

**SYLLABUS FOR**

**ARTIFICIAL INTELLIGENCE (AI)**

# 1. SYLLABUS OVERVIEW

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Prerequisite: Engineering/Science Degree or equivalent

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| No | Topic | Objective | Duration |
| 1 | Overview | * AI vs Machine Learning vs Deep Learning * Data Scientist vs AI Engineer * AI trend today | 30 Minute,  Week 9 |
| 2 | Basic | * Machine Learning Lifecycle * Data as vector * Data Collection | 45 Minute,  Week 9 |
| 3 | Data Analysis | * Exploratory Data Analysis * Data Annotation | 30 Minute,  Week 9 |
| 4 | Learning I | * Type of Learning * Problem setting in Learning. * How machine “learn” * How much data is needed for machine learning | 45 Minute,  Week 10 |
| 3 | Learning II | * How good is your AI model? | 30 Minute,  Week 10 |
| 4 | Learning III | * Learning Algorithm * Interpretability vs flexibility of learning algorithms | 45 Minute,  Week 10 |
| 5 | Practical Session | | 90 Minute,  Week 11 |
| 6 | ML in Production | * Analytics Dashboard * Serverless AI * Edge AI * Model drift | 45 Minute,  Week 12 |

Table 1: Topic overview and its objective for AI teaching syllabus

**Week 9:** **Introduction to artificial intelligence.**  This session shall introduce current status of artificial intelligence (AI) and its latest trend and technology.

We will also take a look into machine learning (ML) life cycle. This early session will touch the essence of collecting data, exploratory data analysis and data annotation.

**Week 10:** **Statistical Learning**: Doing AI is not just about coding. The concept of statistical learning is discussed.

Discussion will also include how to measure the success of “learning”.

Once we cover the basic of statistical learning, we will look into the common ML algorithm used in today’s problem and compare it reusability in terms of flexibility and interpretability.

**Week 11:** **Practical Examples**: In this session we will be discussing implementation of certain ML algorithms using Python. Statistical learning theory from previous week will be tested in this session.

**Week 12:** **ML in production & Final Assessment**: A brief look into how ML is implemented in production environment. Final summary of the course will be given in the end.

Final Assessment will cover all aspects of class content.