



ಕ್ರಮಾಂಕ/ No. : MU/ACC/CR.15/2022-23/A8

ಕುಲಸಚಿವರ ಕಛೇರಿ

ಮಂಗಳಗಂಗೋತ್ರಿ - 574 199

Office of the Registrar

Mangalagangothri - 574 199

ದಿನಾಂಕ/Date: 07/11/2022

NOTIFICATION

Sub: Revised Syllabus of Artificial Intelligence as a skill Enhancement course for UG Degree Programmes (Except BCA) under NEP 2020-reg.

Ref:1. This Office Notification of even No. dated : 06.10.2022

2. Vice Chancellors approval Dated: 07.11.2022

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As per the instructions received from the KSHEC , Bangalore , the Revised syllabus of Artificial Intelligence as a Skill Enhancement Course for UG Degree Programmes (Except BCA ) under NEP 2020 is hereby notified for implementation with immediate effect. The syllabus of Artificial Intelligence notified vide notification referred to( 1)above is hereby repealed.

Copy of the modified Syllabus should be downloaded from the Mangalore University website. [www.mangaloreuniversity.ac.in](http://www.mangaloreuniversity.ac.in)

FOR REGISTRAR. 07/11/22

To:

- 1) The Principals of all the colleges affiliated to Mangalore University
- 2) The Registrar (Evaluation), Mangalore University.
- 3) Dr. V Ravindrachary, Nodal Officer-NEP 2020 & Professor, P.G. Dept. of Physics ,Mangalore University
- 4) Prof. B.H. Shekhar, Chairman, UG BOS in Computer Science & Computer Applications, Dept. of Computer Science, Mangalore University
- 5) The Assistant Registrar/The Superintendent, Academic Section, O/o the Registrar, Mangalore University.
- 6) The Director, DUIMS, Mangalore University - with a request to publish in the Website.
- 7) Guard File.

## Skill Enhancement Course: SEC for B.Sc. & other Subject Students

### Semester: III/IV

|                                                                   |                                      |
|-------------------------------------------------------------------|--------------------------------------|
| Course Title: <b>Artificial Intelligence</b>                      | Course Credits: 2                    |
| Total Contact Hours: 13 hours of theory and 26 hours of practical | Duration of ESA: 01 Hour             |
| Formative Assessment Marks: <b>20 marks</b>                       | Summative Assessment Marks: 30 marks |

#### Course Outcomes (COs):

At the end of the course, students will be able to:

- Appraise the theory of Artificial intelligence and list the significance of AI.
- Discuss the various components that are involved in solving an AI problem.
- Illustrate the working of AI Algorithms in the given contrast.
- Analyze the various knowledge representation schemes, Reasoning and Learning techniques of AI.
- Apply the AI concepts to build an expert system to solve the real-world problems.

#### Course Content (Artificial Intelligence)

|                                                    | Details of topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Duration |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>Course – 1 - Azure AI Fundamentals (AI-900)</b> | AI-900 pathway consists of 5 courses and 2 reading material: <ul style="list-style-type: none"><li>i. Introduction to AI on Azure</li><li>ii. Use visual tools to create machine learning models with Azure Machine Learning</li><li>iii. Explore computer vision in Microsoft Azure</li><li>iv. Explore natural language processing</li><li>v. Explore conversational AI</li><li>vi. Tune Model Hyperparameters - Azure Machine Learning (Reading)</li><li>vii. Neural Network Regression: Module Reference - Azure Machine Learning (Reading)</li></ul> | 05 hours |
| <b>Practical</b>                                   | <ul style="list-style-type: none"><li>1. Prepare the data</li><li>2. Model the data</li><li>3. Visualize the data</li><li>4. Analyse the data</li><li>5. Deploy and maintain deliverables</li></ul>                                                                                                                                                                                                                                                                                                                                                       | 13 hours |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>Course – 2 -<br/>Data Analyst<br/>Associate<br/>(DA-100)</b> | DA-100 pathway consists of 5 courses and 2 reading material:<br><ol style="list-style-type: none"> <li>1. Get started with Microsoft data analytics</li> <li>2. Prepare data for analysis</li> <li>3. Model data in Power BI</li> <li>4. Visualize data in Power BI</li> <li>5. Data analysis in Power BI</li> <li>6. Manage workspaces and datasets in Power BI</li> <li>7. Key Influencers Visualizations Tutorial - Power BI</li> <li>8. Smart Narratives Tutorial - Power BI   Microsoft Docs</li> </ol> | 08 hours |
| <b>Practical</b>                                                | <ol style="list-style-type: none"> <li>1. Describe Artificial Intelligence workloads and considerations</li> <li>2. Describe fundamental principles of machine learning on Azure</li> <li>3. Describe features of computer vision workloads on Azure</li> <li>4. Describe features of Natural Language Processing (NLP) workloads on Azure</li> </ol>                                                                                                                                                        | 13 hours |

#### References to learning resources:

1. The learning resources made available for the course titled “Azure AI Fundamentals (AI-900) and Data Analyst Associate (DA-100).” on Future Skills Prime Platform of NASSCOM.

#### Pedagogy

Flipped classroom pedagogy is recommended for the delivery of this course.

For every class:

1. All the faculty who takes this class should go for a Faculty Development Program on these before starting the session.
2. Faculty needs to introduce this course to the students then students need to start learning from Future Skills PRIME platform.
3. Faculty also needs to explain the course outcomes and needs of the course and why it is needed for the students.
4. Then students need to start learning online after registering on the platform.
5. Classroom activities are designed around the topic of the session towards developing better understanding, clearing doubts and discussions of high order thinking skills like application, analysis, evaluation, and design.
6. Every theory class ends with announcement of exercise for practical activity of the week.

#### Exercises:

| Practical Exercises                                                                                  | Weightage in marks                                                        |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| After each chapter students’ needs to complete exercises based on the learning in Azure environment. | No Weightage (But students need to complete it to move to next chapter) . |

**Assessment:**

| <b>Formative Assessment</b>                                                                                                                                                                                                                                                                   |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Assessment Occasion</b>                                                                                                                                                                                                                                                                    | <b>Weightage in Marks</b>                                                             |
| 1. Summative Assessment: After completion of both the courses, the student can optionally give Assessment for each of the courses on Future Skills Prime platform. Students will have two attempts and those who score at least 50% marks per course will get certificate from NASSCOM-MeitY. | This assessment may be given 50% weight in computing the final grade of the students. |

**Pattern of Question Paper**

**Skill Enhancement Course: SEC for B.Sc. & other Subject Students**

**Semester: III/IV**

**Course Title: Artificial Intelligence**

**Duration: 2 hrs.**

**Max. Marks: 30**

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**Section-A: Answer all the questions (1x10 = 10)**

This section shall contain 10 questions of type such as multiple choice questions, fill in the blanks or true/false.

(The first five questions shall be given from Course – 1: Azure AI Fundamentals and the next five questions shall be given from Course – 2: Data Analyst Associate).

**Section-B: Answer any five questions (2x5 = 10)**

This section shall contain eight questions out of which five questions shall be answered and all the questions shall be given from Course – 1: Azure AI Fundamentals.

**Section-C: Answer any five questions (2x5 = 10)**

This section shall contain eight questions out of which five questions shall be answered and all the questions shall be given from Course – 2: Data Analyst Associate.