



UNIVERSITAS
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UGM Beamer Template Guidelines

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Basic Text Formatting

- Normal text with **bold**, *italic*, and colored text
 - Bullet points with standard indentation
 - Highlighted text for emphasis
1. Numbered lists are created with enumerate
 2. Second item in the list
 3. Third item with **formatting**

Basic Text Formatting

Standard Block

This is a standard block environment for highlighting content.

Alert Block

This block is used for warnings or important notes.

Example Block

This block is used for examples.

Theorem (Pythagorean Theorem)

In a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

$$c^2 = a^2 + b^2 \quad (1)$$

Basic Text Formatting

Proof.

To prove the Pythagorean theorem, we can use a geometric approach or algebraic manipulation. Consider a right triangle with legs a and b , and hypotenuse c . By constructing squares on each side and comparing areas, we arrive at the equation:

$$c^2 = a^2 + b^2$$

This completes the proof. □

Basic Math Formatting

Inline math: $E = mc^2$ is Einstein's famous equation.

Display math:

$$\nabla \times \vec{E} = -\frac{\partial \vec{B}}{\partial t}$$

Equation with numbering:

$$\nabla \times \vec{B} = \mu_0 \vec{J} + \mu_0 \epsilon_0 \frac{\partial \vec{E}}{\partial t} \quad (2)$$

Align environment for multiple equations:

$$E = mc^2 \quad (3)$$

$$m = \frac{E}{c^2} \quad (4)$$

Two-Column Layout with Beamer Columns

Left Column

- First bullet point
- Second bullet point
- Third bullet point with longer text that may wrap to the next line

Some regular text in the left column.

Right Column

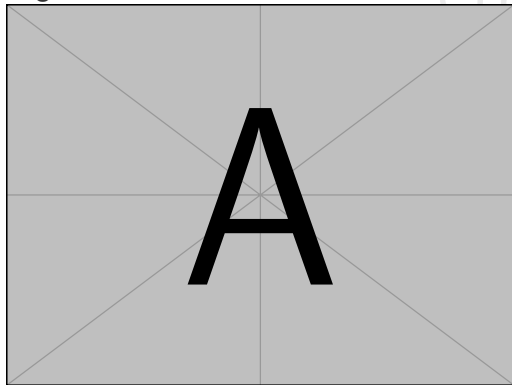


Image Caption

Three-Column Layout

Column 1

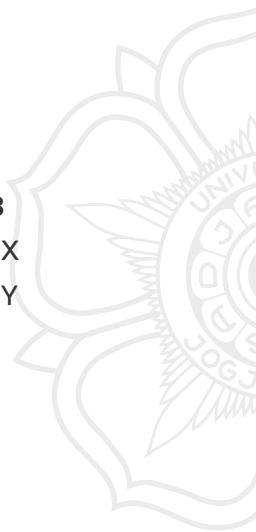
- Item 1
- Item 2

Column 2

- Item A
- Item B

Column 3

- Item X
- Item Y



Uneven Column Layout

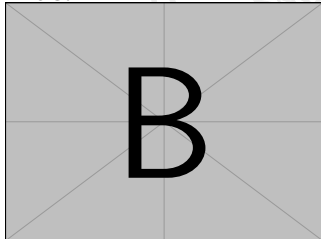
Wider Column

This column contains more content and takes up 65% of the slide width.

- The width can be adjusted as needed
- The layout is flexible
- Content will flow within the specified width

Narrower Column

This column is only 30% wide.



Basic Table

Left	Center	Right
Data 1	123	45.67
Data 2	456	89.01
Data 3	789	23.45

Basic table with borders

Table Usage Tip

Use the | character to create vertical lines and \hline for horizontal lines.

Professional Table with Booktabs

Method	Accuracy (%)	Time (s)
Method A	95.2	1.23
Method B	97.8	2.56
Method C	98.1	4.78

Professional table with booktabs package

Booktabs Tip

Use `\toprule`, `\midrule`, and `\bottomrule` for professional tables.

Colored Table

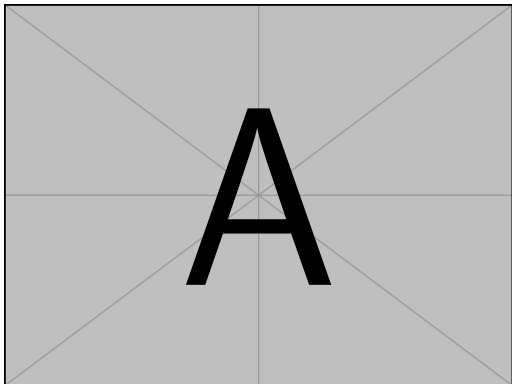
Category	Value	Percentage
Category A	45.2	22%
Category B	32.1	16%
Category C	78.9	39%
Category D	47.3	23%

Table with alternating row colors

Color Tip

Use `\rowcolors{2}{color1}{color2}` to alternate row colors starting from row 2.

Basic Image Inclusion



Full-width image with caption

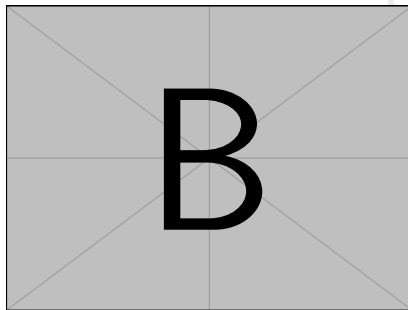


Image using figure environment

Basic Image Inclusion

Image Tip

Use `width=\textwidth` to make the image fill the column width.

- Use `figure` environment for formal figures
- Use `centerline` for simple captions
- Control size with `width` parameter

Image Grid Layout



Image A



Image B



Image C



Image D

Grid Tip

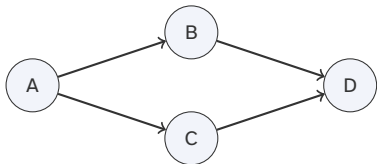
Use a tabular environment to create a grid of images with captions.

Including Videos

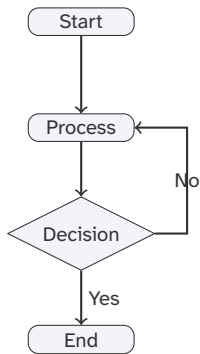
Video Tip

- Use the `media9` package for embedded videos
- Videos will play in PDF viewers that support multimedia (e.g., Adobe Reader)
- Parameters can control autoplay, controls, etc.

TikZ Diagrams



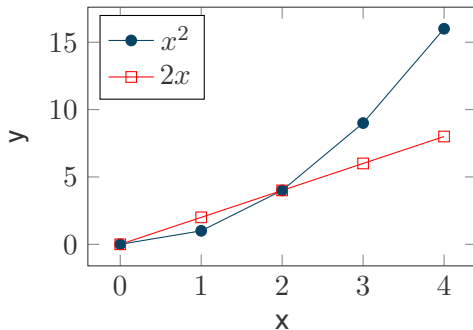
Simple network diagram



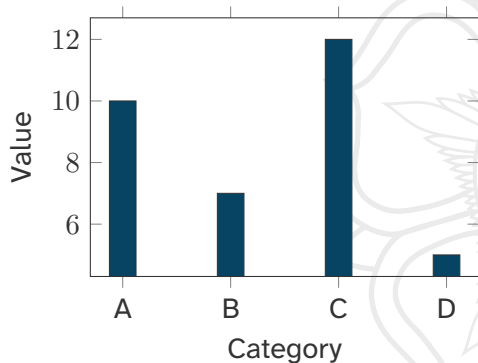
Simple flowchart

Graphs with PGFPlots

Simple Line Plot



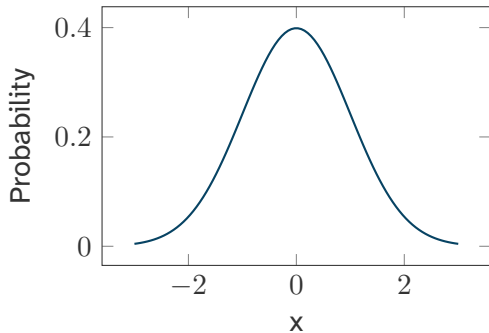
Bar Chart



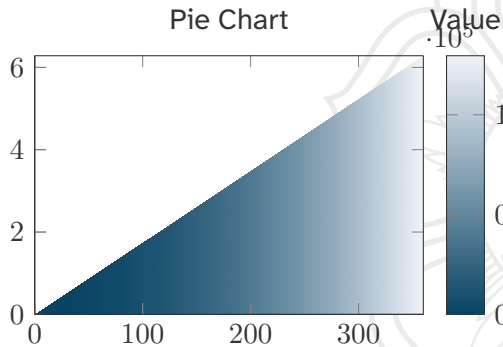
Use the `pgfplots` package for creating professional charts and graphs.

More Chart Examples

Normal Distribution



Pie Chart



Basic Code Listing

```
1 #include <iostream>
2
3 int main() {
4     // This is a comment
5     std::cout << "Hello, World!" << std::endl;
6     return 0;
7 }
8
```

Listing 1: Hello World Example

Listing Tip

- Specify the language for syntax highlighting
- Use the `listings` and `[fragile]` for frames with listings

Code Listing with Line Numbers and Highlighting

```
1 def calculate_factorial(n):
2     """
3     Calculate the factorial of a number using recursion.
4     """
5     if n <= 1:
6         return 1 # Base case
7     else:
8         return n * calculate_factorial(n-1) # Recursive case
9
10 # Test the function
11 for i in range(5):
12     print(f"Factorial of {i} is {calculate_factorial(i)}")
13
```

Listing 2: Python Example

Inline Code and Algorithms

Inline code: `int x = 42;`

```
1 SELECT
2     students.name,
3     AVG(grades.score) as avg_score
4 FROM students
5 JOIN grades ON students.id = grades
   .student_id
6 GROUP BY students.id
7 HAVING avg_score > 80
8 ORDER BY avg_score DESC;
9
```

Listing 3: SQL Query

Input: Array A of size n

Output: Sorted array A

```
for  $i \leftarrow 1$  to  $n - 1$  do
     $key \leftarrow A[i];$ 
     $j \leftarrow i - 1;$ 
    while  $j \geq 0$  and  $A[j] > key$  do
         $A[j + 1] \leftarrow A[j];$ 
         $j \leftarrow j - 1;$ 
    end
     $A[j + 1] \leftarrow key;$ 
end
```

Algorithm 1: Insertion Sort

TColor Boxes

Standard Box

This is a standard colored box with a title.

- You can include lists
- And other content inside

Warning Box

This box uses different colors to indicate warnings or critical information.

Box with Shadow

This box has a drop shadow effect.

Custom TColor Boxes

Note Box

Important note with an icon in the title.

Tip Box

Useful tip with a light bulb icon in the title.

Question Box

Question or quiz with a question icon in the title.

Manual Bibliography

 Author, A. (2023). *Title of the paper*. Journal Name, 10(2), 123-145.

 Author, B., & Author, C. (2022). *Title of the book*. Publisher Name.

Bibliography Tips

Bibliography Options

- **Manual bibliography:** Use `thebibliography` environment
- **BibTeX:** Use `bibliographystyle` and `bibliography` commands
- **BibLaTeX:** More modern approach with `printbibliography`

Additional Resources

LaTeX Resources

- Overleaf Documentation
- LaTeX Wikibook
- TeX Stack Exchange
- Beamer User Guide
- PGFPlots Manual
- TikZ Documentation

Contacts and Collaboration

- Email: harunsixsix-four@gmail.com
- Repository: ugm-snowyblue-beamer-template
- Last updated: June 23, 2025