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**Assignment Title: Second Report**

**Word Count: 538**

**Module Title: Introduction to Instrumentation**

**Course: BSc Process Instrumentation & Automation**

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# Assignment Brief

Once you have received feedback for your first draft report and completed all of the recommended changes you should start working on the following.

Having chosen your report topic and carried out some tentative research you now have a chance to modify, refine or change this topic for this second research report.

**Tip**: you can use the following resources to continue your reading and research (Measurement & Control Journal, 2024), (Institute of Measurement & Control, 2024), (Google Scholar, 2024). There are literally endless resources available on Google Scholar, not to mention the college library data base’s, use them, read a lot and include at least 10 credible separate sources for your references to support your arguments in this second report.

You must follow your original brief, you should research your chosen topic and write a report **explaining its origins** i.e. **where it was first used**, **how it is used** in society and or industry today and **how it might be used** in the future.

Word count 1,600 ± 10%

# Report structure

1. Cover Page (as per template provided)
2. Table of Contents
3. Table of Figures (must include images & tables in your report) [video demo](https://www.youtube.com/watch?v=dxOpEB-RnZY&feature=youtu.be)
4. Table of Equations (must include at least one equation in your report)
5. Introduction (max 150 words)
6. Summary (main findings from your research)
7. Main section headings and subheadings (as many as you like, make them descriptive)
8. Conclusion
9. References (start at the top of a new page) (at least 10 separate sources)

## Formatting (Tip: use the template provided)

Table 1 Formatting Guidelines for Report

|  |  |
| --- | --- |
| Font:  | Calibri, Size 12pt |
| Line spacing:  | 1.5 |
| Text should be Justified  | (aligned straight on both sides)  |
| Headings:  | Should follow a hierarchical numbering system (see Fig 1 & 2) |
| Heading 1 style:  | Calibri, Size 14pt, Bold, left aligned |
| Heading 2 style:  | Calibri, Size 12pt, Bold, left aligned, indented by 3cm |
| Heading 3 style:  | Calibri, Size 12pt, Bold, left aligned, *italicized,* indented by 5cm |

### Submission Guidelines

You should email a copy of your report to Robert.hickey@tudublin.ie before the due date. I will then give detailed feedback using the review tools built into word. Here is a [video](https://www.youtube.com/watch?v=2cy09Xty6_8&feature=youtu.be) showing you how to use the review tools once I have sent you your feedback.

Figure: Tip: use the Multilevel List tool for assigning your numbering system to your heading styles

Equation: Binomial Theorem

$$\left(x+a\right)^{n}=\sum\_{k=0}^{n}\left(\genfrac{}{}{0pt}{}{n}{k}\right)x^{k}a^{n-k}$$

Equation: Fourier Series

$$f\left(x\right)=a\_{0}+\sum\_{n=1}^{\infty }\left(a\_{n}\cos(\frac{nπx}{L})+b\_{n}\sin(\frac{nπx}{L})\right)$$

Figure: Example of Heading Styles using a hierarchical numbering system

**Note:** You must include some equations in your report for practice, using the equation editor in word (see two examples above Equation:1 & Equation:2). Click for [video demo](https://www.youtube.com/watch?v=AarTPACrSoM&feature=youtu.be). You must also include at least 1 table in your report (see Table 1 for example).

# References

Google Scholar, 2024. *Google Scholar.* [Online]
Available at: https://scholar.google.com/
[Accessed 06 10 2024].

Institute of Measurement & Control, 2024. *InstMC Publications.* [Online]
Available at: https://www.instmc.org/Publications
[Accessed 06 10 2024].

Measurement & Control Journal, 2024. *Engineering Sage Journals.* [Online]
Available at: https://journals.sagepub.com/home/mac
[Accessed 06 10 2024].