



ECTE171 Introduction to Electrical Engineering Systems, Research Methodology Worksheet

Name _____ Student no. _____

The aim of this worksheet is to step you through finding scholarly references. At the end of the class you will submit this worksheet along with a bibliography of articles found on one of the topics below:

- Topic 1: What are Carbon Nanotubes and how can they be used?
- Topic 2: Describe current technologies for wireless broadband.
- Topic 3: What is Voice-Over-IP (VoIP)? Describe current technologies for VoIP.
- Topic 4: What is emission trading?
- Topic 5: What is Quantum Computing?

1. Identify the major concepts / key words. **Underline the keywords** in the topic above that you will use for your searches.

Searching

- Consider any alternative keywords or phrases. These could be:
 - Related terms
 - Spelling variations / including plurals
 - Broader terms – useful if you only get a few results when searching the databases
 - Narrow terms – useful if you get too many results when searching the databases
 - 2. **List alternate keywords here:**
-
- Plan your search
 - **Write your keywords in a concept box**
 - Combine keywords using Boolean Operators (AND & OR). AND will narrow a search by only finding records that contain both search terms e.g. wireless AND broadband. Use AND to join your major concepts. OR is used to broaden a search by finding records that contain either search term e.g. cell phone OR mobile phone. Use OR to join similar terms.

| Keyword | Alternative words |
|--|---|
| KEYWORD 1: Semantic Web | OR Community networking Knowledge sharing |
| AND | |
| KEYWORD 2: Information architecture | OR Social software applications |
| Keyword | Alternative words |
| KEYWORD 1: | OR |
| AND | |
| KEYWORD 2: | OR |

Search Tips:

- Use the database tips to assist with your search.
 - Use truncation to find more articles e.g. organi* = organise, organize, organisational etc. Truncation symbols vary from database to database.
 - Use phrase searching e.g. "carbon Nanotubes". Phrase searching retrieves all articles containing the exact words in the exact order.
 - Use subject headings to help find more relevant articles.
 - Limit your search by year range, publication type etc.
 - Select the appropriate search field for each keyword e.g. Title, Author, Keyword, publication.
3. See ECTE Resources for assignments page [library /resources for assignments / informatics / ECTE / Journals & Databases]. From the list of databases, select IEEE Xplore; check truncation! **Search IEEE Xplore for at least two IEEE spectrum articles on your topic.** Remember to use the Advanced Search. Write your citations here:

Citation 1: _____

Citation 2: _____

[Add other relevant articles to your bibliography]

4. From the ECTE Resources for assignments page, select Compendex. **In Compendex, find at least two scholarly articles on your topic.** Write your citations here:

Citation 1: _____

Citation 2: _____

[Add other relevant articles to your bibliography]

5. If time permits, choose another database from the ECTE Resources for assignments page. Find scholarly articles on your topic and add them to your bibliography.

Help

Help is available from the ECTE Resources for Assignments. Familiarising yourself with these pages, will help you to conduct better research to find relevant information quickly.

Useful tutorials to look at are:

- 'identify keywords' – a guide to understanding your question and determining keywords.
- 'finding fulltext' – if your article is not fulltext, check for fulltext coverage in another database.
- 'academic/scholarly journals' – answers the question: How can I tell if a journal is academic?
- 'evaluating websites' – determining if a website is authoritative i.e. the information can be trusted. Find it under the websites tab on the ECTE Resources for Assignments page.