



# Full Time Data Science Program

Hacktiv8 DS  
Curriculum  
Team

Phase 0  
Introduction  
2021



Meet Your  
Instructor

# Knights of The Round Table

In this phase you'll meet

**Sardi** Irfansyah,

**Fahmi** Imam A.,

**Danu** Purnomo,

**Afif** A. Iskandar,

**Raka** Ardhi P.

and **Nicholas** Triyan.

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Phase 0  
Introduction  
2021

YOUR JOURNEY HAS JUST BEGUN,  
PYTHONER

# Introduce Yourself



Phase 0  
Introduction  
2021

# Phase 0 Overview

In Phase 0 you are going to learn all about Python and basic data scientist need in order to fulfil phase 0's objectives, which is:

- Able to gain insight and make inference from data
- Able to build fully interactive dashboard for visualization

In the first week, you are going to learn Python, Numpy, Pandas, SQL, and Git. Outcome of this week of lecture are able to write basic syntax of Python, having knowledge about Python data types, control flow, looping, and function.

You also be able to prepare and clean your data using Pandas, perform query against dataframe and using SQL. Last, you have knowledge and able to perform basic Git workflow.

## What You'll be Doing

# Phase 0 Overview

Second week, you are going to go deep into Math such as Linear Algebra and Multivariate Calculus. Learn about what is Scalar, Vectors, Matrices, and Tensor. Having knowledge about Space Transformation, Derivatives, and Integrals.

After going deep with Math, in third week you are going to learn about Probability and Statistics. Learn about Basic Probability Theory, Probability Distribution Function, Descriptive Statistics and Inferential Statistics.

Last week in Phase 0 you are going to learn all about visualization. Start with basic visualization using Matplotlib such as Line, Histogram, Box, Scatter, etc, and advanced visualization such as Word Cloud and Maps.

You also going to learn other visualization library such as Seaborn and Plotly, and ends with building your own interactive dashboard using Dash.

## What You'll be Doing

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
WEEK 1	INTRODUCTION: DATA SCIENCE ----- BASIC PYTHON	CONDITIONS CONTROL FLOW ----- LOOPING NG CHALLENGES 1	FUNCTIONS ----- MODULE PACKAGES NG CHALLENGES 2	NUMPY ----- PANDAS: BASICS	PANDAS: DATA CLEANING ----- EE WEEKLY REVIEW G CHALLENGES 1
WEEK 2	LIVE CODE 1 ----- SQL NG CHALLENGES 3	MATH: LINEAR ALGEBRA NG CHALLENGES 4 NG CHALLENGES 5	MATH: LINEAR ALGEBRA NG CHALLENGES 6 ----- FREE TIME	MATH: CALCULUS NG CHALLENGES 7 NG CHALLENGES 8	CALCULUS NG CHALLENGES 9 ----- EE WEEKLY REVIEW G CHALLENGES 2
WEEK 3	LIVE CODE 2 ----- PROBABILITY	PROBABILITY NG CHALLENGES 10 ----- FREE TIME MENTORING SESSION	STATISTICS: DESCRIPTIVE NG CHALLENGES 11	STATISTICS: INFERENTIAL NG CHALLENGES 12	STATISTICS: TESTING --- EE WEEKLY REVIEW G CHALLENGES 3
WEEK 4	LIVE CODE 3 ----- EDA NG CHALLENGES 13	DATA VIZ NG CHALLENGES 14 ----- DASHBOARD NG CHALLENGES 15	DASHBOARD NG CHALLENGES 16 ----- MILESTONE NG CHALLENGES 17	MILESTONE MENTORING	MONTHLY REVIEW ----- EE MILESTONE MNTRG

PHASE

**ZERO**

**HACKTIV8  
FTDS  
SCHEDULE**

# Phase 0 Assignments

Phase 0 have **17** Non-Graded Challenges, **3** Graded Challenges, **3** Live Codes, and **1 Milestones**

## Graded Challenges:

- Basic Python, Numpy, Data Preparation with Pandas
- Linear Algebra, Calculus
- Practical Statistics

## Live Codes:

- Functions, Loop, Conditional, Pandas Query
- Linear Algebra, Calculus
- Probability and Stats

## Milestones:

- Statistical Treatment and Interactive Dashboard Implementations

What You'll  
be Doing

# Phase 0 Scoring

What You'll  
be Doing

Milestone **40%**  
Live Codes **35%**  
Graded Challenge **25%**