**Course Schedule**

**AI 620: Emerging Topics in Artificial Intelligence**

**Textbook**

* Tripuraneni, S., & Song, C. (2019). [*Hands-On Artificial Intelligence on Amazon Web Services: Decrease the time to market for AI and ML applications with the power of AWS* (1st ed.)](https://learning.oreilly.com/library/view/hands-on-artificial-intelligence/9781789534146/). Packt Publishing.

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| Modules | **Topics** | **Readings** | **Assignments** |
| 1  10/07-10/13 | Introduction to Artificial Intelligence on AWS and Architecture Design for AI Applications | * **Chapter 1:** Introduction to Artificial Intelligence on Amazon Web Services * **Chapter 2:** Anatomy of a Modern AI Application | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check 6. Team Project Proposal Announcement |
| 2  10/14-10/20 | Text Detection and Translation Amazon Rekognition and Translate | * **Chapter 3:** Detecting and Translating Text with Amazon Rekognition and Translate | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check |
| 3  10/21-10/27 | Speech-to-Text and Text-to-Speech with Amazon Transcribe and Polly | * **Chapter 4:** Performing Speech-to-Text and Vice Versa with Amazon Transcribe and Polly | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check 6. Team Project Proposal Submission |
| 4  10/28-11/03 | Information Extraction from Text with Amazon Comprehend | * **Chapter 5:** Extracting Information from Text with Amazon Comprehend | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check 6. Team Project Progress Announcement |
| 5  11/04-11/10 | Voice Chatbot with Amazon Comprehend | * **Chapter 6:** Building a Voice Chatbot with AWS Lex | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check |
| 6  11/11-11/17 | Amazon SageMaker and Machine Learning Inference Pipelines | * **Chapter 7:** Working with Amazon SageMaker * **Chapter 8:** Creating Machine Learning Inference Pipelines | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check |
| 7  11/18-11/24 | Topic Discovery in Text Collection | * **Chapter 9:** Discovering Topics in Text Collection | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check 6. Team Project Progress Submission |
| 8  11/25-12/01 | Image Classification Using Amazon SageMaker | * **Chapter 10:** Classifying Images Using Amazon SageMaker | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check 6. Team Project Final Announcement |
| 9  12/02-12/08 | Sales Forecasting with Deep Learning and Autoregression | * **Chapter 11:** Sales Forecasting with Deep Learning and Autoregression | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check |
| 10  12/09-12/15 | Model Accuracy Degradation and Feedback Loops | * **Chapter 12:** Model Accuracy Degradation and Feedback Loops | 1. The Muddiest Point 2. Concept Debate 3. Hands-On Skill 4. Programming Exercise 5. Knowledge Check 6. Team Project Final Submission 7. Team Project Presentation Submission |

NOTE: This schedule is subject updates. Students will be notified, and an updated schedule will be uploaded to D2L Brightspace