**Course Syllabus**

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| **CNU International Summer Session** |

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| **Course Title** | | | **Artificial Intelligence (AI) Basics and Uses** | | | | | | | | | | | | | | | | | | |
| **Course Type** | | | General | | | | | | | | **Credits**  **(hours)** | | | 3 | | | | | | | |
| **Department** | | | Department of Artificial Intelligence | | | | | | | | **Professor** | | | Kyungbaek Kim | | | | | | | |
| **Classification**  **(year in school)** | | | 1-4 | | | | | | | | **Course Code** | | |  | | | | | | | |
| **Class room** | | |  | | | | | | | | **E-mail** | | | kyungbaekkim@jnu.ac.kr | | | | | | | |
| **Prerequisite(s)** | | | None | | | | | | | | | | | | | | | | | | |
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| **Course objectives** | | | - Understanding the basic concepts and applications of artificial intelligence  - Learning the basic Python programming skill  - Learning the Python libraries for implementing applications of artificial intelligence | | | | | | | | | | | | | | | | | | |
| **Course Summary** | | | The purpose of this course is to learn the basic concepts and applications of artificial intelligence, to understand the key elements for realizing artificial intelligence, to learn the basic concepts of Python programming through examples and practices, and to learn about the various Python libraries necessary for artificial intelligence programs. By mastering how to use, you are going to have the ability to understand the detailed components and behavior of simple AI applications. | | | | | | | | | | | | | | | | | | |
| **Teaching Methods** | | | **Teaching Methods** | | | | | | | | | | | | | | | | | | |
| Lecture | Presentation/Discussion | | | | Problem Based Learning | | | | Project Based Learning | Flipped Learning | | | Experiment/ Practices | | | | Others  (Describe) | |
| 50% |  | | | |  | | | |  |  | | | 50% | | | |  | |
| < Lecture>  - For each day, lecture slides are distributed.  - Basic concepts and examples are demonstrated during lectures.  - For reviewing the lecture contents, pre-recorded lectures can be shared. (Audio – Korean, Subtitle – Korean/English)  < Practices >  - Provide simple examples which students follows. Especially, when the topics related to python programming are handled, hand-on examples are requested.  - Python programming environments will be provided through CNU AI learning system | | | | | | | | | | | | | | | | | | |
| **Grading** | | | Mid-Term | Final | | Individual Tasks | | | Team Projects | | | Class participation | | | Attendance | | Others  (Describe) | | | | **Total** |
| **30** | **30** | | **30** | | |  | | |  | | | **10** | |  | | | | **100** |
| ※ Pursuant Section 28 of the Guidelines on Class Management, grading methods can be adjusted for the physically impaired.  ※ Under Section 29 of the University Regulations on Academic Affairs, a student automatically fails a course in case of failure to attend more than 3/4 classes. (More than four(4) times absence) | | | | | | | | | | | | | | | | | | |
| **Accommodations for Handicapped** | | | - Visually impaired: provision of course related materials in audio, note taking helper, permission to record the lecture  - Audibly impaired: provision of course related materials in visual, note taking helper, permission to have e-learning lectures in subtitles  - Physically or mentally challenged: provision of course related materials, note taking helper, permission to record the lecture   * Any other requests that are considered necessary: provision of assisted   ingress and egress to the classrooms and other supports | | | | | | | | | | | | | | | | | | |
| **Textbooks & References** | | | | | | | | | | | | | | | | | | | | | |
| Category | Title | | | | Author | | | | | | | Publisher | | | | | | | Year of publication | | |
| Main textbook | **Lecture Slides** | | | | - | | | | | | | - | | | | | | | - | | |
| Others |  | | | |  | | | | | | |  | | | | | | |  | | |
| Reference |  | | | | | | | | | | | | | | | | | | | | |
| **Daily Course Schedule** | | | | | | | | | | | | | | | |
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| **Day**  **(3hurs)** | **Lecture Topic** | **Hours per day** | **Method of Instruction** | **Class Materials & Assignments** |
| 6/27 | * Introduction of the course * History of Artificial Intelligence | 3 | Lecture  Practices | Lecture Slides |
| 6/28 | * Technology Component of Artificial Intelligence | 3 | Lecture  Practices | Lecture Slides Assignment 1 |
| 6/30 | * Configuration of Python Environment | 3 | Pre-recorded Lecture Video | Lecture Slides |
| 7/1 | * Python Programming : Operator, Data Type, String | 3 | Pre-recorded Lecture Video | Lecture Slides Assignment 2 |
| 7/4 | * Python Programming : Condition Statement, Loop Statement | 3 | Pre-recorded Lecture Video | Lecture Slides |
| 7/5 | * Python Programming : List, Tuple, Dictionary | 3 | Lecture  Practices | Lecture Slides Assignment 3 |
| 7/7 | * Python Programming : Function | 3 | Lecture  Practices | Lecture Slides |
| 7/8 | Midterm Exam | 3 | Written Exam |  |
| 7/11 | * Python Programming : File input/output | 3 | Lecture  Practices | Lecture Slides  Assignment 4 |
| 7/12 | * Python Programming : Object-oriented Programming | 3 | Lecture  Practices | Lecture Slides |
| 7/14 | * Python Programming : Modules, GUI Programming | 3 | Lecture  Practices | Lecture Slides  Assignment 5 |
| 7/15 | * AI Programming 1 : Basic AI Implementation, AI Libraries, Numpy | 3 | Lecture  Practices | Lecture Slides |
| 7/18 | * AI Programming 2 : Pandas, Matplotlib, Scikit-learn(Data and Classification) | 3 | Pre-recorded Lecture Video | Lecture Slides  Assignment 6 |
| 7/19 | * AI Programming 3: Scikit-learn(Regression and Optimization), Keras, CNN, LSTM | 3 | Lecture  Practices | Lecture Slides |
| 7/20 | Finalterm Exam | 3 | Written Exam |  |

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| **References** |
| ★ Lectures of 4~5 days are going to run with pre-recorded videos. |