Department of Mechanical Engineering & Materials Science
MENG 472

Report Title

Prepared by: Student's Name
Instructor: Advisor's Name
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Abstract

You can check the `cites.bib` in order to add references (it would be automatically added to the report once you cite it [**?**] with `\cite{`tag`}`). For the figures I do not prefer static figures, I like to generate them with TikZ, but in case you've needed some static figures you can add them to the `assets` directory to keep your files organized.

Contents

1 Section

1.1 Tables

Tables can be built and labeled like this, adding a new row requires adding new line of entries, separated by `&` and ends with `\\`. Due to some formatting errors that I don't want to track down, the remainder of this explainer is in the .tex as a comment.

Table 1: Table Caption

Title 1	Title 2	Title 3	Title 4
Entry 1	Entry 2	Entry 3	Entry 4
Entry 5	Entry 6	Entry 7	Entry 8

1.2 Figures

you can add figures with captions, also you may label them and reference them again with `\ref{fig:fig1}`.
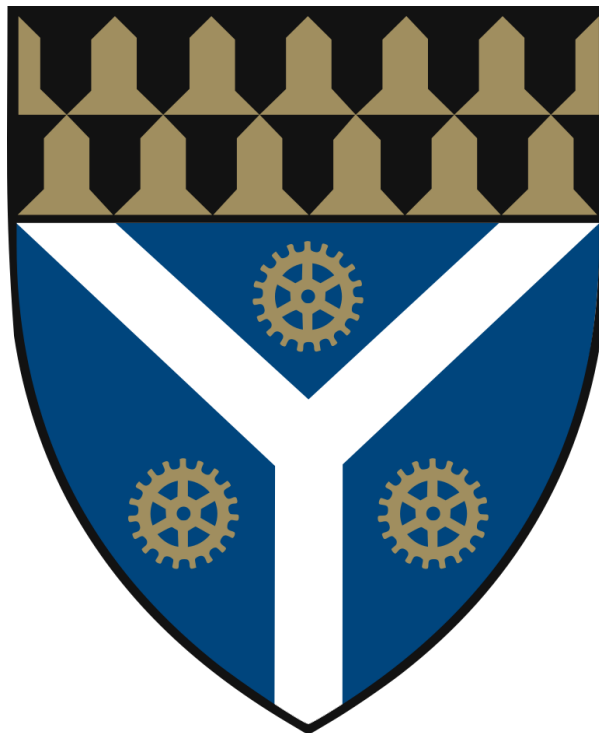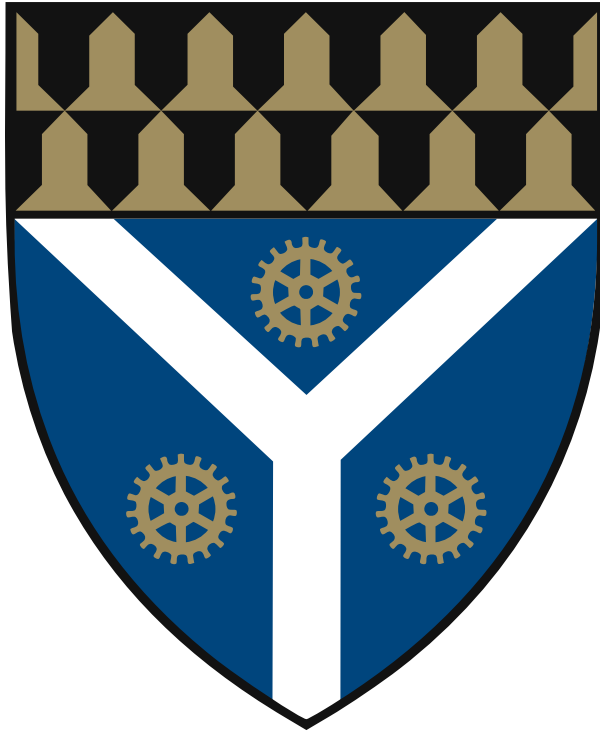

Figure 1.1: SEAS Logo (PNG)

Figure 1.2: SEAS Logo (SVG)

Or you can generate figures using TikZ, I've provided some styles to generate block diagrams as in Figure 1.3, but I won't be able to explain TikZ syntax for you so please try figure it out by yourself (it isn't hard to understand).
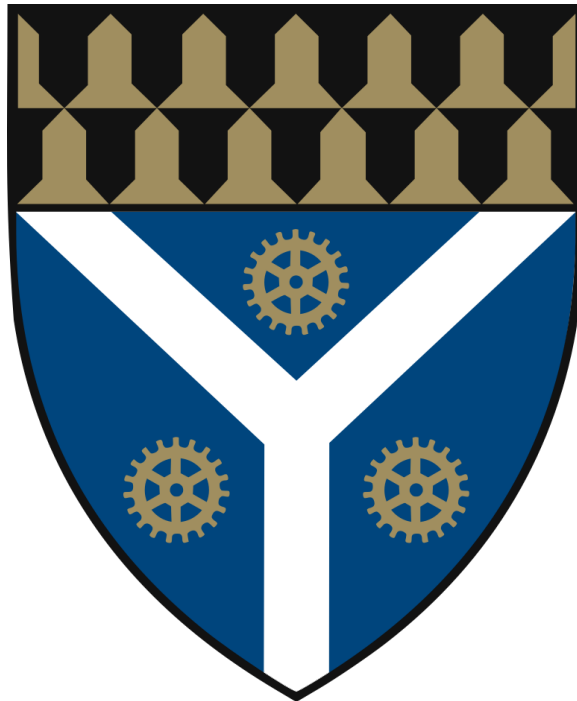

Figure 1.3: A Logo is born

1.3 Equations

you can use `\begin{align} \end{align}` to insert aligned equations like this

$$\tau = 28 \ s \tag{1}$$

$$\omega = 2\pi\frac{2}{60} = 0.209 \ rad/s \tag{2}$$

$$lag = \frac{\theta(\omega)}{\omega} = \frac{\arctan(\omega\tau)}{\omega} \tag{3}$$

$$= \frac{\arctan(0.209 \cdot 28)}{0.209}$$

$$= 6.69 \ s$$

or you can insert `\notag` at the end of each line to prevent it from being enumerated.

$$\tau = 28 \ s$$

$$\omega = 2\pi\frac{2}{60} = 0.209 \ rad/s$$

$$lag = \frac{\theta(\omega)}{\omega} = \frac{\arctan(\omega\tau)}{\omega}$$

$$= \frac{\arctan(0.209 \cdot 28)}{0.209}$$

$$= 6.69 \ s$$

And you can insert one line equation with `\begin{equation} \end{equation}`

$$A = 15 \cdot B \tag{4}$$

and `\begin{equation*} \end{equation*}` to prevent the equation from being enumerated.

$$A = 15 \cdot B$$

And inline math if you want with `$Expression$` like this $A = 15$.

1.4 Listings

Listing 1.1 shows a sample listing for C++ code.

```cpp
#include <iostream>
#include <algorithm>

using namespace std;

int main() {
    int n; cin >> n;
    int a[n];
    for (int i = 0; i < n; ++i)
        cin >> a[i];
    sort(a, a + n);
    for (int i = 0; i < n; ++i)
        cout << a[i];
    return 0;
}
```

Listing 1.1: Sample Code

Listing 1.2 shows a sample listing for shell session.

```
$ g++ main.cpp

$ ./a.out
4
3 2 4 1
1 2 3 4
```

Listing 1.2: Sample Output

2   Conclusion

Feel free to use this template for your reports.

List of Figures

List of Tables

List of Listings