range.



3.8.4. Lists options from direct entries: There are a few instances where the possible entries will not typically be changed by the user. These are where the options are Yes or No as an answer to a question, or Active or Inactive to describe a person's status with the company. Listing these in a table would only clutter the sheet. In these examples, the list source appears as:

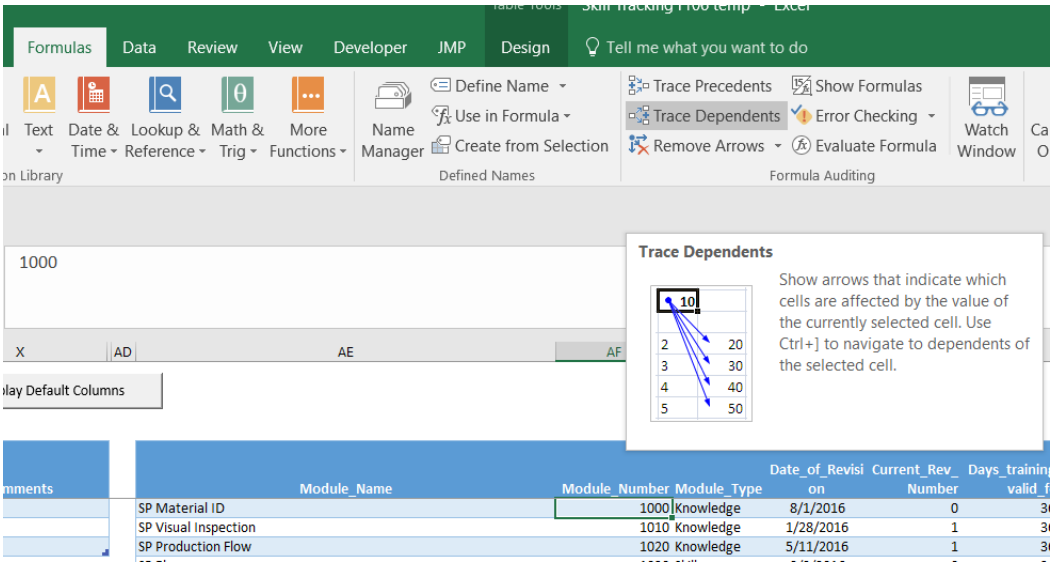


3.9. Removing Unnecessary Columns

3.9.1. If the user determines that the information contained in a column is not necessary for their organization, they may wish to hide the column. Deleting a column is not recommended as it may interfere with a macros function. The following steps will show how to hide the column from view and remove it from an error check and other columns where it is referenced.

3.9.1.1. Follow the User Manual section Hiding/Unhiding columns to unhide all of the columns on the sheet.

3.9.1.2. Click a cell in the column you wish to hide, click on the Formula's tab and then click Trace Dependents.



3.10. Enabling the File Backup Function

3.10.1. Overview: The backup function can be executed on two different events: Save (including Save As) or Close. The backup copies of the file will be named as the file name plus the date and time of the event, and the files will be saved in a folder that the user specifies. It is up to the user to periodically delete older backup files to avoid taking up excess memory. If the file is saved on a server which is automatically backed up, using the Skill Tracker's built-in functionality is not necessary. The benefits of using the different events are as follows:

3.10.1.1. Save (including SaveAs) method: The Save function executes whenever many of the macros are used, but this type of save will not trigger a backup to be created. When the user closes the file, there will be a pop up that will ask the user to save the file and this will trigger the backup as will using the save or save as commands in Excel. Since it is likely and recommended that the user will frequently save their work, this method of creating a backup can lead to many copies of the file being created and the user will need to regularly delete some of the older backup files. However, if the user tends to leave the file open and not regularly close it, this is the recommended backup method.

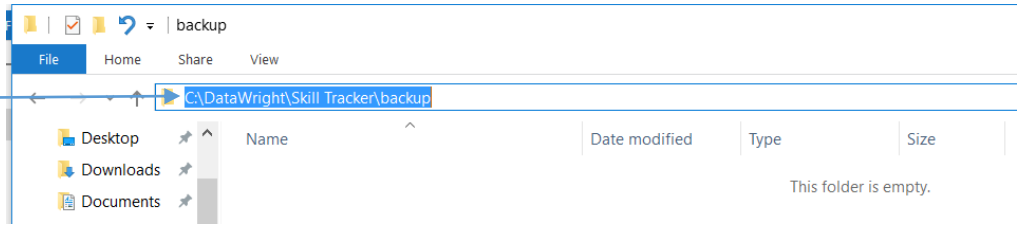
3.10.1.2. Close method: If the user tends to use the file and close it when finished, this method of backup is adequate. A backup copy will be created each time the file is closed.

3.10.2. Specifying the backup location

3.10.2.1. The backup can be saved in any location that the user desires. For this example, a folder called 'backup' has been created inside the folder where the Skill Tracker resides. If the user is worried about the Skill Tracker folder being deleted, then another location may be desired.

3.10.2.2. From windows explorer, open the desired backup location and copy its address

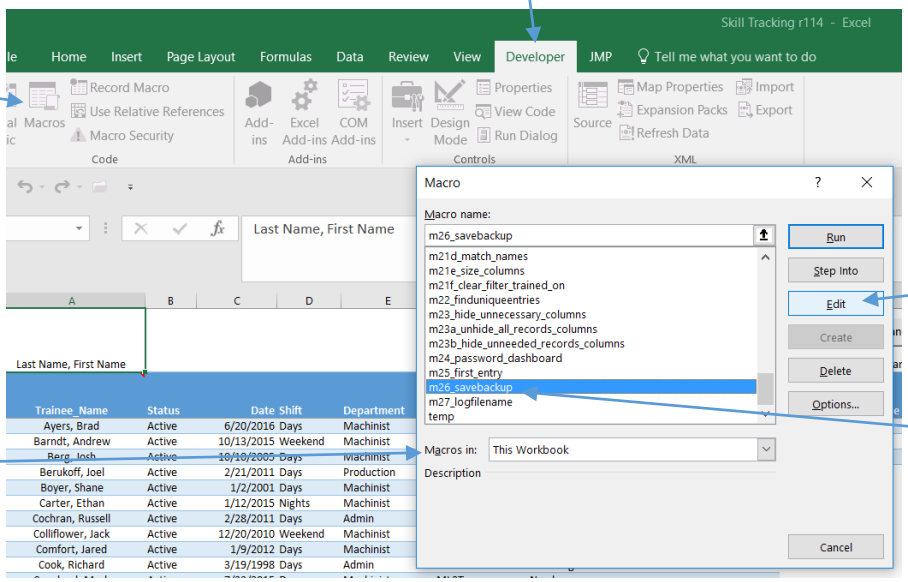
1. Go to the backup location in Windows explorer and copy the folder's address by highlighting and copying here



3.10.2.3. Open the macro so that you can add the backup location to the backup macro m26_savebackup by: clicking on Excel's developer tab, clicking the Macros button, change Macros in to 'This Workbook' if necessary, highlight m26_savebackup, and click Edit

1. Click on the developer tab

2. Click the Macros button (will not be greyed out)



3. Change 'Macros in:' to 'This Workbook' if necessary

4. Click once to highlight m26_savebackup

5. Click Edit

3.10.2.4. Add the backup folder location to the path in the macro (replace any existing folder path that might be there) by pasting the copied folder location between the quotes after backupfolder =. Be sure to add a backslash at the end.

1. Paste the backup folder location between the quotes here, replacing any existing folder path.

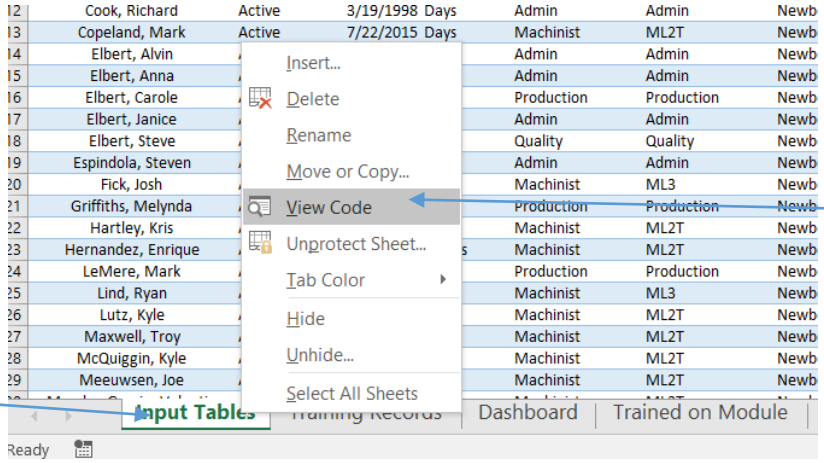
```
Sub m26_savebackup()
'
' m26_savebackup Macro
'
Dim backupfolder As String
Dim savedate

savedate = Date

Dim savetime
savetime = Time
Dim formattime As String
formattime = Format(savetime, "hh.MM.ss")
Dim formatdate As String
formatdate = Format(savedate, "DD-MM-YYYY")

' the backup folder location goes between the quotes in line below.  Be sure to add a backslash at the end
 backupfolder = "C:\DataWright\Skill Tracker\backup\"

ActiveWorkbook.SaveCopyAs Filename:=backupfolder & formatdate & " " & formattime & " " & ActiveWorkbook.Name

'
End Sub
```

2. Add a backslash at end of file path if there isn't one

3.10.3. Choose to execute the backup when either saving or closing the file.

3.10.3.1. To execute when closing the file

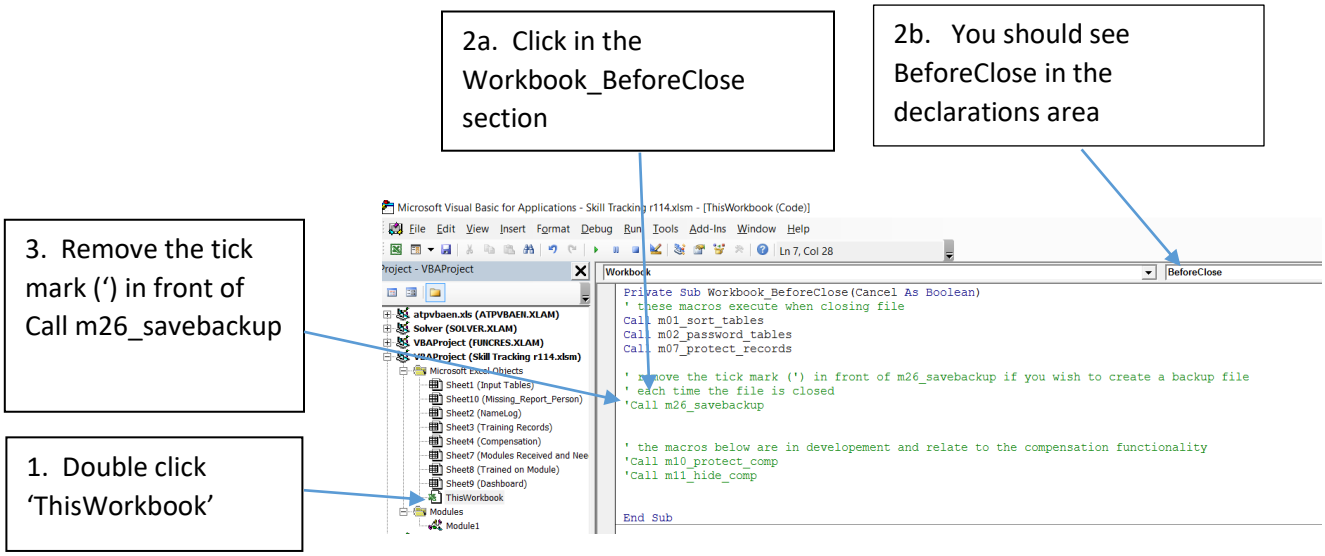
3.10.3.1.1. Place the mouse cursor over a tab name, right click, and click View Code



2. Click View Code

1. Put the mouse cursor over a tab name such as 'Input Tables' and right click to bring up the menu

3.10.3.1.2. Clicking View Code will open the VBA editor and then double click 'This Workbook'. Find the section that executes before closing (look for Workbook_BeforeClose) and click in that section. Remove the tick mark from in front of m26_savebackup to activate the code.



3.10.3.2. To execute when saving the file, follow the steps above in 'To execute when closing the file' but with the following changes