Course Syllabus

Code - Course Title	**BOP225 - Data Structures and Programming**
Course Type	III. SEMESTER
Laboratory + Practice	3+2
ECTS	**6.0**
Language of Instruction	Türkçe
Course Type	Required Courses
Course Instructor(s)	DOÇ. DR. ZEHRANUR KAYA

Mode of Delivery	This course is conducted exclusively through face-to-face instruction.
Place of Delivery	On Campus
Used Educational Platforms	Face-to-face
Prerequisites	There is no prerequisite or co-requisite for this course.
Courses Recomended	Mathematics
Recommended Resources	The course notes have been prepared by the instructor.
Work Placement	not applicable.
Aims of the Course	In this course, planned in accordance with the language skills and communication methods of students with hearing impaired, the objective is to teach the use of a selected database software and to enable students to develop databases based on given problems, thereby enhancing their problem-solving skills.

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1	**LO-1**	Introduction- general concepts regarding data, information, and databases,	Lecture, Question & Answer, Discussion, Brain Storming
Week - 2	**LO-2**	Steps for designing a database—Introduction to the selected database software—Usage features of the menu commands and page navigation within the software. Implementation of sample applications.	Lecture, Question & Answer, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 3	**LO-2** **LO-3**	Use of the selected database: Processes of creating data fields and calculating information fields. Implementation of sample applications.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 4	**LO-2** **LO-3** **LO-4**	Explanation of numeric, text, date, and logic operations, and the implementation of sample applications.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop

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Week - 5	**LO-3** **LO-4** **LO-5** **LO-6**	Implementing logical operations in the selected database software through a variety of problem-based scenarios.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 6	**LO-1** **LO-2** **LO-3** **LO-4** **LO-5** **LO-6** **LO-7**	Creation of form and table views in accordance with the characteristics of the selected database.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 7	**LO-1** **LO-2** **LO-3** **LO-4** **LO-5** **LO-6**	Örnek veritabanı çalışmalarının yapılması ve veritabanını düğme ve sorguların eklenmesi.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 8	**LO-1** **LO-2** **LO-3** **LO-4** **LO-5** **LO-6** **LO-7**	Applications for creating sample databases using various problems.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 9	**LO-1** **LO-2** **LO-3** **LO-4** **LO-5** **LO-6** **LO-7**	Development of sample database applications for the common use of all formulas. Visual design work of the database.	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 10	**LO-1** **LO-2** **LO-3** **LO-4** **LO-5** **LO-6** **LO-7** **LO-8**	Import and export	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 11	**LO-1** **LO-2** **LO-3** **LO-4** **LO-5** **LO-6** **LO-7** **LO-8**	Sample database application	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop

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Week - 12	LO-1 LO-2 LO-3 LO-4 LO-5 LO-6 LO-7 LO-8	Sample database application	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 13	LO-1 LO-2 LO-3 LO-4 LO-5 LO-6 LO-7 LO-8	Creating button and script	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop
Week - 14	LO-1 LO-2 LO-3 LO-4 LO-5 LO-6 LO-7 LO-8	Sample database application	Lecture, Question & Answer, Problem Solving, Brain Storming, Demonstration and Practice, Practice/Practical Work/Workshop

Learning Outcomes

#	Learning Outcome
1	The student can explain basic concepts related to data, information, and databases in both written and oral form.
2	Can explain the processes and stages of database creation and design.
3	The student will be able to effectively use the core features and tools of the selected database software.
4	The student can create data fields in a database and perform calculation operations for information fields.
5	Can perform operations on numerical, textual, historical, and logical data types.
6	Can create databases suitable for different problem scenarios and develop database applications.
7	Creates tables, forms, and queries using database software; can create buttons and scripts.
8	The student will be able to perform data transfers between different programs and visually organize database applications.

Sustainable Development Goals

✓ End Poverty ✓ Quality Education ✓ Decent Work and Economic Growth ✓ Reducing Inequalities

Course Theme

✓ Educational Sciences and Educational Technologies ✓ Software, Cloud and Blockchain

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	3.00	14	42
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	2.00	14	28
Ödevler	6.00	12	72
Proje - Rapor - Sunum Hazırlama	0.00	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	5.00	1	5
Final Sınavı Hazırlığı (sınav süresi dahil)	5.00	1	5
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0.00	0	0
Staj Uygulaması	0.00	0	0
		Calculated ECTS	**6.0**

Assessment Method and Passing Requirements

✓ Open-Ended Test ✓ Homework