

CC700 BASES DE DATOS DE VIDEO
(Video Database Systems)
10UD

Prof.: Dr. Shermann Sze-Man Chan

Requisites : CC42A / CC55A

Objective:

The course provides you with a basic study of the development of fundamental multimedia/video database systems and an overview of the research work in this area. We emphasize on both conceptual understanding and practical experience of such database systems, including the fundamental components of a DBMS, the underlying concepts and principles of traditional database technologies, data/information modeling techniques, etc. We also provide an in-depth study of more advanced technologies suitable for multimedia/video, which are concerned with: (a) suitable data modeling capabilities within multimedia/video databases; (b) defining and manipulating multimedia/video data; (c) multimedia/video indexing and content-based retrieval techniques; (d) multimedia/video database architecture, and (e) advanced multimedia/video applications.

On the completion of the course, students should be able to understand the fundamental database systems for multimedia/video applications.

Lecture Hours:

3 hours per week

Content:

Week	Topic
1	Introduction to database systems
2	Introduction to multimedia information systems
3	Multimedia and data models
4	Research work: temporal and spatial data models
5	Research work: video data models
6	Temporal databases
7	Temporal data reasoning

8	Spatial and temporal data indexing
9	Spatial databases
10	Query processing and optimization
11	Image databases
12	Generic video database architecture
13	Video query indexing and hybrid retrieval mechanism
14	Web-based multimedia/video applications
15	Demos and course review

Bibliography:

- Elmasri, R. and Navathe, S.B., Fundamentals of Database Systems, Addison-Wesley, 2003.
- Andleigh, P.K. and Thakrar, K., Multimedia Systems Design, Prentice Hall, 1996.
- Stock, O., Spatial and Temporal Reasoning, Kluwer Academic Publishers, 1997.
- Bertino, E, et al, Indexing Techniques for Advanced Database Systems, Kluwer Academic Publishers, 1997.

ASSESSMENT:

Week	Assessment Type	Details	%
3	Quiz I	Content from wk1 to wk3	15
11	Quiz II	Content from wk6 to wk11	15
15	Final examination		70%