

# Course Outline

## 705:605 Creating AI-Enabled Systems

This outline provides an overview of the course and assignments by week. Please remember to check the calendar for specific due dates.

Each course module runs for a period of seven (7) days, i.e., one week.

| Module    | Dates                       | Module Title  | Assignments  |
|-----------|-----------------------------|---|--|
| Module 1  | Mon 01/24/22 - Sun 01/30/22 | AI Overview & Case Studies  | <ul style="list-style-type: none"><li>Discussion 1</li></ul>   |
| Module 2  | Mon 01/31/22 - Sun 02/06/22 | 6D Framework & Design Thinking                                      | <ul style="list-style-type: none"><li>Discussion 2</li><li>Assignment 1</li></ul>  |
| Module 3  | Mon 02/07/22 - Sun 02/13/22 | Data Engineering<br>Computer Vision and Time Series                 | <ul style="list-style-type: none"><li>Discussion 3</li><li>Assignment 2</li></ul>  |
| Module 4  | Mon 02/14/22 - Sun 02/20/22 | Data Engineering for Unstructured Text                              | <ul style="list-style-type: none"><li>Discussion 4</li><li>Assignment 3</li><li>Research Proposal (Not Graded)</li></ul> |
| Module 5  | Mon 02/21/22 - Sun 02/27/22 | Data Engineering for Categorical Data                               | <ul style="list-style-type: none"><li>Discussion 5</li><li>Assignment 4</li></ul>  |
| Module 6  | Mon 02/28/22 - Sun 03/06/22 | Data Storage  | <ul style="list-style-type: none"><li>Assignment 5</li></ul>   |
| Module 7  | Mon 03/07/22 - Sun 03/13/22 | Design Supervised Algorithms Part I                                 | <ul style="list-style-type: none"><li>Discussion 6</li><li>Research Paper Draft</li></ul>                                |
| Module 8  | Mon 03/14/22 - Sun 03/20/22 | Design Supervised Algorithms Part II                                | <ul style="list-style-type: none"><li>Discussion 7</li><li>Assignment 6</li></ul>  |
| Break     | Mon 03/21/22 - Sun 03/27/22 |   |  |
| Module 9  | Mon 03/28/22 - Sun 04/03/22 | Design Unsupervised Machine Learning Algorithms                     | <ul style="list-style-type: none"><li>Assignment 7</li><li>System Project Proposal (Not Graded)</li></ul>                |
| Module 10 | Mon 04/04/22 - Sun 04/10/22 | Design of Reinforcement Learning Systems and Neuro-Symbolic Systems | <ul style="list-style-type: none"><li>Discussion 8</li><li>Research Paper</li></ul>                                      |
| Module 11 | Mon 04/11/22 - Sun 04/17/22 | Testing, Metrics, and Bias  | <ul style="list-style-type: none"><li>Discussion 9</li><li>Assignment 8</li></ul>  |
| Module 12 | Mon 04/18/22 - Sun 04/24/22 | Ethics in AI  | <ul style="list-style-type: none"><li>Discussion 10</li><li>Assignment 9</li></ul>                                       |



| Module    | Dates                          | Module Title      | Assignments  |
|-----------|--------------------------------|-------------------|--|
| Module 13 | Mon 04/25/22 -<br>Sun 05/01/22 | Deployment Part 1 | <ul style="list-style-type: none"> <li>• Discussion 11</li> <li>• Assignment 10</li> </ul> |
| Module 14 | Mon 04/25/22 -<br>Sun 05/01/22 | Deployment Part 2 | <ul style="list-style-type: none"> <li>• System Project Paper</li> </ul>                   |

