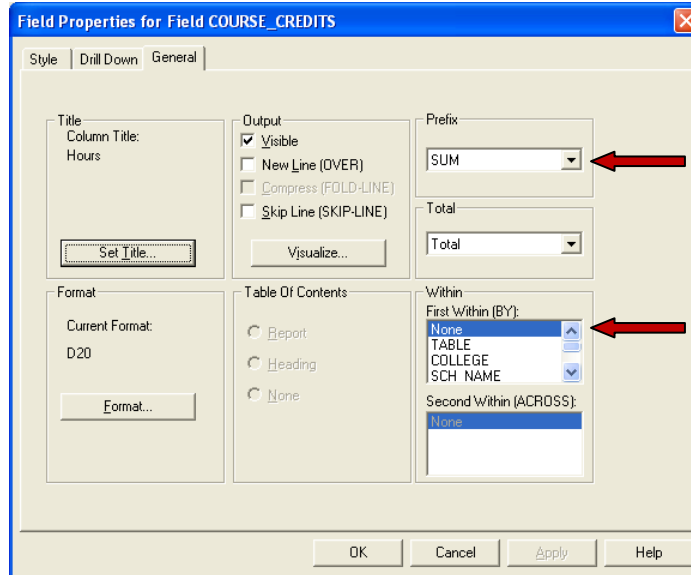
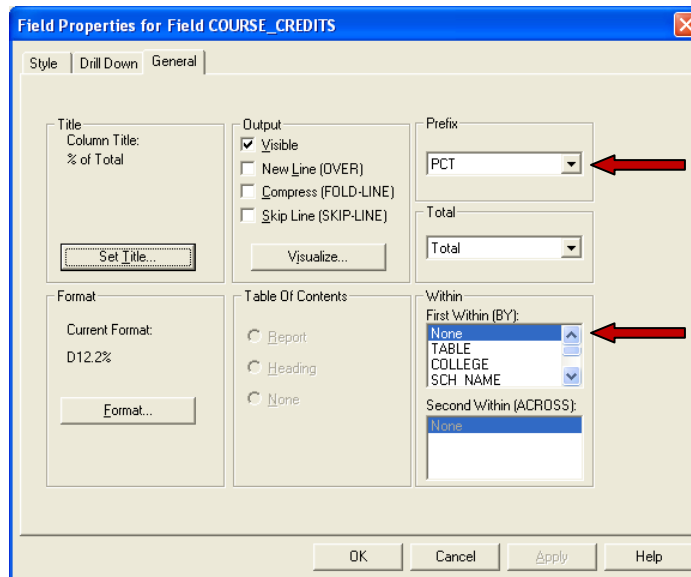


Three Methods for Summing Credit Hours and Calculating Percentages at Multiple Sort Levels

Report 1: Using BY Fields with Subtotals



Ex. No BY field is selected for credit hours [COURSE_CREDITS] to be summed within.



Ex. No BY field is selected for the percentage of credit hours [COURSE_CREDITS] to be calculated within.

Source Code:

```
TABLE FILE HOLDCODES
SUM
  COURSE_CREDITS/D20 AS 'Hours'
  PCT.COURSE_CREDITS/D12.2% AS '% of,Total'
BY COLLEGE AS 'College'
BY SCH_NAME AS 'School'
BY ORGANIZATION_DESC AS 'Organization'
BY STUDENT_LEVEL AS 'Level'
ON COLLEGE SUBTOTAL AS 'Total College'
ON SCH_NAME SUBTOTAL AS 'Total School of'
ON SCH_NAME UNDER-LINE
ON ORGANIZATION_DESC SUBTOTAL AS 'Total Org'
...
```

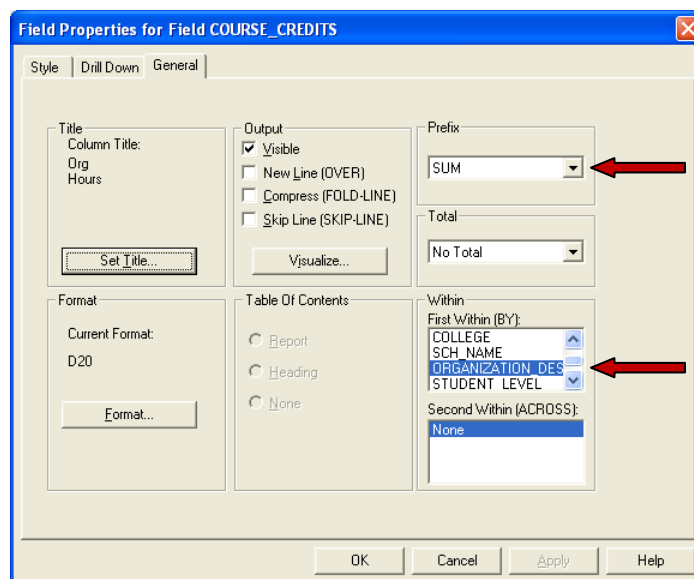
Results:

Each line of the report provides the total number of hours at the lowest sort level [College->School ->Org->**Student Level**] and the corresponding percentage of the total hours for the University. Subtotals provide total hours at the higher sort levels (i.e., College, School, Org) and corresponding percentages of the total hours for the University.

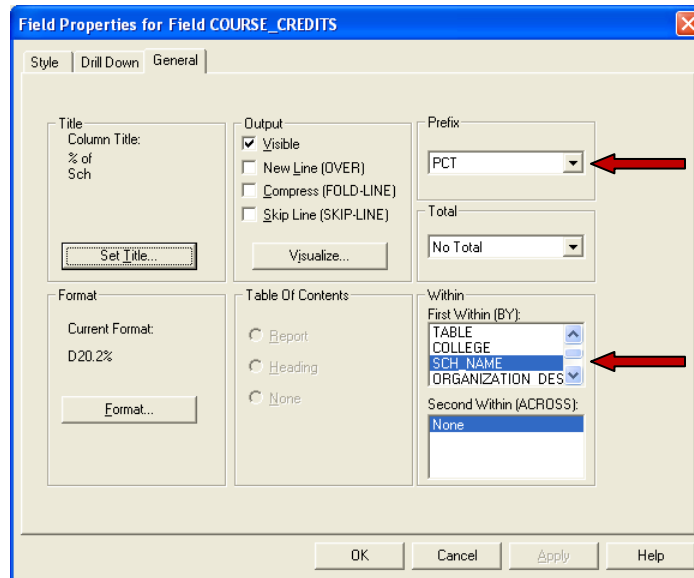
For Example:

1. The 54 Undergraduate hours for the Org Modern Languages are 2.93% of the total hours for the University.
2. The 60 total hours for the Org Modern Languages are 3.26% of the total hours for the University.
3. The 64 total hours for the School of Modern Languages & Cultural Studies are 3.48% of the total hours for the University.
4. The 720 total hours for the College of Humanities and Social Sciences are 39.13% of the total hours for the University.

Report 2: Using WITHIN with BY Fields



Ex. Credit hours [COURSE_CREDITS] are summed within each Org [ORGANIZATION_DESC].



Ex. The sum of credit hours [COURSE_CREDITS] at each student level within each Org is calculated as a percentage of the total credit hours for the School [SCH_NAME] the Org is within.

Source Code:

TABLE FILE HOLDCODES

SUM

```
TOT.COURSE_CREDITS/D20 AS 'Univ,Hours'
COURSE_CREDITS/D20 WITHIN COLLEGE AS 'Coll,Hours'
COURSE_CREDITS/D20 WITHIN SCH_NAME AS 'Sch,Hours'
COURSE_CREDITS/D20 WITHIN ORGANIZATION_DESC AS 'Org,Hours'
COURSE_CREDITS/D20 WITHIN STUDENT_LEVEL AS 'Lev,Hours'
PCT.COURSE_CREDITS/D20.2% WITHIN TABLE AS '% of,Univ'
PCT.COURSE_CREDITS/D20.2% WITHIN COLLEGE AS '% of,Coll'
PCT.COURSE_CREDITS/D20.2% WITHIN SCH_NAME AS '% of,Sch'
PCT.COURSE_CREDITS/D20.2% WITHIN ORGANIZATION_DESC AS '% of,Org'
```

BY COLLEGE AS 'College'

BY SCH_NAME AS 'School'

BY ORGANIZATION_DESC AS 'Organization'

BY HIGHEST STUDENT_LEVEL AS 'Level'

...

Results:

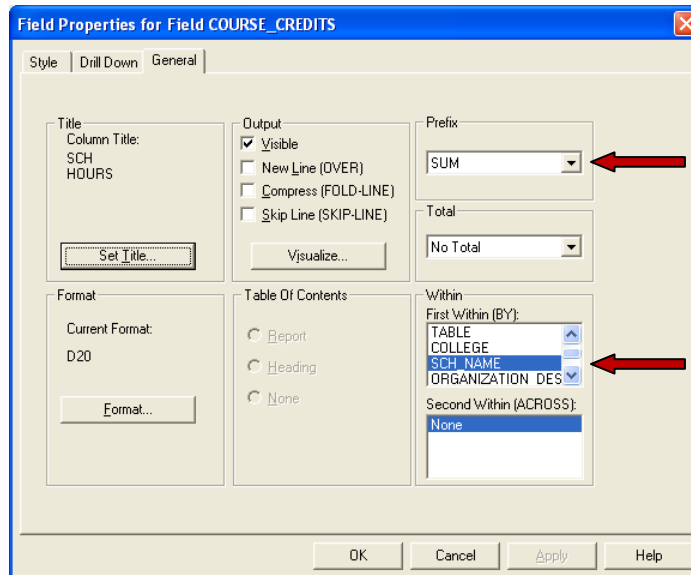
Each line of the report displays the total number of hours at each sort level and the percentage of the hours at the lowest sort level [College->School->Org->**Student Level**] within the total number of hours at each sort level.

For example: The 54 Undergraduate hours for the Org Modern Languages are

1. 90% of the total hours for the Org Modern Languages,
2. 84.38% of the total hours for the School of Modern Languages & Cultural Studies,
3. 7.50% of the total hours for the College of Humanities and Social Sciences,
4. 2.93% of the total hours for the University.

Report 3: Using Computed Fields on Hold File Created Using WITHIN with BY Fields

Step 1: Create hold file using WITHIN with BY fields.



Ex. Credit hours [COURSE_CREDITS] are summed within each School [SCH_NAME].
(same as Report 2)

Source Code:

```
TABLE FILE HOLDCODES
```

```
SUM
```

```
TOT.COURSE_CREDITS/D20 AS 'UNIV_HOURS'
```

```
COURSE_CREDITS/D20 WITHIN COLLEGE AS 'COLL_HOURS'
```

```
COURSE_CREDITS/D20 WITHIN SCH_NAME AS 'SCH_HOURS'
```

```
COURSE_CREDITS/D20 WITHIN ORGANIZATION_DESC AS 'ORG_HOURS'
```

```
COURSE_CREDITS/D20 WITHIN STUDENT_LEVEL AS 'LEV_HOURS'
```

```
BY UNIVERSITY
```

```
BY COLLEGE
```

```
BY SCH_NAME
```

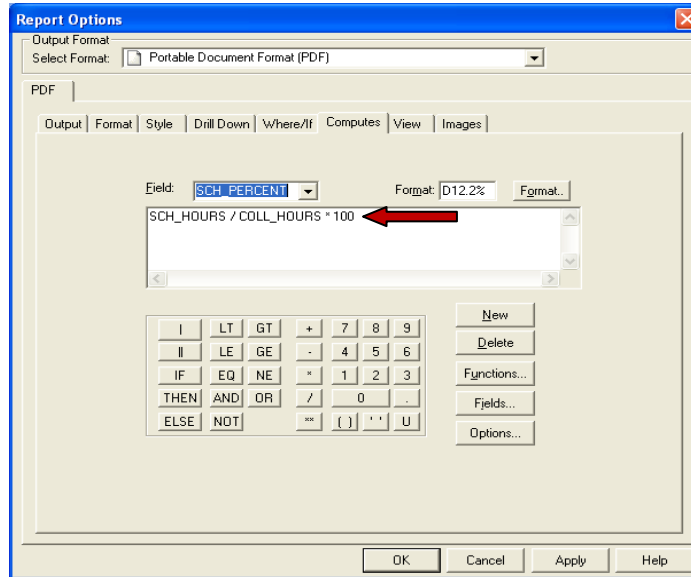
```
BY ORGANIZATION_DESC
```

```
BY STUDENT_LEVEL
```

```
ON TABLE HOLD AS HOLDHOURS FORMAT ALPHA
```

```
END
```

Step 2: Create report from hold file using computed fields for percentage calculations.



Ex. The total credit hours for the School [SCH_HOURS] are divided by the total credit hours for the College [COLL_HOURS].

Source Code:

```
TABLE FILE HOLDHOURS
BY UNIVERSITY AS 'Univ'
BY UNIV_HOURS AS 'Hours'
BY COLLEGE AS 'College'
BY COLL_HOURS AS 'Hours'
BY TOTAL COMPUTE COLL_PERCENT/D12.2% = COLL_HOURS / UNIV_HOURS * 100; AS '%'
BY SCH_NAME AS 'School'
BY SCH_HOURS AS 'Hours'
BY TOTAL COMPUTE SCH_PERCENT/D12.2% = SCH_HOURS / COLL_HOURS * 100; AS '%'
BY ORGANIZATION_DESC AS 'Organization'
BY ORG_HOURS AS 'Hours'
BY TOTAL COMPUTE ORG_PERCENT/D12.2% = ORG_HOURS / SCH_HOURS * 100; AS '%'
BY HIGHEST STUDENT_LEVEL AS 'Level'
BY LEV_HOURS AS 'Hours'
BY TOTAL COMPUTE LEV_PERCENT/D12.2% = LEV_HOURS / ORG_HOURS * 100; AS '%'
...
```

Results:

Total hours are summed at each sort level and percentages are calculated at each sort level. The sum of percentages at each sort level equals 100%.

For example:

1. The 54 Undergraduate hours for Org Modern Languages are 90% of the total hours for the Org.
2. The 60 total hours for Org Modern Languages are 93.75% of the total hours for the School of Modern Languages & Cultural Studies.
3. The 64 total hours for the School of Modern Languages & Cultural Studies are 8.89% of the total hours for the College of Humanities and Social Sciences.
4. The 720 total hours for the College of Humanities and Social Sciences are 39.13% of the total hours for the University.