

# CLOUD COMPUTING

|    |                                                         |                                                                                                                                                                                                                                                                                                                                                                                              |
|----|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Course Title:                                           | CLOUD COMPUTING                                                                                                                                                                                                                                                                                                                                                                              |
| 2  | Course Code:                                            | BLPS2412                                                                                                                                                                                                                                                                                                                                                                                     |
| 3  | Type of Course:                                         | Optional                                                                                                                                                                                                                                                                                                                                                                                     |
| 4  | Level of Course:                                        | Short Cycle                                                                                                                                                                                                                                                                                                                                                                                  |
| 5  | Year of Study:                                          | 2                                                                                                                                                                                                                                                                                                                                                                                            |
| 6  | Semester:                                               | 4                                                                                                                                                                                                                                                                                                                                                                                            |
| 7  | ECTS Credits Allocated:                                 | 3.00                                                                                                                                                                                                                                                                                                                                                                                         |
| 8  | Theoretical (hour/week):                                | 2.00                                                                                                                                                                                                                                                                                                                                                                                         |
| 9  | Practice (hour/week):                                   | 0.00                                                                                                                                                                                                                                                                                                                                                                                         |
| 10 | Laboratory (hour/week):                                 | 0                                                                                                                                                                                                                                                                                                                                                                                            |
| 11 | Prerequisites:                                          | None                                                                                                                                                                                                                                                                                                                                                                                         |
| 12 | Language:                                               | Turkish                                                                                                                                                                                                                                                                                                                                                                                      |
| 13 | Mode of Delivery:                                       | Face to face                                                                                                                                                                                                                                                                                                                                                                                 |
| 14 | Course Coordinator:                                     | Öğr.Gör. EBRU YENİMAN                                                                                                                                                                                                                                                                                                                                                                        |
| 15 | Course Lecturers:                                       |                                                                                                                                                                                                                                                                                                                                                                                              |
| 16 | Contact information of the Course Coordinator:          | Öğr. Gör. Ebru Yeniman Yıldırım<br>Email: yeniman@uludag.edu.tr<br>Tel iş: (224) 29 42 369<br>Uludağ Üniversitesi Teknik Bilimler M.Y.O.<br>Görükle kampüsü Nilüfer-BURSA                                                                                                                                                                                                                    |
| 17 | Website:                                                |                                                                                                                                                                                                                                                                                                                                                                                              |
| 18 | Objective of the Course:                                | The aim of the course is to introduce current applications related to cloud computing. Within the scope of this course, necessary information will be given to design and develop cloud-based software systems by focusing on cloud computing models, techniques and architectures. Concepts such as SaaS, PaaS, IaaS and IDaaS and service providers for these concepts will be introduced. |
| 19 | Contribution of the Course to Professional Development: | In this course, they will be able to gain knowledge on cloud computing fundamentals, cloud architecture, service models, benefits, distributed storage, cloud security, services and software, and commercial cloud services.                                                                                                                                                                |
| 20 | Learning Outcomes:                                      |                                                                                                                                                                                                                                                                                                                                                                                              |
|    | 1                                                       | Will be able to the principles of cloud computing.                                                                                                                                                                                                                                                                                                                                           |
|    | 2                                                       | Will be able to use benefits of cloud computing are that they will have knowledge about distributed storage,                                                                                                                                                                                                                                                                                 |
|    | 3                                                       | They will learn the concepts of distributed storage and security.                                                                                                                                                                                                                                                                                                                            |
|    | 4                                                       | They will have knowledge about virtualization, service-oriented architecture and web services.                                                                                                                                                                                                                                                                                               |
|    | 5                                                       | They will recognize cloud applications - frameworks.                                                                                                                                                                                                                                                                                                                                         |
|    | 6                                                       | They will be able to develop simple applications using a standard such as Google App Engine                                                                                                                                                                                                                                                                                                  |
|    | 7                                                       | Will became able to recognize and compare existing industry software.                                                                                                                                                                                                                                                                                                                        |
|    | 8                                                       |                                                                                                                                                                                                                                                                                                                                                                                              |
|    | 9                                                       |                                                                                                                                                                                                                                                                                                                                                                                              |
|    | 10                                                      |                                                                                                                                                                                                                                                                                                                                                                                              |
| 21 | Course Content:                                         |                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                                  | Course Content:                                                                                                                      |  |                                                                                                                                                   |                 |                        |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|
| Week                                                             | Theoretical                                                                                                                          |  | Practice                                                                                                                                          |                 |                        |
| 1                                                                | Basic Components of Cloud Computing and fundemantal                                                                                  |  |                                                                                                                                                   |                 |                        |
| 2                                                                | Cloud Computing (i) Infrastructure as a Service (IaaS), (ii) Platform as a Service (PaaS) (iii) Software Application services (SaaS) |  |                                                                                                                                                   |                 |                        |
| 3                                                                | Cloud Technologies                                                                                                                   |  |                                                                                                                                                   |                 |                        |
| 4                                                                | Cloud services and applications                                                                                                      |  |                                                                                                                                                   |                 |                        |
| 5                                                                | Virtualization Technology, Abstraction                                                                                               |  |                                                                                                                                                   |                 |                        |
| 6                                                                | Cloud Development: Data storage in the cloud.<br>Cloud Development: MapReduce.                                                       |  |                                                                                                                                                   |                 |                        |
| 7                                                                | Cloud Development: Dev 2.0 platforms.                                                                                                |  |                                                                                                                                                   |                 |                        |
| 8                                                                | Private Business Enterprise Software ( Google web services and Microsoft cloud services )                                            |  |                                                                                                                                                   |                 |                        |
| 9                                                                | Cloud Security – and MIDTERM                                                                                                         |  |                                                                                                                                                   |                 |                        |
| 10                                                               | Cloud Computing Risk Management Approaches                                                                                           |  |                                                                                                                                                   |                 |                        |
| 11                                                               | Getting to know the system, Workflow and Business Processes                                                                          |  |                                                                                                                                                   |                 |                        |
| Activites                                                        |                                                                                                                                      |  | Number                                                                                                                                            | Duration (hour) | Total Work Load (hour) |
| 14                                                               | Project Presentations                                                                                                                |  | 14                                                                                                                                                | 2.00            | 28.00                  |
| Practicals/Labs                                                  |                                                                                                                                      |  | 0                                                                                                                                                 | 0.00            | 0.00                   |
| Self study and preperation                                       |                                                                                                                                      |  | 12                                                                                                                                                | 2.00            | 24.00                  |
| Homeworks                                                        |                                                                                                                                      |  | 1                                                                                                                                                 | 14.00           | 14.00                  |
| Projects                                                         |                                                                                                                                      |  | 0                                                                                                                                                 | 0.00            | 0.00                   |
| Field Studies                                                    |                                                                                                                                      |  | 0                                                                                                                                                 | 0.00            | 0.00                   |
| TERM LEARNING ACTIVITIES                                         |                                                                                                                                      |  |                                                                                                                                                   |                 |                        |
| Midterm exams                                                    |                                                                                                                                      |  | 1                                                                                                                                                 | 8.00            | 8.00                   |
| Others                                                           |                                                                                                                                      |  | 0                                                                                                                                                 | 0.00            | 0.00                   |
| Final Exams                                                      |                                                                                                                                      |  | 0                                                                                                                                                 | 16.00           | 16.00                  |
| Total Work Load                                                  |                                                                                                                                      |  |                                                                                                                                                   |                 | 98.00                  |
| Total work load/ 30 hr                                           |                                                                                                                                      |  | 1                                                                                                                                                 | 60.00           | 3.00                   |
| ECTS Credit of the Course                                        |                                                                                                                                      |  |                                                                                                                                                   |                 | 3.00                   |
| Contribution of Term (Year) Learning Activities to Success Grade |                                                                                                                                      |  | 40.00                                                                                                                                             |                 |                        |
| Contribution of Final Exam to Success Grade                      |                                                                                                                                      |  | 60.00                                                                                                                                             |                 |                        |
| Total                                                            |                                                                                                                                      |  | 100.00                                                                                                                                            |                 |                        |
| Measurement and Evaluation Techniques Used in the Course         |                                                                                                                                      |  | Measurement and evaluation is carried out according to the priciples of Bursa uludag University Associate and Undergraduate Education Regulation. |                 |                        |
| 24                                                               | ECTS / WORK LOAD TABLE                                                                                                               |  |                                                                                                                                                   |                 |                        |

| 25                                                    | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS |     |       |     |     |          |     |     |        |      |      |             |      |      |      |      |
|-------------------------------------------------------|---------------------------------------------------------------|-----|-------|-----|-----|----------|-----|-----|--------|------|------|-------------|------|------|------|------|
|                                                       | PQ1                                                           | PQ2 | PQ3   | PQ4 | PQ5 | PQ6      | PQ7 | PQ8 | PQ9    | PQ10 | PQ11 | PQ12        | PQ13 | PQ14 | PQ15 | PQ16 |
| ÖK1                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| ÖK2                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| ÖK3                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| ÖK4                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| ÖK5                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| ÖK6                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| ÖK7                                                   | 5                                                             | 5   | 4     | 3   | 4   | 4        | 4   | 4   | 4      | 3    | 2    | 0           | 0    | 0    | 0    | 0    |
| LO: Learning Objectives    PQ: Program Qualifications |                                                               |     |       |     |     |          |     |     |        |      |      |             |      |      |      |      |
| Contribution Level:                                   | 1 very low                                                    |     | 2 low |     |     | 3 Medium |     |     | 4 High |      |      | 5 Very High |      |      |      |      |