**Application of Computers**

# Document creation: Margins, Orientation, and Headers

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# Introduction to Document Setup and Page Layout

**Importance of Proper Document Setup:**

Professional engineering documentation requires careful attention to page layout, margins, and structural elements. Proper document setup ensures:

- Compliance with institutional and industry standards
- Professional appearance and readability
- Consistent formatting across multi-page documents
- Appropriate space for binding, printing, and archiving
- Effective use of page space for content presentation

**Key Document Setup Elements:**

- **Margins:** White space around page edges defining printable area
- **Orientation:** Page direction (portrait or landscape)
- **Headers and Footers:** Recurring information at top and bottom of pages

# Introduction to Document Setup and Page Layout

- **Page Numbers:** Sequential numbering for document navigation
- **Section Breaks:** Dividing documents into independently formatted sections
- **Page Borders and Backgrounds:** Visual enhancements for special documents

**Engineering Documentation Standards:**

Most technical reports and academic papers follow specific formatting guidelines established by institutions, professional organizations (IEEE, ASME), or publication venues. Understanding document setup fundamentals enables compliance with these requirements.

**Course Objectives:**

Master essential page layout tools to create professional engineering documents including lab reports, project documentation, and technical papers.

# Understanding Page Margins

**What are Margins?**

Margins are the blank spaces between the edge of the page and the document content.

They serve multiple purposes:

• Provide white space for improved readability

• Allow space for binding and hole-punching

• Prevent content from being cut off during printing

• Create professional, balanced appearance

• Accommodate annotations and comments

**Four Margin Types:**

• **Top Margin:** Space from top edge to first line of text (or header)

• **Bottom Margin:** Space from last line of text (or footer) to bottom edge

• **Left Margin:** Space from left edge to text (often larger for binding)

• **Right Margin:** Space from text to right edge

# Understanding Page Margins

**Standard Margin Settings:**

• **Normal:** 1" (2.54 cm) on all sides - most common for academic papers

• **Narrow:** 0.5" (1.27 cm) on all sides - maximizes content space

• **Moderate:** 1" top/bottom, 0.75" left/right - balanced approach

• **Wide:** 1" top/bottom, 2" left/right - formal documents

• **Mirrored:** Different inside/outside margins for book-style binding

**Engineering Report Standards:**

Most engineering institutions require 1" margins on all sides, though some specify 1.5" left margin for binding.

# Setting and Customizing Margins

**Accessing Margin Settings:**

**Method 1 - Quick Margin Selection:**

1. Layout tab (or Page Layout tab) → Page Setup group → Margins
2. Select from preset options (Normal, Narrow, Moderate, Wide)
3. Applies to entire document or current section

**Method 2 - Custom Margins:**

1. Layout tab → Page Setup group → Margins → Custom Margins
2. Opens Page Setup dialog box
3. Enter specific measurements for each margin
4. Choose "Whole document" or "This point forward"
5. Click OK

**Page Setup Dialog Box Options:**

- **Margins Tab:** Set top, bottom, left, right margins precisely
- **Gutter:** Additional space for binding (added to left or top margin)

# Setting and Customizing Margins

- **Gutter Position:** Left (portrait) or Top (landscape)
- **Multiple Pages:** Normal, mirror margins, book fold, 2 pages per sheet
- **Apply to:** Whole document, this section, or this point forward

**Mirror Margins for Two-Sided Printing:**

- Inside margin (binding side): Typically larger (1.25" - 1.5")
- Outside margin: Standard (1")
- Alternates automatically on odd/even pages
- Essential for bound reports and theses

**Practical Tips:**

- Check institutional requirements before setting margins
- Consider printing and binding needs
- Test print before finalizing large documents

# Page Orientation - Portrait vs. Landscape

**Understanding Page Orientation:**

Page orientation determines the direction of content on the page, affecting how information is presented and read.

**Portrait Orientation:**

- **Dimensions:** 8.5" wide × 11" tall (Letter size)
- **Characteristics:** Vertical layout, taller than wide
- **Best for:** Standard text documents, reports, letters, essays
- **Reading:** Natural top-to-bottom reading flow
- **Default:** Most documents use portrait orientation

**Landscape Orientation:**

- **Dimensions:** 11" wide × 8.5" tall (Letter size)
- **Characteristics:** Horizontal layout, wider than tall
- **Best for:** Wide tables, charts, diagrams, presentations

# Page Orientation - Portrait vs. Landscape

**Landscape Orientation (continuation):**

• **Reading:** Left-to-right emphasis, accommodates wide content

• **Special Use:** Specific pages within primarily portrait documents

**When to Use Landscape Orientation in Engineering:**

• Wide data tables with many columns

• Large circuit diagrams or schematics

• Gantt charts and project timelines

• Comparison matrices and specification tables

• Flowcharts and process diagrams

• Appendices with oversized content

**Changing Orientation:**

Layout tab → Page Setup group → Orientation → Portrait or Landscape

# Mixed Orientation in Single Document

**Section Breaks - Enabling Mixed Orientation:**

To use different orientations within one document, you must insert section breaks to divide the document into independently formatted sections.

**Creating Mixed Orientation Document:**

**Step 1 - Insert Section Break:**

1. Position cursor where orientation should change
2. Layout tab → Page Setup group → Breaks
3. Select "Next Page" (starts new section on new page)
4. Or select "Continuous" (starts new section on same page, if possible)

**Step 2 - Change Orientation:**

1. Click in the new section
2. Layout tab → Orientation → Select desired orientation
3. Only the current section changes orientation

# Mixed Orientation in Single Document

**Step 3 - Return to Original Orientation:**

1. Insert another section break after landscape content
2. Change orientation back to portrait

**Practical Example - Engineering Lab Report:**

- Pages 1-5: Portrait (Introduction, Methodology, Results text)
- Page 6: Landscape (Wide data table with measurements)
- Pages 7-10: Portrait (Discussion, Conclusion, References)

**Section Break Types:**

- **Next Page:** New section starts on next page (most common for orientation changes)
- **Continuous:** New section starts on same page (for column changes)
- **Even Page:** New section starts on next even-numbered page
- **Odd Page:** New section starts on next odd-numbered page

# Introduction to Headers and Footers

**What are Headers and Footers?**

• **Header:** Area at top of page, above main text, containing recurring information

• **Footer:** Area at bottom of page, below main text, containing recurring information

• **Purpose:** Display consistent information across multiple pages without manual repetition

**Common Header Content:**

• Document title or chapter name

• Section name or topic

• Author name or organization

• Company logo or institutional branding

• Date of document creation

**Common Footer Content:**

• Page numbers (most common)

# Introduction to Headers and Footers

**Common Footer Content (continuation):**

• Document version or revision number

• Confidentiality notices or disclaimers

• Copyright information

• File name or document reference code

**Benefits in Engineering Documentation:**

• Professional appearance and consistency

• Easy document identification

• Navigation through page numbering

• Version control and tracking

• Compliance with institutional requirements

**Header and Footer Margins:**

Headers and footers have their own margin settings, separate from document margins, controlling distance from page edge.

# Creating and Editing Headers and Footers

**Accessing Header and Footer Areas:**

**Method 1 - Insert Tab:**

1. Insert tab → Header & Footer group
2. Click "Header" or "Footer"
3. Choose from built-in designs or "Edit Header/Footer"

**Method 2 - Double-Click:**

1. Double-click in top or bottom margin area
2. Automatically opens header/footer editing mode
3. Main document content becomes dimmed

**Header & Footer Tools Design Tab:**

When editing headers/footers, contextual Design tab appears with options:

- Insert elements (page numbers, date, pictures, document info)
- Navigation between header and footer
- Different first page option

# Creating and Editing Headers and Footers

**Header & Footer Tools Design Tab (continuation):**

• Different odd & even pages option

• Show/hide document text

• Close header and footer

**Inserting Content:**

• **Text:** Type directly into header/footer area

• **Page Numbers:** Design tab → Page Number → Choose position and format

• **Date & Time:** Design tab → Date & Time → Select format

• **Document Info:** Design tab → Document Info → Author, title, file name, etc.

• **Pictures:** Design tab → Pictures → Insert logo or image

• **Quick Parts:** Reusable content blocks

**Exiting Header/Footer Mode:**

• Click "Close Header and Footer" button

• Double-click in main document area

• Press Esc key

# Page Numbering Fundamentals

**Importance of Page Numbers:**

Essential for document navigation, reference, and professional presentation, especially in lengthy engineering reports and technical documentation.

**Inserting Page Numbers:**

**Method 1 - Quick Insert:**

1. Insert tab → Header & Footer group → Page Number
2. Choose position:
   - Top of Page (header)
   - Bottom of Page (footer)
   - Page Margins (side margins)
   - Current Position (where cursor is located)
3. Select from gallery of designs
4. Page numbers appear automatically on all pages

# Page Numbering Fundamentals

**Method 2 - Manual Insert in Header/Footer:**
1. Double-click to open header or footer
2. Header & Footer Tools Design tab → Page Number → Current Position
3. Choose simple or formatted number style

**Page Number Formats:**
- **Numeric:** 1, 2, 3, 4, 5... (most common)
- **Roman Numerals (lowercase):** i, ii, iii, iv, v...
- **Roman Numerals (uppercase):** I, II, III, IV, V...
- **Alphabetic (lowercase):** a, b, c, d, e...
- **Alphabetic (uppercase):** A, B, C, D, E...

**Page X of Y Format:**

Displays current page and total pages (e.g., "Page 3 of 15")
- Insert tab → Page Number → Current Position → Page X of Y
- Automatically updates as pages are added or removed

# Advanced Page Numbering Options

**Format Page Numbers Dialog:**

Insert tab → Page Number → Format Page Numbers

**Number Format Options:**

• Choose numbering style (1,2,3 or i,ii,iii or a,b,c)

• Include chapter number (for multi-chapter documents)

• Chapter starts with style: Heading 1, 2, etc.

• Use separator: hyphen, period, colon, etc.

**Page Numbering Control:**

• **Continue from previous section:** Sequential numbering throughout document

• **Start at:** Begin numbering at specific number (e.g., start at 5)

**Removing Page Numbers:**

Insert tab → Page Number → Remove Page Numbers

• Removes all page numbers from document

• Affects all sections unless sections are unlinked

# Advanced Page Numbering Options

**Common Engineering Document Numbering:**

**Formal Report Structure:**

- Title page: No page number
- Abstract, Table of Contents, Lists: Roman numerals (i, ii, iii)
- Main content (Introduction through Conclusion): Arabic numerals (1, 2, 3)
- Appendices: Continue Arabic or use A-1, A-2, B-1, B-2

**Implementation:**

Use section breaks to separate front matter, main content, and appendices

Unlink headers/footers between sections

Format page numbers differently in each section

Start main content numbering at 1

# Different First Page - Title Page Formatting

**Different First Page Option:**

Allows first page of document (typically title page) to have different header/footer than remaining pages, or no header/footer at all.

**Activating Different First Page:**

1. Double-click header or footer area to enter editing mode
2. Header & Footer Tools Design tab → Options group
3. Check "Different First Page" checkbox
4. First page header/footer becomes independent

**Typical Usage:**

• **Title Page (Page 1):** No header, no page number

• **Remaining Pages (2, 3, 4...):** Standard header with title, page numbers in footer

**Editing Different First Page:**

• When "Different First Page" is active, two header/footer areas exist:

  • **First Page Header/Footer:** Applies only to page 1

# Different First Page - Title Page Formatting

- **Header/Footer:** Applies to pages 2 onward
  - Edit each independently
  - Leave first page header/footer blank for clean title page

**Engineering Report Title Page:**

Typically includes:

- Report title (centered, large font)
- Course name and number
- Student name(s) and ID number(s)
- Instructor name
- Institution name
- Date of submission
- No header or footer (clean, professional appearance)

**Subsequent Pages:**

- Header: Report title or section name
- Footer: Page numbers starting from page 2 (or numbered as page 1)

# Different Odd and Even Pages

**Different Odd & Even Pages Option:**

Enables different headers/footers for odd-numbered (right-side) and even-numbered (left-side) pages, creating book-style formatting for two-sided printing.

**Activating Different Odd & Even Pages:**

1. Double-click header or footer area
2. Header & Footer Tools Design tab → Options group
3. Check "Different Odd & Even Pages" checkbox
4. Creates separate odd and even page headers/footers

**Book-Style Layout:**

- **Odd Pages (1, 3, 5, 7...):** Right-side pages when bound
  - Header: Chapter/section title (right-aligned)
  - Footer: Page number (right-aligned or centered)
- **Even Pages (2, 4, 6, 8...):** Left-side pages when bound
  - Header: Document title (left-aligned)
  - Footer: Page number (left-aligned or centered)

# Different Odd and Even Pages

**Editing Odd and Even Headers/Footers:**

When option is active, three header/footer areas exist:

- **First Page Header/Footer** (if "Different First Page" also checked)
- **Odd Page Header/Footer**
- **Even Page Header/Footer**

Navigate between them using "Previous" and "Next" buttons in Design tab.

**Practical Application:**

Professional theses, dissertations, and formal technical reports often use this format for polished, publication-quality appearance.

**Example Layout:**

- Even page header (left): "Applications of Computers in Engineering"
- Odd page header (right): Current chapter name
- Page numbers: Outside corners (left on even, right on odd)

# Section Breaks and Independent Headers/Footer

**Why Independent Headers/Footers?**

Different sections of document may require different headers, footers, or page numbering:

- Front matter (abstract, TOC) vs. main content
- Different chapters with unique titles
- Appendices with separate numbering
- Landscape pages with adjusted headers

**Creating Independent Sections:**

1. Insert section breaks where formatting should change
2. Layout tab → Breaks → Next Page (or other section break type)
3. Each section can have independent headers/footers

**Link to Previous Feature:**

By default, new sections inherit headers/footers from previous section via "Link to Previous" connection.

# Section Breaks and Independent Headers/Footer

**Breaking the Link:**
1. Double-click header/footer in new section
2. Header & Footer Tools Design tab → Navigation group
3. Click "Link to Previous" to deactivate (button should not be highlighted)
4. Header/footer becomes independent
5. Edit without affecting previous section

**Step-by-Step Process for Different Section Headers:**
1. Insert section break before content requiring different header
2. Double-click header in new section
3. Deactivate "Link to Previous"
4. Delete or modify header content
5. Repeat for footer if needed
6. Continue to next section and repeat process

# Section Breaks and Independent Headers/Footer

**Practical Example:**

• Section 1 (pages i-v): Front matter, Roman numerals, no header

• Section 2 (pages 1-20): Main content, Arabic numerals, header with report title

• Section 3 (pages A-1 to A-5): Appendices, different numbering, header with "Appendix A"

# Document Properties and Watermarks

**Document Properties:**

Metadata information about document stored in file properties, accessible in headers/footers and for document management.

**Accessing Document Properties:**

File tab → Info → Properties panel (right side)

Or: File tab → Info → Properties → Advanced Properties

**Common Properties:**

• **Title:** Document title

• **Author:** Creator name (auto-filled from user account)

• **Subject:** Topic or category

• **Keywords:** Search terms for document organization

• **Comments:** Additional notes or description

• **Company:** Organization name

• **Status:** Draft, Final, In Review, etc.

# Document Properties and Watermarks

**Inserting Properties in Headers/Footers:**

1. Open header or footer for editing
2. Design tab → Insert group → Document Info
3. Select property (Author, Title, File Name, etc.)
4. Property field inserted, displays current value
5. Updates automatically if property changes

**Watermarks:**

Faint text or image appearing behind document content, used for:

- Draft status indication
- Confidentiality notices
- Company branding
- Copyright protection

# Document Properties and Watermarks

**Adding Watermarks:**

1. Design tab → Page Background group → Watermark
2. Choose built-in watermark (Confidential, Draft, Urgent, etc.)
3. Or create custom watermark with text or picture
4. Appears on all pages behind content

**Custom Text Watermark:**

- Enter custom text
- Choose font, size, color, and layout (diagonal or horizontal)
- Set transparency (semitransparent recommended)

# Page Borders and Background

**Page Borders:**

Decorative or functional borders around page edges, used for:

• Title pages and certificates

• Special sections or callout pages

• Formal documents and announcements

• Visual separation in multi-section documents

**Adding Page Borders:**

1. Design tab → Page Background group → Page Borders

2. Borders and Shading dialog opens to Page Border tab

3. Choose border style:

   • **Setting:** None, Box, Shadow, 3-D, Custom

   • **Style:** Line style (solid, dashed, dotted, decorative)

   • **Color:** Border color

   • **Width:** Line thickness

   • **Art:** Decorative borders (stars, trees, etc.)

# Page Borders and Background

**Adding Page Borders (continuation):**

4. Apply to: Whole document, this section, or specific pages
5. Options: Adjust border distance from page edge or text

**Page Color:**

Background color for entire page, primarily for on-screen viewing (not recommended for printed documents due to ink usage).

**Adding Page Color:**

Design tab → Page Background group → Page Color → Select color

**Considerations:**

- Page color does not print by default (must enable in print options)
- Use light colors for readability
- Consider accessibility for color-blind readers
- Increases file size and printing costs

# Page Borders and Background

**Engineering Documentation:**
- Page borders: Rarely used except for title pages or certificates
- Page color: Generally avoided in technical reports
- Watermarks: Useful for draft versions or confidential documents
- Focus on content clarity over decorative elements

# Document Templates and Best Practices

**Document Templates:**

Pre-formatted documents with predefined margins, orientation, headers, footers, styles, and layout, enabling consistent, efficient document creation.

**Using Built-in Templates:**

1. File tab → New
2. Browse available templates (Report, Resume, Letter, etc.)
3. Select template
4. Click Create
5. Document opens with pre-configured formatting

**Creating Custom Templates:**

1. Set up document with desired margins, orientation, headers, footers, styles
2. File tab → Save As
3. Choose location
4. File type: Word Template (*.docx)

# Document Templates and Best Practices

**Creating Custom Templates (continuation):**

1. Save in Templates folder for easy access
2. Use for future documents requiring same formatting

**Benefits of Templates:**

- Consistency across multiple documents
- Time savings (no repeated formatting)
- Compliance with institutional standards
- Professional appearance
- Reduced errors

**Best Practices for Document Setup:**

**Planning Phase:**

- Review institutional or publication requirements before starting
- Determine margin, orientation, and header/footer needs
- Plan section structure for complex documents
- Choose appropriate template or create custom template

# Document Templates and Best Practices

**Implementation Phase:**

• Set margins and orientation first

• Insert section breaks before adding content if multiple formats needed

• Configure headers/footers early in document creation

• Use "Different First Page" for title pages

• Apply consistent formatting throughout

**Quality Control:**

• Print preview before final printing

• Verify page numbers are sequential and correct

• Check headers/footers on all pages

• Ensure margins meet requirements

• Test two-sided printing if using mirror margins or odd/even pages

# Document Templates and Best Practices

**Professional Engineering Documentation:**

- Follow IEEE, ASME, or institutional style guides
- Maintain consistency across all project documents
- Use templates for recurring document types (lab reports, project updates)
- Archive templates for future use
- Update templates based on feedback and requirements changes

# Questions & Answers