COURSE CODE: Course Name

Semester Year
Your Name

Contents

List of Figures

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Chapter 1

Chapter Title Here

1.1 Section Title

Write your lecture notes content here. You can include:

- Bullet points for key concepts
- Mathematical derivations
- Code examples
- Block diagrams
- Figures and graphs

1.1.1 Subsection Title

More detailed content...

Use the hwmath environment for unnumbered aligned equations:

$$y(t) = Ax(t) + Bu(t)$$
$$= \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix} x(t) + \begin{bmatrix} b_1 \\ b_2 \end{bmatrix} u(t)$$

For numbered equations (can be labeled and referenced):

$$G(s) = \frac{Y(s)}{U(s)} \tag{1.1}$$

Later reference it as: See Equation 1.1 for the transfer function.

IMPORTANT: Always check stability conditions

Example 1-1: Problem Title

State the problem here...

Solution:

Work through the solution step by step...

$$\text{Result} = \text{Final Answer}$$

1.1.2   MATLAB Code

Listing 1.1: Description of Code

```matlab
% Your MATLAB code here
s = tf('s');
G = 1/(s+1);
step(G);
```

1.1.3   Python Code

Listing 1.2: Python Implementation

```python
# Your Python code here
import numpy as np
import matplotlib.pyplot as plt

x = np.linspace(0, 10, 100)
y = np.sin(x)
plt.plot(x, y)
plt.show()
```
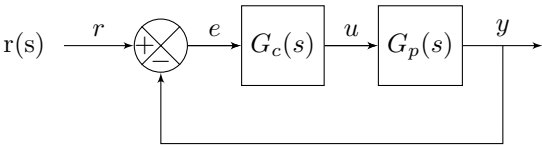
1.1.4   Terminal Output

```
$ pip install package-name
Collecting package-name
Installing...
Successfully installed package-name
```

Listing 1.3: Command Line Example

1.2   Figures and Graphics

1.3   Block Diagrams

Problem 1.1: Problem Title Here

State the problem...

(a) Part (a) question here

Solution: Write your solution to part (a) here. It will display inline after the problem statement. You can include math:

$$\text{Answer} = \text{Value}$$

(b) Part (b) question here

Solution: Write your solution to part (b) here.

(c) Part (c) question here

Solution: Write your solution to part (c) here.

Problem 1.2: Another Problem Title

Another problem statement...

(a) First part

Solution: Solution here...

(b) Second part

Solution: Solution here...

Chapter 2

Second Chapter Title

2.1 Section in Chapter 2

Content for second chapter...
You can reference earlier chapters: As discussed in Chapter 1, ...
You can reference earlier sections: See Section 1.1 for background.
You can reference earlier problems: As solved in Problem 1.1, ...

Problem 2.1: Chapter 2 Problem

(a) Question

Solution: Answer...