

Appendix A

HumAFAS1/HUMAFAS2 Example:

```
VAR HumAFAS1 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]),  
FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All  
Classes'[Site Location]),  
'All Classes'[Course Identifier] = "ENGL-2410")  
VAR HumAFAS2 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]),  
FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All  
Classes'[Site Location]),  
'All Classes'[Course Identifier] = "ENGL-2420")
```

- Note that the only difference between the two is the information after the last comma (i.e. 'All Classes'[Course Identifier] = "Your course here")

Since the two courses mentioned are required (i.e. students have no choice but to take them), you can write the above as one variable instead.

```
VAR HumAFAS12 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]),  
FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All  
Classes'[Site Location]),  
'All Classes'[Course Identifier] = "ENGL-2410" || 'All Classes'[Course Identifier] =  
"ENGL-2420")
```

Appendix B

HUMAFAS3 Example:

```
VAR HumAFAS3 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]),
FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All
Classes'[Site Location]),
'All Classes'[Course Identifier] = "ART-1035" || 'All Classes'[Course Identifier] =
"ART-2000" || 'All Classes'[Course Identifier] = "ART-2020" ||
'All Classes'[Course Identifier] = "EGRT-2020" ||
'All Classes'[Course Identifier] = "ENGL-2110" || 'All Classes'[Course Identifier] =
"ENGL-2120" || 'All Classes'[Course Identifier] = "ENGL-2210" || 'All Classes'[Course
Identifier] = "ENGL-2220" ||
'All Classes'[Course Identifier] = "HUM-1010" || 'All Classes'[Course Identifier] =
"HUM-1020" || 'All Classes'[Course Identifier] = "HUM-2860" ||
'All Classes'[Course Identifier] = "MUS-1030" ||
'All Classes'[Course Identifier] = "PHIL-1030" || 'All Classes'[Course Identifier] =
"PHIL-1040" || 'All Classes'[Course Identifier] = "PHIL-2020" || 'All Classes'[Course
Identifier] = "PHIL-2200" ||
'All Classes'[Course Identifier] = "PHIL-2640" ||
'All Classes'[Course Identifier] = "RELS-2020" ||
'All Classes'[Course Identifier] = "SPAN-1030" ||
'All Classes'[Course Identifier] = "THEA-1030"
)
```

- And just to be clear, the summed variable is as simple as it sounds

```
VAR HumAFAS = HumAFAS1 + HumAFAS2 + HumAFAS3
```

Appendix D

Step 6.c. SWITCH Statement Example (AA and AS Program):

```
Return
Switch(true(),
[Degree Type] = "AS" || [Degree Type] = "TTP-AS",

Switch(true(),
[Major] = "AFAS", HumAFAS,
[Major] = "AMST", HumAMST,
[Major] = "CINS" || [Major] = "UCS", HumCINS,
[Major] = "CONT", HumCONT,
[Major] = "ENGT", HumENGT,
[Major] = "DIGM", HumDIGM,
[Major] = "MSIN", HumMSIN,
[Major] = "SOCA" || [Major] = "USOC", HumSOCA,
[Major] = "PSYC" || [Major] = "SCWK" || [Major] = "UPSY" || [Major] = "USW", HumPSYC,
[Major] = "UEX" || [Major] = "UKI" || [Major] = "USLM" || [Major] = "UIS" || [Major] =
"UMKT", UEX,
[Major] = "UFCS", UFCS,
[Major] = "UTHA", HumTHTR,
[Major] = "UPS", HumPLSC,
HumELSEAS),

[Degree Type] = "AA" || [Degree Type] = "TTP-AA",

SWITCH(TRUE(),
[Major] = "ARED" || [Major] = "ARHI" || [Major] = "FASA" || [Major] = "DIGM", HumARED,
[Major] = "BRCT" || [Major] = "DNCE" || [Major] = "JRNL" || [Major] = "MCOM" || [Major]
= "PHIL", HumBRCT,
[Major] = "ENGL" || [Major] = "UENG", HumENGL,
[Major] = "FREN" || [Major] = "GERM" || [Major] = "SPAN" || [Major] = "UFL", HumFREN,
[Major] = "GENA" || [Major] = "LBAA", HumGENA,
[Major] = "MUSA", HumMUSA,
[Major] = "MUSE", HumMUSE,
[Major] = "PLSC" || [Major] = "UPS", HumPLSC,
[Major] = "RLGS", HumRLGS,
[Major] = "SPCH", HumSPCH,
[Major] = "THTR" || [Major] = "UTHA", HumTHTR,
[Major] = "WMST", HumWMST,
[Major] = "PSYC" || [Major] = "USW", HumPSYC,
[Major] = "USOC", HumSOCA,
[Major] = "UTHA", HumTHTR,
[Major] = "UARS", UARS,
HUMELSEAA))
```

Appendix D

Step 6.d. “Any Physical Education Course 1000 or higher” DAX Example:

```
CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All  
Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All Classes'[Site Location]  
'All Classes'[Subject] = "PHED", 'All Classes'[Course Number] >= 1000)
```

- Note that in place of “course identifier” at the end, we put in the subject area and the course number requirement.

Appendix E

Step 6.e. Comparing Offerings to Requirements Example (Note that some Variables in this example includes a choice between Science and Math courses):

```
- VAR COMM = IF([Communication Hours For Program at Location] >= [Communication Requirements], [Communication Requirements], [Communication Hours For Program at Location])
VAR HUM = IF([Humanities Hours For Program at Location] >= [Humanities Requirements], [Humanities Requirements], [Humanities Hours For Program at Location])
VAR HIST = IF([History Hours for Program at Location] >= [History Requirements], [History Requirements], [History Hours for Program at Location])
VAR BSS = IF([BSS Hours for Program at Location] >= [Behavioral/Social Sciences Requirements], [Behavioral/Social Sciences Requirements], [BSS Hours for Program at Location])
VAR MATH = IF([Mathematics Hours for Program at Location] >= [Mathematics Requirements], [Mathematics Requirements], [Mathematics Hours for Program at Location])
VAR NS = IF([Natural Science Hours for Program at Location] >= [Natural Science Requirements], [Natural Science Requirements], [Natural Science Hours for Program at Location])
VAR MATHNS = IF(MATH + NS > 4, 4, MATH + NS)

return

Switch(true(),
[Degree Type] = "AS" || [Degree Type] = "AA" || [Degree Type] = "TTP-AS" || [Degree Type] = "TTP-AA", COMM + HUM + HIST + BSS + MATH + NS,
[Degree Type] = "AAS", COMM + HUM + HIST + BSS + MATHNS,

[Degree Type] = "AFA",

COMM + HUM + HIST + BSS + MATH + NS,

[Degree Type] = "AST",

COMM + HUM + HIST + BSS + MATH + NS,

[Degree Type] = "CERT",

blank()
)
```

Appendix G

Step 6.f. Excluding Required Courses from Elective Options Example:

```
VAR SCWK1 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All  
Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes','All Classes'[Site Location]),  
'All Classes'[Course Identifier] = "POLS-1030" || 'All Classes'[Course Identifier] = "SWRK-  
2010")  
VAR SCWK2 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All  
Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes','All Classes'[Site Location]),  
'All Classes'[Subject] = "SWRK" && 'All Classes'[Course Number] >= 1000, NOT('All  
Classes'[Course Identifier] = "SWRK-2010"))  
VAR SCWK3 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All  
Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes','All Classes'[Site Location]),  
( 'All Classes'[Subject] = "SWRK" && 'All Classes'[Course Number] >= 1000) ||  
( 'All Classes'[Subject] = "PSYC" && 'All Classes'[Course Number] >= 1000) ||  
( 'All Classes'[Subject] = "SOCI" && 'All Classes'[Course Number] >= 1000),  
NOT('All Classes'[Course Identifier] = "PSYC-1030"), NOT('All Classes'[Course Identifier] =  
"SOCI-1010"), NOT('All Classes'[Course Identifier] = "SWRK-2010"))  
VAR SCWK23a = IF(SCWK2 + SCWK3 > 6, 6, SCWK2 + SCWK3)  
VAR SCWK4 = IF(ElBucket > 7, 7, ElBucket)  
VAR SCWK = SCWK1 + SCWK23a + SCWK4
```

Appendix G

Step 6.f. "Buckets" Example:

```
VAR COMMBucket = IF([Communication Hours For Program at Location] > [Communication Required Hours], [Communication Hours For Program at Location] - [Communication Required Hours], 0)
VAR HUMBucket = IF([Humanities Hours For Program at Location] > [Humanities Required Hours], [Humanities Hours For Program at Location] - [Humanities Required Hours], 0)
VAR HISTBucket = IF([History Hours for Program at Location] > [History Required Hours], [History Hours for Program at Location] - [History Required Hours], 0)
VAR BSSBucket = IF([BSS Hours for Program at Location] > [Behavioral/Social Sciences Required Hours], [BSS Hours for Program at Location] - [Behavioral/Social Sciences Required Hours], 0)
VAR MATHBucket = IF([Mathematics Hours for Program at Location] > [Mathematics Required Hours], [Mathematics Hours for Program at Location] - [Mathematics Required Hours], 0)
VAR NSBucket = IF([Natural Science Hours for Program at Location] > [Natural Science Required Hours], [Natural Science Hours for Program at Location] - [Natural Science Required Hours], 0)
VAR GenEdBucket = COMMBucket + HUMBucket + HISTBucket + BSSBucket + MATHBucket + NSBucket
VAR LITBucket1 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All Classes'[Site Location]), 'All Classes'[Course Identifier] = "ENGL-2110" || 'All Classes'[Course Identifier] = "ENGL-2120" || 'All Classes'[Course Identifier] = "ENGL-2210" || 'All Classes'[Course Identifier] = "ENGL-2220" || 'All Classes'[Course Identifier] = "ENGL-2410" || 'All Classes'[Course Identifier] = "ENGL-2420")
VAR LITBucket = IF([Humanities Hours For Program at Location] > LITBucket1, [Humanities Hours For Program at Location] - [Humanities Required Hours], 0)
VAR PHEDBucket = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All Classes'[Site Location]), 'All Classes'[Subject] = "PHED", 'All Classes'[Course Number] >= 1000)
VAR ELBucket = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All Classes'[Site Location]), 'All Classes'[General Education Courses] = "Other", 'All Classes'[Course Number] >= 1000)

VAR FL1 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]), FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All Classes'[Site Location]), 'All Classes'[Course Identifier] = "FREN-2010" || 'All Classes'[Course Identifier] = "FREN-2020" || 'All Classes'[Course Identifier] = "GERM-2010" || 'All Classes'[Course Identifier] = "GERM-2020" || 'All Classes'[Course Identifier] = "SPAN-2010" || 'All Classes'[Course Identifier] = "SPAN-2020")
VAR FL = IF(FL1 > 6, 6, FL1)
VAR FLBucket = IF(FL1 > [Foreign Language Required Hours], FL1 - [Foreign Language Required Hours], 0)
```

- Note that if there is not an excess of hours, the bucket simply gets filled with 0. We also have a GenEdBucket (for Area of Emphasis requirements that just require another General Education Class) as well as an Elective Bucket that catches all courses that are not General Education Classes.

Appendix H

Using Buckets in Context (SCED program) Example:

```
VAR SCED1 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]),
FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All
Classes'[Site Location]),
'All Classes'[Course Identifier] = "EDUC-2210" || 'All Classes'[Course Identifier] =
"EDUC-2300")
VAR SCED1a = IF(SCED1 > 3, 3, SCED1)
VAR SCED2 = CALCULATE(SUMX(DISTINCT('All Classes'[Course Identifier]),
FIRSTNONBLANK('All Classes'[Credit Hours], 0)), ALLEXCEPT('All Classes', 'All
Classes'[Site Location]),
'All Classes'[Course Identifier] = "EDUC-1010" || 'All Classes'[Course Identifier] =
"EDUC-2910" ||
'All Classes'[Course Identifier] = "INFS-1010" ||
'All Classes'[Course Identifier] = "SPED-2010")
VAR SCED3 = PHEDBucket + FLBucket + MATHBucket
VAR SCED2a = IF(SCED2 + SCED3 > 16, 16, SCED2 + SCED3)
VAR SCED = SCED1a + SCED2a
```


Appendix I

Calculate Percentage Example:

```
VAR AE =  
  
SWITCH(TRUE(),  
[Degree Type] = "AS", [Area of Emphasis at Location AS],  
[Degree Type] = "AA", [Area of Emphasis at Location AA],  
[Degree Type] = "AAS" || [Degree Type] = "AFA" || [Degree Type] = "AST", [Area of  
Emphasis at Location AAS/AST/AFA],  
[Degree Type] = "CERT", [Area of Emphasis at Location CERT],  
CONTAINSSTRING([Degree Type], "TTP"), [Area of Emphasis at Location TTP],  
0)  
  
return  
  
([GenEd Hours for Program at Location] + AE) / [Total Credit Hours]
```

Appendix J

This measure finds the max value for a given location, and then concatenates all programs that have that max value together.

```
Max Program(s) at Location =  
var MaxP = CALCULATE(Max('Programs'[Percent of Program at Location]), ALLEXCEPT(Programs,  
'Programs'[Campus Locations],Programs[Degree Type], 'Programs'[Term]))  
var tbl = SUMMARIZE('Programs', 'Programs'[Program], 'Programs'[Percent of Program at  
Location])  
--MAXX('Programs', 'Programs'[Percent of Program at Location])  
  
return  
--CALCULATE(Max('Programs'[Program]),Programs[Percent of Program at Location] = MaxP)  
  
Calculate(CONCATENATEX('Programs', 'Programs'[Program], ", "), 'Programs'[Percent of Program  
at Location] = MaxP)
```