# Syllabus
## NM2207: Computational Media Literacy

| Week 1 | **Course Introduction & Posit Cloud environment setup**<br><br>1. Overview of the course and its requirements<br>2. Need for coding<br>3. Exploring Posit Cloud<br>  a. Creating and saving scripts<br>  b. Installing and loading packages<br>4. Rmarkdown | No readings<br>No assignments |
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| Week 2 | **Introduction to data and visualization**<br>1. Introduction to data<br>  a. Constituents of a data-set<br>  b. Terminologies<br>2. Exploratory data analyses (EDA)<br>  a. What is EDA<br>  b. Tools for EDA<br>  c. Need for EDA<br>3. Introduction to ggplot2<br>4. Introduction to shiny-dashboard | Assignment-1 |
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| Wk 3 | **Data and its types**<br>1. What are variables?<br>2. Types of variables<br>(int, float, character, NA, NaN, NULL)<br>3. Inbuilt R functions (for e.g. mean, median)<br>4. Arithmetic operations<br>5. Inbuilt tidyverse functions<br>(select, filter, arrange) | Assignment-2 |
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| Wk 4 | **Manipulating data**<br>1. Creating, manipulating and combining lists, dataframes, and tibbles (using dplyr)<br>2. Pipes (magrittr)<br>3. Reading from and writing to files (read_csv and write_csv, package: readr) | Assignment-3 |
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| Wk 5 | **Visualizing data - 1**<br>• Types of visualization<br>• Visualization with ggplot2, cowplot, patchwork libraries<br>• Line and bar plots, histograms, pie-charts | Assignment-4 |
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| Wk 6 | **Visualizing data - 2**<br>1. Introduction to shiny-dashboard | |
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| | 2. Creating a dashboard<br>3. Integrating plots on to the dashboard | Assignment-5 |

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| | **Recess Week** | |

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| Wk 7 | **Functions**<br>  1. Need for functions<br>  2. Writing functions<br>  3. Calling functions | Assignment-6 |

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| Wk 8 | **Loops and conditional statements**<br>  1. Need for loops<br>      a. 'for' loops<br>  2. Need for conditional statements<br>      a. If-else, if-elseif-else statements<br>      b. do-while statements | Assignment-7 |

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| Wk 9 | **Exploratory data analyses**<br>  1. Hands-on activity involving reading data from files, using conditionals, and functions, getting results, and writing results to a file | Assignment-8 |

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| Wk 10 | **Practise Project – 1**<br>  1. Hands-on activity involving a shiny-dashboard project | Assignment-9 |

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| Wk 11 | **Practise Project – 2**<br>  1. Hands-on activity involving a shiny-dashboard project | Assignment-10 |

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| Wk 12 | **Practise Project – 3**<br>  1. Hands-on activity involving a shiny-dashboard project | Assignment-11 |

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| Wk 13 | **Module Wrap, Quiz 2** | No Assignments |