

## Blended Learning Course Template

Course: Database Searching Techniques: Entry Level

Unit 1: Boolean Logical Operators

Course Description: Every profession has its own, unique language, terminology and core learning resources. These core resources include online databases. PubMed is an online, biomedical database and a core electronic resource for medical residents.

Course Goals and Objectives: After completing this two week, flipped course, 10 first year residents using PubMed, will be able to:

- Execute a basic search using the Boolean operator AND
- Execute a basic search using the Boolean operator OR
- Execute an advanced search with both the AND and OR operators, by using parentheses, within the same search statement.

During this four week, flipped class, residents will:

1. Watch multimedia videos on course topics prior to meeting F2F.
2. Create a Pinterest account and post to the classroom pin-board prior to meeting F2F.
3. Execute searches in PubMed prior to meeting F2F.
4. Post strategies and search results to the classroom pin-board.
5. Attend Google Hangout sessions where the instructor will execute searches, screen share results, and give residents the opportunity to ask questions.
6. Work in teams of two, during the F2F portion of the course, to discuss searches strategies completed that were posted to the classroom pin-board prior to meeting F2F.
7. Work in teams of two, during the F2F portion of the course, to formulate search strategies and execute searches in PubMed.
8. Present their search strategies and results to the class, during the F2F portion of the course.

Unit 1 Description: Residents will learn the definitions of and how to construct a search using the Boolean logical operators AND and OR. Residents will use PubMed to execute these searches.

**Unit Learning Objectives:**

- To identify an interactive Venn diagram or video image that shows how to use the Boolean operator AND and OR and pin the image to the class Pinterest pin-board.
- To compose and execute a search using the Boolean operator AND
- To compose and execute a search using the Boolean operator OR

**Unit Learning Outcomes:**

- To explain how the Boolean operator AND informs a search
- To explain how the Boolean operator OR informs a search
- To summarize the different search results obtained when using the operator AND versus using the operator OR.
- To execute a search using the Boolean operator AND
- To execute a search using the Boolean operator OR

Week Day Hour	Asynchronous Activity and/or Strategy	Synchronous Activity and/or Strategy	In-person Activity/Strategy	Resources	Evidence and Research
One week prior to week 1 (asynchronous and synchronous activities)  Week 1 F2F activities	<p>Watch the YouTube video: <i>Basic Search: Using Boolean Operators</i></p> <p>Find an interactive Venn Diagram</p> <p>Create a Pinterest account</p> <p>Access the class Pinterest pin-board</p> <p>Pin an interactive Venn diagram to the class pin-board</p> <p>Execute two PubMed searches: One using the operator AND; One using the operator OR</p> <p>Pin search strategies to</p>	<p>Instructor led Google Hangout Session prior to F2F meeting.</p>	<p>The 10 residents will be broken up into teams of 2 for a maximum of 5 groups.</p> <p>Working within their teams, residents will compare their AND and OR search strategies and results.</p> <p>Residents may rework their strategies and ask instructor for guidance.</p> <p>Instructor will give each team two, new topics.</p> <p>Each team will formulate and execute their searches.</p> <p>Each team will present and explain</p>	<p>Video: <a href="#">Basic Search: Using Boolean Operators:</a></p> <p>Interactive Venn Diagram: <a href="http://kathyschrock.net/rbs3K/boolean/">http://kathyschrock.net/rbs3K/boolean/</a></p> <p>Google Hangout instructions: <a href="https://support.google.com/plus/topic/3008151?hl=en&amp;ref_topic=1257349">https://support.google.com/plus/topic/3008151?hl=en&amp;ref_topic=1257349</a></p> <p>Class Pin-board: <a href="http://pinterest.com/umassidstudent/pins/">http://pinterest.com/umassidstudent/pins/</a></p>	<p>Goodwin, B., &amp; Miller, K. (2013). <a href="#">Research says evidence on flipped classrooms is still coming in.</a> <i>Educational Leadership</i>, 70(6), 78-80.</p>

	the class pin-board		their search strategy to the class.		
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Plan of Action: One week prior to the first F2F class, the instructor will send residents an email with the following:

- Instructions on how to create a Pinterest account
- Instructions on how to access and pin to the class pin-board
- Link to the YouTube video: [Basic Search: Using Boolean Operators](#)
- Link to the sample, interactive Venn diagram *The Boolean Machine*: <http://kathyschrock.net/rbs3K/boolean/>
- Instructions pertaining to the Venn diagram they must find on the Internet and post the image or video to the class pin-board
- Instructions on how to create a Google+ account in order to participate in instructor-led Google Hangout sessions: [https://support.google.com/plus/topic/3008151?hl=en&ref\\_topic=1257349](https://support.google.com/plus/topic/3008151?hl=en&ref_topic=1257349)
- Once residents confirm with the instructor that they have a Google+ account, the instructor will send a link, with date and time, of the 1<sup>st</sup> Google Hangout session.
- Instructions pertaining to the two PubMed searches that they must execute and pin their search strategies to the class pin-board

During the first Google Hangout session, residents will:

- Watch, via screen share, the instructor execute searches in PubMed while explaining the difference search results obtained using the Boolean operators AND and OR
- Interact with the instructor during the Q&A session

During the first F2F session, residents will:

- Break up into teams of two
- Within their teams, residents will compare the searches they did prior to the class and the search strategies/results they pinned to the class pin-board
- Given time to ask the instructor questions

- Each team will be given by the instructor two, new search topics
- Each team will execute two literature searches, using AND and OR
- Each team will present their search strategies and findings to the class

Notes: Keeping learners motivated and monitoring their progress in-between F2F meetings is one element to the success of the flipped class. Work that is normally done during class time is being done outside the classroom, prior to meeting F2F. Learners must come prepared and one way to monitor their work outside the classroom is the requirement to pin Venn diagrams and their searches to the class pin-board.

Most learners have trouble with the OR operator. The instructor must be prepared to spend time clarifying the OR operator.

How to use this template:

- **When:** Use column 1 to plan when you will teach or when activities, either inside or outside the class will take (week, day, hour)
- **What and Where:** Use columns 2, 3 and 4 to plan your online and in-person activities
- **How:** Use column 5 to list resources specific to and appropriate for in-person or online activities
- **Why:** Use column 6 to discuss the research that informs your instructional strategy and where the instruction will take place