DSO 401: Data Analysis with Spreadsheets

USC Marshall School of Business

Data Sciences & Operations

More Information
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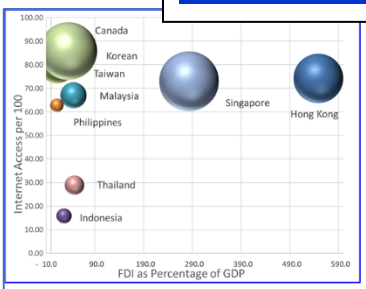
Who should take this course?

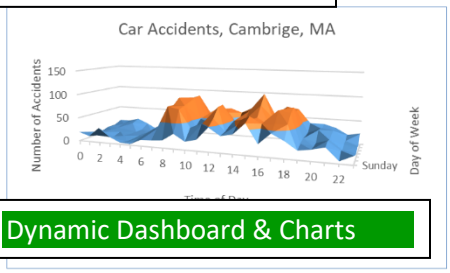
- **Students who are interested in working in the finance, real-estate and consultancy fields especially.**
- **Students who want to master the use and design of spreadsheets using Excel in areas of information systems, marketing and operations**
- **Students who want to have data analytical skills as a hiring competitive advantage**

Course Objectives

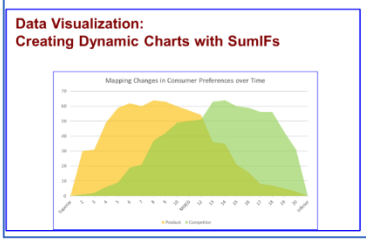
- Systematically build spreadsheet-based business and other models
- Present data effectively through the use of graphs, pivot tables and other data visualization tools
- Apply various logical, lookup and reference functions to extract appropriate values from datasets
- Effectively apply advanced data analytic tools, including advance filters, scenario managers and the solver to achieve optimal solutions in data analysis
- Utilize macros to effectively increase efficiency in data extraction and analyses
- Create basic custom functions

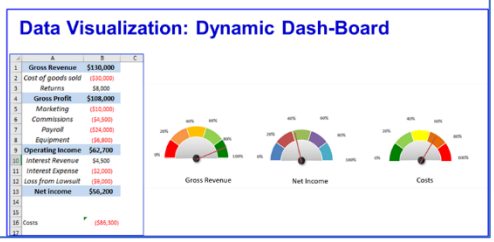
What Can Excel Do?





Dynamic Dashboard & Charts





TOPICS COVERED

Workshop #2
Conditional Formatting & Data Visualization
Workshop #3
The IF Function: The workhorse of Excel
Workshop #4:
Lookup and Reference Functions
Workshop #5:
Understanding Array Functions & Syntax
Workshop #6
Excel's SUMIFS, Date and Time Functions
Workshop #7
Choose, Errors & Pivot Tables (I)
Workshop #8
Pivot Tables (II) & Gauge Charts
Workshop #9
Sorting, SubTotal, Outline & Advanced Filter
Workshop #10
Text Functions & Regression Review
Workshop #11
Indirect & Advance Topics (I) Goal Seek Data Tables
Workshop #12 & #13
Advanced Topics (II) Macros, Custom Functions & Solver

Custom Functions

```
at  Debug  Run  Tools  Add-Ins  Window  Help
Ln 1, Col 1
(General)
Function ConfidenceP(P, N, Alpha)
MT = WorksheetFunction.Norm_S_Inv(1 - Alpha / 2)
MG = Sqr((P * (1 - P)) / N)
ConfidenceP = MT * MG
End Function
```

```
(General)                                   SubThe
Function SubThe(A)
If Left(A, 4) = "The " Then
SubThe = WorksheetFunction.Substitute(A, "The ", "", 1)
Else
SubThe = A
End If
End Function
```

Complex Functions

```
=IF(E2-F2*XLOOKUP(C2,Reference_Table!$A$2:$A$6,Reference_Table!$D$2:$D$6)>0,(E2-F2*XLOOKUP(C2,Reference_Table!$A$2:$A$6,Reference_Table!$D$2:$D$6))*XLOOKUP(C2,Reference_Table!$A$2:$A$6,Reference_Table!$E$2:$E$6),0)
```