Georgia State University

Department of Computer Information Systems

Course Syllabus

CIS 8690(CRN: 21385) – Spring 2022

Advanced Topics in Information Systems

This syllabus provides a general guideline for the conduct of the course and deviations may be necessary.

Instructor	John C. Martin
Office	35 Broad Street, Suite 925 (Daytime Office)
Office Hours	By appointment only
Office Phone	(404) 291-9963
Email	jmartin120@gsu.edu (primary method of communication)
Blended Classroom	Thursdays, 5:30 – 9:45 PM
Course site	iCollege : https://gastate.view.usg.edu/d2l/home/2235634

CATALOG DESCRIPTION

This course addresses emerging or advanced topics in information systems and services such as IT operations management, IT sourcing, cloud computing, and other emerging technology concepts. This course details the technical underpinnings of various emerging technologies and design principles as well as their potential uses by organizations. The course teaches students to design and develop innovative applications using a variety of technologies. Several technologies and design principles will be covered during the class.

COURSE OBJECTIVES

After successfully completing this course, students will be able to:

- Understand and apply key concepts related to several emerging technologies
- Explain the business reasons for providing emerging technology solutions in innovative organizations
- Understand how information and communication technologies are driving technology innovation
- Engage in the process of innovating using a case study that simulates the challenges that "real" organizations deal with today

COURSE FORMAT

Classroom sessions will regard the same topics as the readings assignments but seek further depth through discovery learning. It is essential that students read the assigned material before attending each module.

All student work submitted in fulfillment of course requirements is deemed to be granted in the public domain (copyright-free) for the purposes of use as instructional material or examples of student work in future courses.

Constructive assessment of this course by students plays an indispensable role in shaping education in the University of Georgia System and this program. The course syllabus provides a general plan for the course. Deviations may be necessary.

COURSE TEXT

***Tech Trends in Practice*, *Bernard Marr*, John Wiley & Sons Ltd.**, 2020 edition ISBN: 978-1-119-64619-8 (Hardback), ISBN-978-1-119-64621-1 (e-PDF), ISBN-978-1-119-64620-4 (e-Pub) or see PDF copy in Icollege!

CASE STUDY

We will use a real opportunity/problem, as is currently being encountered by international financial organizations, that is looking to use emerging technologies to enhance their position in their consumer market. The class will be broken up into teams, which will work to solve the problems and present a "possible" solution back to the class.

ADDIATIONAL READINGS (provided in iCollege - Content):

See Assigned Additional Readings in Syllabus (subject to change)

GRADING

1. Attendance & Team Participation: 10%
2. Midterm Exam: 25%
3. Case Study Deliverables: 40%
   - 10% Detailed problem statement
   - 10% Draft Architectural Vision Document
   - 20% Final Architectural Vision Document
4. Final Exam: 25%

The following grading scale will be used to calculate final grades: A+ (97-100%), A (93 – 96.99%), A- (90-92.99%), B+ (87-89.99%), B (83-86.99%), B- (80-82.99%), C+ (77-79.99%), C (73- 76.99%), C- (70-72.99%), D(<70%)

EXAMINATIONS (2):

A Mid-Term & Final examination will primarily focus on the course materials and discussions from the assigned readings and class lectures and will be composed of T/F, MC, and short answer questions. No make-up exams will be offered except in the case of absence excused due to illness or a family crisis.

FINAL ARCHITECTURAL VISION REPORT

This project is designed to take a complex, real-world, situation for a company/organization and you are asked to analyze their situation and make a recommendation for a path forward. You will use this report to document your suggested solution along with your supporting documentation. A template will be provided and your final report will be graded using the following rubric:

Criteria	Meets	Mostly Meets	Partially Meets	Failed to Meet	Score
Report Organization	20	15	10	0	
Research	20	10	10	0	
Analysis	30	25	15	0	
Content	30	25	15	0	
				Totals	/100

CLASS PARTICIPATION:

Students are expected to attend all modules and actively listen.

GENERAL CLASS POLICIES

- Unless specifically stated by the instructor, all exams and assignments are to be completed by the student alone.
- Within group collaboration is allowed only on assignments that are designated as group assignments. Collaboration between class members will be considered cheating unless specifically allowed by an instructor.
- Any non-authorized collaboration will be considered cheating, and the student(s) involved will have an Academic Dishonesty charge completed by the instructor and placed on file in the Dean's office and the CIS Department. All instructors regardless of the type of assignment will apply this Academic Dishonesty policy equally to all students. See excerpt from the Student Handbook below:
- Academic Honest (Abstracted from GSU's Student Handbook Student Code of Conduct "Policy on Academic Honesty and Procedures for Resolving Matters of Academic Honesty" - http://www.gsu.edu/~wwwcam/academichonesty.html)
- As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. The University assumes as a basic and minimum standard of conduct in academic matters that students be honest and that they submit for credit only the products of their own efforts. Both the ideals of scholarship and the need for fairness require that all dishonest work be rejected as a basis for academic credit. They also require that students refrain from any and all forms of dishonorable or unethical conduct related to their academic work.

COURSE SCHEDULE (Note: This schedule is subject to change)

Class	Date	Agenda	Topics	Readings (Read in Advance) & Assignments Due
1	3/3	Introduction & 4th Industrial Revolution	• Introduction to Emerging Technologies • 4th Industrial Revolution • Introduction to FinTech	• Fourth Industrial Revolution • Introduction to Fintech
2	3/10	• Data Analytics • eCommerce • Intro to TOGAF/ADM	• What is Data Analytics and how does it relate to predictive Analytics and Big Data • What are the elements of eCommerce? • Architecture Development Method	• Text Book –Trend 4, 18 • Digital Transformation in Banking • Data Analysis Handbook • **Detailed Problem Statement Due**
No Class	3/17	SPRING BREAK		
3	3/24	Cyber Security & **MIDTERM EXAM**	• Digital Signatures • Cryptographic Hash Functions • Biometrics for Security	• Text Book – Trend 20 • Biometrics in Security • PKI Fundamentals
4	3/31	IoT & Cloud Computing	• What is IoT and how can it be used • Mobile Technologies • Wireless Computing Infrastructure	• Text Book– Trend 2, 5, 7 & 15 • Mobile Technologies • Wireless Internet Network Communications • **Draft Architectural Vision Doc Due**
5	4/7	AR / VR & AI	• What is AR and VR • What is AI and how can it help businesses? • How they are used in innovative organizations	• Text Book– Trend 1, 8, 10, 11 & 13 • AR and VR • AI for Dummies (Chapters 2-4)
6	4/14	Blockchain/ Cryptocurrency	• Blockchain explained • Mining, proof of work, proof of stake	• Text Book– Trend 6 • Blockchain for Dummies
7	4/21	Final Presentations Final Exam		• **Final Architectural Vision Doc Due!**