

# BINF 5003: Data Mining, Modeling, and Biostatistics

Week 11

Introduction to R Markdown

# R Markdown

- **Overview**
- R Markdown is an extension of Markdown, a lightweight markup language, that allows you to include R code chunks within your document. It can generate various outputs like HTML, PDF, Word, and more
- **Why Use R Markdown?**
  - **Reproducibility:** Combines code and results in a single document.
  - **Versatility:** Supports multiple output formats.
  - **Professional Presentation:** Allows seamless integration of text, code, tables, and plots.

# Basic Structure of an R Markdown Document

- **1. YAML Header**
- At the top of the document, the YAML header specifies the document's metadata, like the title, author, and output format

```
---
```

```
title: "Introduction to R Markdown"
author: "Your Name"
date: "Today's Date"
output: html_document
```

```
---
```

# Basic Structure of an R Markdown Document

- **2. Markdown Text**
- **Headers:** #, ##, ###
- **Bold:** \*\*bold\*\*
- **Italic:** \*italic\*
- **Lists:** - for unordered, 1. for ordered
- **Links:** [text](url)

```
# Section Title
This is **bold** text and this is *italic* text.
Here is a [link to R Markdown resources](https://rmarkdown.rstudio.com).
- Item 1
- Item 2
```

# Basic Structure of an R Markdown Document

- **3. Code Chunks**
- Code chunks are enclosed within triple backticks ```` with {r} to specify R as the language.

```
```{r glob_vars, results = 'hide', message = FALSE, warning=FALSE , echo=FALSE}
```



```
psp_id = params$pdo  
screen = "Fdrc"
```

```
```
```

# Basic Structure of an R Markdown Document

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```
```
```

# Basic Structure of an R Markdown Document

- ### Explanation of the Options:
- - `echo = TRUE`: Shows the R code in the output. Set to `FALSE` if you want to hide the code.
- - `results = 'hide'`: Hides the results/output of the code chunk. Use `show` to display them.
- - `message = FALSE`: Suppresses messages generated by the code.
- - `warning = FALSE`: Suppresses warnings generated by the code.
- - `cache = TRUE`: Caches the chunk's output to avoid re-executing the code unless it changes.
- - `fig.width` and `fig.height`: Sets the dimensions (in inches) of the output plot.

Let's practice!