

### Grouping Criteria and Boolean Expressions

You will often have to create a query that requires multiple selection criteria against one or more fields. When you have multiple conditions, you must use one of the Boolean operators to relate one criterion to another.

There are four types of Boolean operators available on the **Criteria** page: AND, OR, AND NOT, and OR NOT. The operators are used to show the relationship of one criteria row to another. Parentheses are used to further define the relationship and define the order in which the criteria are evaluated. If you do not use parentheses, the criteria are evaluated in the order listed.

This document discusses how to:

- Use **AND** and **OR** logical operators.
- Group criteria with parentheses.

Suppose you want to look for Biology classes in the 2010 Fall Term (1109) and 2011 Spring Term (1111).

1. Create a new query using these tables:
  - a. CRSE\_CATLG\_SRCH - Course Catalog Search
  - b. CLASS\_TBL - Class Table
2. The Criteria Page will appear as follows:

Query Name: WES\_SFIS\_TRAIN\_GRP\_CRITERIA\_1      Description: Group Criteria Example BEFORE

Buttons: Add Criteria, Group Criteria, Reorder Criteria

Logical	Expression1	Condition Type	Expression 2	Edit	Delete
	A.INSTITUTION - Academic Institution	equal to	B.INSTITUTION - Academic Institution	Edit	[-]
AND	A.SUBJECT - Subject Area	equal to	B.SUBJECT - Subject Area	Edit	[-]
AND	A.CATALOG_NBR - Catalog Nbr	equal to	B.CATALOG_NBR - Catalog Nbr	Edit	[-]
AND	B.SESSION_CODE - Session	not equal to	OMT	Edit	[-]
AND	A.CRSE_ID - Course ID	equal to	B.CRSE_ID - Course ID	Edit	[-]
AND	B.STRM - Term	in list	(1109;1111)	Edit	[-]
AND	A.SUBJECT - Subject Area	equal to	BIOL	Edit	[-]

Buttons: Save, Save As, New Query, Preferences, Properties, New Union, Return to Search

3. If you want to add the Subject Area of MB&B to the criteria, you would use the Condition Type of **in list** which will result in 135 records being returned (as of the date of this writing).
4. But, suppose you want to see all Biology courses (Undergraduate and Graduate) but only MB&B Graduate courses, then you would need to group the criteria in this way:
  - All records where the ACAD\_CAREER = UGRD **AND** SUBJECT = BIOL

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- **OR**
  - All records where the ACAD\_CAREER = GRAD **AND** SUBJECT = BIOL **OR** SUBJECT = MB&B
5. In order to make this work properly, you will create each group separately, Undergraduate/Subject and Graduate/Subject and then group them together.
  6. If you have the *in list* expression on the Criteria page, delete it.
  7. Create the Undergrad criteria:
    - ACAD\_CAREER equal to UGRD
    - SUBJECT equal to BIOL
  8. Run the query. There should be 58 records, all Undergrads and all BIOL.
  9. Now, in order to begin grouping the criteria, on the Criteria page, click on the yellow Group Criteria button to open the **Edit Criteria Grouping** page.

**Edit Criteria Grouping**

Use the edit boxes to enter parenthesis for each criteria. Use only the "(" and ")" characters.

Logical	Expression1	Condition Type	Expression 2
	A.INSTITUTION - Academic Institution	equal to	B.INSTITUTION - Academic Institution
AND	A.SUBJECT - Subject Area	equal to	B.SUBJECT - Subject Area
AND	A.CATALOG_NBR - Catalog Nbr	equal to	B.CATALOG_NBR - Catalog Nbr
AND	B.SESSION_CODE - Session	not equal to	OMT
AND	A.CRSE_ID - Course ID	equal to	B.CRSE_ID - Course ID
AND	B.STRM - Term	in list	('1109','1111')
AND	B.ACAD_CAREER - Academic Career	equal to	UGRD
AND	B.SUBJECT - Subject Area	equal to	BIOL

OK Cancel

10. On the **Edit Criteria Grouping** page you will be grouping the Undergraduate related criteria by surrounding the two rows with parentheses.
11. The group will now appear as follows. Click OK to return to the Criteria page.

AND	(	B.ACAD_CAREER - Academic Career	equal to	UGRD	
AND		B.SUBJECT - Subject Area	equal to	BIOL	)

12. Now add the three rows for the Graduate related portion of the Criteria on the **Criteria** page and click on the Group Criteria button.
13. At this point you will be adding parentheses for the Graduate/Subject group, first to group the Subjects together and then to group the Graduate career *with* the Subjects. *NOTE: When working with parentheses, start from the inside and work outward, e.g. surround the two Subject rows, and then surround the Graduate/Subject group.*

AND	(	B.ACAD_CAREER - Academic Career	equal to	GRAD	
AND	(	B.SUBJECT - Subject Area	equal to	BIOL	
AND		B.SUBJECT - Subject Area	equal to	MB&B	)

14. Next, surround both the Undergraduate/Subject Group with the Graduate/Subject group with parentheses, essentially making them into one group. *NOTE: there must be an equal number of*

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PeopleSoft Query Reference

PeopleSoft 8.9; Query 8.48

parentheses on the right and left; otherwise, you will receive an error message. Once you have done so, the **Edit Criteria Group** page will appear as follows:

Edit Criteria Grouping		Customize   Find		First	1-11 of 11	Last
Logical	Expression1	Condition Type	Expression 2			
	A.INSTITUTION - Academic Institution	equal to	B.INSTITUTION - Academic Institution			
AND	A.SUBJECT - Subject Area	equal to	B.SUBJECT - Subject Area			
AND	A.CATALOG_NBR - Catalog Nbr	equal to	B.CATALOG_NBR - Catalog Nbr			
AND	B.SESSION_CODE - Session	not equal to	OMT			
AND	A.CRSE_ID - Course ID	equal to	B.CRSE_ID - Course ID			
AND	B.STRM - Term	in list	('1109','1111')			
AND	(( B.ACAD_CAREER - Academic Career	equal to	UGRD			
AND	B.SUBJECT - Subject Area	equal to	BIOL			)
AND	( B.ACAD_CAREER - Academic Career	equal to	GRAD			)
AND	( B.SUBJECT - Subject Area	equal to	BIOL			)
AND	B.SUBJECT - Subject Area	equal to	MB&B			)))

15. The final step is to change two of the Boolean operators from **AND** to **OR** on the **Criteria** page:
  - a. the first between the Undergraduate/Subject group and the Graduate Subject group
  - b. the second between the two Graduate Subjects

16. Click OK to return to the **Criteria** page. In the Logical column, change the **AND** to **OR** in the two places as shown below.

Criteria		Customize   Find		First	1-11 of 11	Last
Logical	Expression1	Condition Type	Expression 2	Edit	Delete	
	A.INSTITUTION - Academic Institution	equal to	B.INSTITUTION - Academic Institution	Edit		
AND	A.SUBJECT - Subject Area	equal to	B.SUBJECT - Subject Area	Edit		
AND	A.CATALOG_NBR - Catalog Nbr	equal to	B.CATALOG_NBR - Catalog Nbr	Edit		
AND	B.SESSION_CODE - Session	not equal to	OMT	Edit		
AND	A.CRSE_ID - Course ID	equal to	B.CRSE_ID - Course ID	Edit		
AND	B.STRM - Term	in list	('1109','1111')	Edit		
AND	((B.ACAD_CAREER - Academic Career	equal to	UGRD	Edit		
AND	A.SUBJECT - Subject Area	equal to	BIOL)	Edit		
OR	(B.ACAD_CAREER - Academic Career	equal to	GRAD	Edit		
AND	(A.SUBJECT - Subject Area	equal to	BIOL	Edit		
OR	A.SUBJECT - Subject Area	equal to	MB&B)))	Edit		

17. Save and run the query. There are now 87 records returned.