**Course contents:**

The following assignments will be covered:

* A1: “Linear Regression”
* A2: “Logistic Regression”
* A3: “Multi-class Classification and Neural Networks”
* A4: “Neural Network Learning”
* A5: “Regularized Linear Regression and Bias/Variance”
* A6: “Support Vector Machines”
* A7: “K-Means Clustering and PCA”
* A8: “Anomaly Detection and Recommender Systems”

Session 1:

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| **Activity** | **Time** | **Remark** |
| Introduction | 42m | Self-study |
| Linear Regression with One Variable | 1h10m | Self-study |
| Linear Algebra Review | 1h | Self-study |
| Linear Regression with Multiple Variables | 1h4m | Self-study |
| Octave/Matlab Tutorial | 1h19m |  |
| Work on assignment ”Linear Regression” | Rest |  |

Session 2:

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| **Activity** | **Time** |
| Presentation of solution to assignment A1 | 20m |
| Logistic Regression | 1h11m |
| Regularization | 39m |
| Work on assignment A2 | Rest |

Session 3:

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| **Activity** | **Time** | **Remark** |
| Presentation of solution to assignment A2 | 30m |  |
| Neural Networks: Representation | 1h2m | Self-study |
| Neural Networks: Learning | 1h17m | Self-study |
| Work on assignments A3 and A4 | Rest |  |

Session 4:

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| **Activity** | **Time** | **Remark** |
| Presentation of solution to assignment A3 and A4 | 60m |  |
| Advice for Applying Machine Learning | 1h3m | Self-study |
| Machine Learning System Design | 59m | Self-study |
| Work on assignment A5 | Rest |  |

Session 5:

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| **Activity** | **Time** | **Remark** |
| Presentation of solution to assignment A5 | 30m |  |
| Support Vector Machines | 1h37m | Self-study |
| Unsupervised Learning | 39m | Self-study |
| Dimensionality Reduction | 1h7m | Self-study |
| Work on assignments A6 and A7 | Rest |  |

Session 6:

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| **Activity** | **Time** | **Remark** |
| Presentation of solutions to assignments A6 and A7 | 60m |  |
| Anormaly Detection | 1h30m | Self-study |
| Recommender Systems | 58m | Self-study |
| Work on assignment A8 | Rest |  |

Session7:

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| **Activity** | **Time** | **Remark** |
| Presentation of solution to assignment A8 | 30m |  |
| Large Scale Machine Learning | 1h3m | Self-study |
| Application Example: Photo OCR | 56m | Self-study |
| Guest lecture TBD | Approx 45m |  |
| Outstanding issues | Rest |  |