**Capital University of Economics and Business**

**Overseas Chinese College**

**Course Syllabus**

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| **Year and Semester** | 2019 Fall (September 2, 2019 - January 10, 2020) |
| **Course Name** | Python Application development and design |
| **Course Code** | FISC315 |
| **Course Type** | 🞏 General Education (Required) 🞏 General Education (Elective) 🞏 Professional Course (Required) 🗹 Professional Course (Elective)🞏 Basic Disciplinary Course |
| **Course Credits** | 4 |
| **Course Hours** | 40 |
| **Prerequisites** | Python programming language |
| **Instructor** | Dong Wang |
| **Grade/Section** | 2016FISC/Y01 |
| **Course Time/Place** | F: 8:00—12:00 / B208;F: 13:30—17:30 / B208(5 weeks) |
| **Textbook** |
| Python Application development and design |
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| **Course Description** |
| This course begins with a zero-based introduction to Python programming. This course describes how to use the python language to develop highly available, easy-to-maintain Web programs. The main content includes the Python language foundation, the construction ofpython modules, and Python's knowledge of object-oriented design and programming. Learn how to use the common Python Web service-side framework qamall, such as the Django framework, theFlask framework Tornado framework, etc. |
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| **Student Learning Objectives** |
| Learn and master Python language syntax and basics, and learn about the use of Python objects. * Learn to create Python functions, construct and use modules, learn python data structures
* Learn the basics of web front-end HTML,CSS, and JavaScript.
* Learn about Python Web API development.
* Learn to use the Django framework
* Master Python's tools for developing applications, general processes, and web deployment
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| **Teaching Methods** |
| This course consists of lectures, discussions, and hands-on projects. Students must be prepared to discuss the assigned chapters during class. |
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| **Grade Criterion** |
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| **Component** | **Weight** | **Description** |
| Final Exam | 40% | A cumulative final examination will be given based on all of the contents of the class |
| Quizzes and Homework | 40% | There will be a number of ad-hoc/pop quizzes or tests during the semester. The purpose of the quizzes and tests is to ensure that students keep up with the contents.Homework problems will be assigned throughout the term, including but not limited to: terminologies, practice exercises, and project assignments |
| Participation | 10% | Individuals will be asked to participate individually in a question and answer 10 times during the semester. Students are required to meet with their teachers every other week. Their performances should be counted in their participation. |
| Attendance | 10% | Refer to attendance policy listed below |
| Total | 100% |  |

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| **Detailed Grade Computation** |
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|  | **After Midterm** |
| Attendance | 10% |
| Participation | 10% |
| Quizzes and Homework  | 40% |
| Final exam | 40% |
| Total  | 100% |

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| **Grading Policy** |
| A+ 97-100 A 93-96 A- 90–92 B+ 87-89 B 83-86 B- 80–82C+ 75-79 C 70-74 C- 67–69 D+ 63–66 D 62-60 F 0- 59 |
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| **Exam Schedule** |
| Final Exam: November 22, 2019 |
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| **Assessment of Student Performance** |
| ***☞ Self-Study and Reading ability Practice***Instructor will give out the chapters or the reference books to read and use class hours to have discussion; students should be able to show a proactive attitude and ability for self-study and reading. Knowledge and oral English will be elements of homework or presentation score.***☞ Homework***Students should finish their homework by themselves. Copying from others will be treated as cheating and the homework scores will be lowered. Students should hand in all assignments on time. Late assignments will be accepted at the discretion of the instructor (i.e., when the student was ill or had an excused absence). Late assignments without reasonable proof will be reduced in score by 50%.***☞ Attendance***Because the course covers a great deal of material, attending every class session is very important for performing well.🞟 Being late for 15 minutes or more is considered an absence.🞟 Five hours or above of unexcused absences will result in the lower level of the final grade by one grade band (e.g. from C – to D +). Any excused absence must be discussed directly with the teacher.🞟 Absence which is more than 1/3 of the total teaching hours will cause an F (a failing grade) directly.but students are welcome to continue attending classes.🞟 An incomplete grade (I) will be considered in case of medical or family emergencies.***☞ Participation***🞟 Students should participate in classes actively. Half of participation grade is determined by their presentation in class. They are encouraged to ask questions relevant to the subject and express their own opinions. Every student should respect the ideas, opinions, and questions of their classmates.🞟 Students should also use office hours to ask questions or talk with the instructor for good communication and effective learning.🞟 Frequent visiting the instructor and chatting in English during office hours is highly recommended.🞟 Any misbehavior and non-class related activities in class will result in the lower level of the participation grade, including ringing cell phones.🞟 All above behaviors will be solely evaluated by the instructor for scoring.***☞ Textbook***Students must bring the textbook to class. |
| **Topical Course Outline** |
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| **Week** | **Date** | **Topics** | **Homework** |
| 1 | Oct. 25 | * Web Program principles and HTTP protocols
* Building Web Page Three Elements:HTML,CSS, and JavaScript
* HTML Page building
* Use CSS to define the appearance of the page
* 5Use native JavaScript to handle user requests and page events
* Ajax Initial use of the framework
* JQuery Initial use of the framework
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| 2 | Nov. 1 | * Python Introduction to language
* Python Development environment construction
* Python Language grammar, basic data structure
* Data types and variables
* Operators and expressions
* Stream control, branch, loop statement
* Python function definition and use
* Definition and use of python modules
* Overview of object-oriented design and programming
* Inheritance and polymorphism
* Abstract superclasses and interface technologies
* Definition of static and class methods
* Definition and handling of exceptions
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| 3 | Nov. 8 | * Introduction to mysql database
* Mysql database installation and basic operations
* Creation of databases and data tables
* Additions and deletions to the Mysql database
* Python's operation on the mysql database (pymysql)
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| 4 | Nov. 15 | * Overview of Web Program MVC Patterns
* Building a Django framework development environment
* Django development foundation
* view and controller of the Django framework
* Django API design and implementation
* Setting and using the Session object
* Setting and using cookie objects
* User management and response
* Deployment of Django apps
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| 5 | Nov. 22 | — Flask Framework Overview* Flask development environment construction
* Flask Development Tool
* Python Package Manager Basic structure of Flask applications
* Routing and anti-routing
* Message and exception handling
* State management and user request management
* Deploying the Flask app
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| ***Note:*** *Some chapters or sections may leave for self-study, this is the students’ duty to learn and understand, they may also be included in the quizzes or exams.**A review in Chinese may be held during L.C. and O.H. in the semester.* |
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| **Teacher’s Office Hour** |
| 🞟 The instructor’s office hour is shown in the front of the office door.🞟 Students are suggested to use the instructor’s office hour and learning center to ask questions or talk with the instructor once at least per week for good communication and effective learning, which is recorded in the students’ participation.🞟 The time can be scheduled by instructors or students, or both. |
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| **Cheating and Plagiarism** |
| Cheating is not tolerated. Any student caught cheating on a quiz; test or exam will be given a mark of zero (0) for the particular work. At the beginning of the semester the definition of plagiarism will be carefully explained, when any thoughts or writings of another person are used, they must be clearly identified (usually one uses quotation marks) and the source notes. **If any student is caught cheating on any homework assignment, the highest score the student can earn in that course is a "C".** |
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| **Important Dates** |
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| Fall Semester, 2019 | September 2, 2019— January 10, 2020 |
| Aug. 30 | Registration |
| Sep.2 | Classes Begin |
| Sep.7 - 20 | Freshmen's Military Training |
| Sep.23 | Classes Begin（Freshmen） |
| Sep.13 | Mid-Autumn Festival (tentative) |
| Oct.1 - 7 | National Day Holiday (tentative) |
| Nov. 4 - 8 | Mid-term Test |
| Jan.1, 2020 | New Year’s Day Holiday (tentative) |

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| ***Note:*** *This syllabus is tentative and may be changed or modified throughout the semester. All students will be notified and a new syllabus will be given.* |
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| **Instructor: Dong Wang**  **Department Head: Jingning Li** |

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