

CSCI 4871 - Cloud Computing and Big Data

Fall 2026 Syllabus, Section 01, CRN 42279,

Credit hours: 3

Instructor

Feng Yu

Email: fyu@ysu.edu

Public Instructor Information

Instructor Title: Professor

Instructor Professional Qualifications: Ph.D., Computer Science, Southern Illinois University, 2013

Instructor Office Location: Meshel Hall 316

Instructor Office Phone: 330-941-1775

Course Description

4871. Cloud Computing and Big Data. Fundamental knowledge of cloud computing and big data. Advances in cloud computing and data intensive computing environment across multiple disciplines. Students will build, manage, and program on popular cloud and big data platforms. Prereq.: At least 3 semester hours of upper division CSIS or CSCI courses. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Distributed and cloud computing: from parallel processing to the internet of things	Hwang, Kai, Jack Dongarra, and Geoffrey C. Fox	0123858801
Optional	Mastering Cloud Computing	Rajkumar Buyya; Christian Vecchiola; S.Thamarai Selvi	978-0-12-411454-8

Available in O'Reilly Safari Books

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Chapter 1	Introduction Systems modeling, clustering, and virtualization	
8/31	Chapter 2	Computer clusters for scalable parallel computing	
9/7	Chapter 2		Assignment 1 Due
9/14	Chapter 3	Virtual machines and virtualization of clusters and data centers	Assignment 2 Due
9/21	Chapter 3		
9/28	Chapter 4	Cloud platform architecture over virtualized data centers	
10/5	Chapter 4		Assignment 3 Due
10/12	Chapter 6	Cloud and Big Data programming	
10/19	Chapter 6 Chapter 5		Assignment 4 Due

10/26	Exam	
11/2	Lab 1	Lab 1 Due
11/9	Lab 2	Lab 2 Due
11/16	Lab 3	Lab 3 Due
11/23	Lab 4	Lab 4 Due
11/30	Term paper	
12/7	Term project	Term paper and term project Due

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.