FAU

FLORIDA ATLANTIC UNIVERSITY

NEW COURSE PROPOSAL
Graduate Programs

Department ITOM

College Business

*(To obtain a course number, contact **erudolph@fau.edu**)*

UGPC Approval _____
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner _____
Catalog _____

Prefix ISM Number 6645	*(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)* Lab Code	**Type of Course** Lecture	**Course Title** Blockchain and Digital Business Transformation

Credits *(Review Provost Memorandum)* 3 **Effective Date** *(TERM & YEAR)* Spring 2022	**Grading** *(Select One Option)* Regular Sat/UnSat	**Course Description** *(Syllabus must be attached; see Guidelines)* Digital transformations are encompassing all organizations, business sectors, and society. The course provides a critical understanding of transformative technological innovations, such as Blockchain, and their wide-ranging impact. Business strategies are discussed in the context of these innovations. Appropriate for all Business disciplines.

Prerequisites Admission to an FAU graduate program and ISM 6404 *Prerequisites, Corequisites and Registration Controls are enforced for all sections of course.*	**Academic Service Learning (ASL) course** Academic Service Learning statement must be indicated in syllabus and approval attached to this form.	
	Corequisites None	**Registration Controls** *(For example, Major, College, Level)*

Minimum qualifications needed to teach course: Member of the FAU graduate faculty and has a terminal degree in the subject area (or a closely related field.)	**List textbook information in syllabus or here** •Jai Arun, Jerry Cuomo, Nitin Gaur, Blockchain for Business 1st Edition, Addison-Wesley Professional; 1st edition, 2020, ISBN-13:978-0135581353 •Schilling, Strategic Management of Technological Innovation, 6e, 2020, McGraw Hill, ISBN: 978-1260565799

Faculty Contact/Email/Phone Nataliia Neshenko nneshenko2016@fau.edu	**List/Attach comments from departments affected by new course** See Attached

Approved by		*Date*
Department Chair		August 24, 2021
College Curriculum Chair		8/27/2021
College Dean	Ken Johnson	8/27/2021
UGPC Chair	Christopher Beetle	Sep 16, 2021
UGC Chair		Sep 16, 2021
Graduate College Dean	Robert W Stackman	Sep 16, 2021
UFS President		
Provost		

Email this form and syllabus to UGPC@fau.edu 10 days before the UGPC meeting.

FAUnewcourseGrad, created Fall 2019

Supporting comments from Prof. Hanqi Zhuang, Chair and Professor
Department of Computer and Electrical Engineering and Computer Science

From: Hanqi Zhuang <zhuang@fau.edu>
Sent: Monday, August 23, 2021 10:06 AM
To: Tamara Dinev <tdinev@fau.edu>
Subject: Re: Request for your comments on two courses ITOM proposes

Dear Tamara,

Call me Hanqi (hanchi).

I fully support your course proposals.

Have a wonderful new academic year!

Hanqi

From: Tamara Dinev <tdinev@fau.edu>
Sent: Monday, August 23, 2021 8:12 AM
To: Hanqi Zhuang <zhuang@fau.edu>
Subject: Request for your comments on two courses ITOM proposes

Dear Dr. Zhuang:

I would like to request your comments and hopefully endorsement on two courses in Blockchain Business implications and Digital business transformation. Both courses are appropriate for all business disciplines. Neither covers coding, programming, cryptology, systems design, or comprehensive system development. Prior knowledge of information technology, computer science, or mathematical concepts is not required. The emphasis of the courses is on theorical business guiding principles and approaches, analysis of models and their implications for business, adoption in businesses to drive competition and growth, and real-world examples such as Harvard Business Cases of blockchain and technology innovations.
Please find the syllabi attached.

Thank you and have a great Monday!
Looking forward to hearing from you.

Best Regards:
Tamara
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Tamara Dinev, Ph.D., Department Chair and Professor
Dean's Distinguished Research Fellow
Department of Information Technology and Operations Management, FL 219
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Google Scholar: https://scholar.google.com/citations?user=YH8QZ-YAAAAJ&hl=en

ISM 6455 - Blockchain and Digital Business Transformation

Section number and CRN: (TBA), SPRING 2022

Times & Days: TBA

Location: TBA

Faculty Information

TBA

Florida Atlantic University – Information Technology Operations Management
Office: Bldg., Room (TBA), Boca Raton
Campus Email: TBA@fau.edu
Phone: 561-297-**** (TBA)
Course Shell: https://canvas.fau.edu
Office Hours: DAY & TIMES or by Appointment (Zoom, MS Team or WebEx)

COVID-19 Statement:
Due to the surge in COVID-19 cases and the delta variant, all students regardless of vaccination status are expected to wear masks while indoors in any FAU facilities, including classrooms and laboratories. Students experiencing flu-like symptoms (fever, cough, shortness of breath), or students who have come in contact with confirmed positive cases of COVID-19, should immediately contact FAU Student Health Services (561-297-3512). Symptomatic students will be asked to leave the classroom to support the safety and protection of the university community. For additional information visit *https://www.fau.edu/coronavirus/* *In classes with face-to-face components, quarantined or isolated students should notify me immediately as you will not be able to attend class. I will not be able to offer an online version of the class but will make reasonable efforts to assist students in making up the work. Vaccinated students have much lower chances of needing to quarantine and a much lower chance of missing class time.*

Course Information

Course Description
Digital transformations are encompassing all organizations, business sectors, and society. The course provides a critical understanding of transformative technological innovations, such as Blockchain, and their wide-ranging impact. Business strategies are discussed in the context of these innovations. Appropriate for all Business disciplines.

Instructional Method

Course Prerequisites and Credit Hours
No prerequisites

Required Text and Materials

- Jai Arun, Jerry Cuomo, Nitin Gaur, Blockchain for Business 1st Edition, Addison-Wesley Professional; 1st edition, 2020, ISBN-13: 978-0135581353
- Schilling, Strategic Management of Technological Innovation, 6e, 2020, McGraw Hill,

  ISBN: 978-1260565799

  https://connect.mheducation.com/connect/login/index.htm?&BRANDING_VARIANT_KEY=en_us_default_default&node=connect_app_11_20
- Harvard Business School case studies package – More information will be provided in class Cases link: https://hbsp.harvard.edu/
- BlockGeek https://blockgeeks.com/guides/what-is-blockchain-technology/ * No cost *
- Clayton Christensen, Disruptive Innovation, https://claytonchristensen.com/key-concepts/ * No cost *
- How to Improve Story Telling with Data: http://www.storytellingwithdata.com/ *No cost*
- Evan McFarland, Blockchain Wars: The Future of Big Tech Monopolies and the Blockchain, Evan McFarland 2021

Supplemental Course Description

Continuous major technology innovations like the Internet, Social Media, Mobile technology, Artificial Intelligence, cloud services, and Blockchain have had major influences on businesses through the past twenty years. Given the events of the past few years, the rate of innovation and adoption has increased in an unprecedent rate, and there are strong indications that this trend is continuing to accelerate for the foreseeable future. One of the major themes of innovation is decentralization, and democratization of data through the wide-ranging use of Blockchain, artificial intelligence (AI), and Internet of Things. Blockchain and other technology innovations will be the fuel for Web 3.0 and the phase three of the digital economy. As such, business transformation and the use of information systems and technologies will continue to drive the competition for an accredited adoption. These factors are compelling senior executives to restructure their organizations and to redefine the role of Information Technology practitioners, leaders, and experts alike as the custodians of modernization. Furthermore, in many cases successful adoption, implementation, and utilization of technology innovation, specifically Blockchain and AI, is becoming a differentiator in various vertical markets, and a major key to expansion and competitiveness.

This course covers various innovation frameworks, models, theories, and patterns associated with technology innovations. The contemporary landscape of technology disruptions and their implications for businesses are discussed through the lens of concept-to-action framework: innovation, disruption, adoption, abandonment, and maturity matrix. Topics include but are not limited to cryptocurrency and financial models, smart contracts, fungible tokens, supply chain blockchains, organizational models to support Blockchain and other innovations, changes to business models driven by Blockchain and other disruptive technologies, organizational transformation to support digital business strategies. In addition, various just-in-time contemporary emerging technologies will be discussed to prepare current and aspiring business leaders to remain competitive and strategic in the age of Blockchain and digital business.

This course does not cover coding, programming, cryptology, systems design, or comprehensive system development. Prior knowledge of information technology, computer science, or mathematical concepts is not required. The emphasis of this course is on theorical business guiding principles and approaches, analysis of models and their implications for business, adoption in businesses to drive growth, and real-world examples and application of blockchain and technology innovations.

This course has two parts. The first part covers Blockchain innovations and their implications to Business. The second part covers overarching concepts associated with digital business strategies and innovations in general.

Course Objectives/Student Learning Outcomes

By the end of the course, students will be able to:
- Learn to communicate and discuss issues, benefits, and risks of emerging technological disruptions and Blockchain specifically
- Understand regulatory challenges, trust, and risks in Blockchain transactions
- Discover how enterprise, Supply Chain Management, and governments are leveraging the blockchain
- Understand disruptive Innovations and time to market strategies
- Understand the trend in technology innovation and business strategies

Course Resources

Students are expected and required to have Internet access, Microsoft Office (or compatible products), and email account for this course. This course uses Canvas extensively for communications, file distribution and testing. Please make every effort to ensure that you have access to Canvas and that you receive and read your FAU email regularly.

Course Grading Scale

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Cutoff	930	900	870	830	800	770	730	700	670	630	600	0

Course Evaluation Method

This course is from 1000 possible points.

Case Write-up -- 14 cases each is worth 10 points	14% (140 points)
Case study presentation	6% (60 points)
Chapter Quizzes - 14 (each is 40 points)	56% (560 points))
Special topic write-up Blockchain and AI	10% (100 points)
Final research project (report and presentation)	14% (140 points)

Detailed description of each of the above course evaluation components is discussed in class and/or on Canvas.

Assignments:
- There are 14 case studies, one student presentation, one special topic review and write-up, one strategy/research paper and the accompanying presentation as well as 14 quizzes.
- Students will be asked to seek a teammate during the first week of this course. Two students per team
- Each team will be responsible to present **a case study** as well as **the final presentation/ research paper.**
- Every student is required to write about all case studies
- Case study presentation are between 15 to 20 minutes and require extremal references
- Final presentation will be between 15 to 20 minutes and will require external references to support the arguments.

Additional Course Policies

Missing Quizzes

Except in the cases of religious or university-approved events, making up missing exams will **not** be allowed.

Late Assignments

Based on the nature of the course, all assignments must be submitted on Canvas (final project, etc.) Submission on Canvas will be logged automatically. Except in the cases of religious or university-approved events, late assignments will **not** be accepted unless explicit prior permission is issued, in which case a penalty may be assessed to maintain fairness among students.

Attendance Policy

This course is designed to accommodate flexible schedule to a limited extend; however, classroom/online environment and participation is an important aspect of this, and it is highly recommended that you do every effort to attend all lectures. You are expected to do all your assigned work during the assigned session. Use your own judgment if you have to miss a class or session due to your personal or professional commitment.

If you miss two (2) or more sessions (with the exception of true emergencies or university- approved disasters), your grade could be impacted.

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Anti-plagiarism Software

All submitted work or class presentations are expected to be of graduate-level quality. Unprofessional, incomprehensible, or sloppy format, writing, or presentation will result in lower grades. All submission may be filtered by the university anti-plagiarism system and using APA format.

Selected University and College Policies

Code of Academic Integrity Policy Statement
Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty.
For more information, please see FAU Regulation 4.001 at: FAU Regulation 4.001

Disability / Accessibility Policy Statement
In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with **Student Accessibility Services** (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/

Counseling and Psychological Services (CAPS) Center
Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling

Religious Observances Accommodation Policy Statement
In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices, observances, and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments. For further information, please see FAU Regulation 2.007 at: FAU Regulation 2.007

University Approved Absence Policy Statement
In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

Incomplete Grade Policy Statement

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete ("I") grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing ("F") grade.

Grade Appeal Process

A student may request a review of the final course grade when s/he believes that one of the following conditions apply:

- There was a computational or recording error in the grading.
- Non-academic criteria were applied in the grading process.
- There was a gross violation of the instructor's own grading system. The procedures for a grade appeal may be found in FAU Regulation 4.002

Disruptive Behavior Policy Statement

Disruptive behavior is defined in the FAU Student Code of Conduct as *"... activities which interfere with the educational mission within classroom."* Students who behave in the classroom (online) such that the educational experiences of other students and/or the instructor's course objectives are disrupted are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones, leaving Mic on); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct.

Withdrawals

Any student who decides to drop is responsible for completing the proper process required to withdraw from the course:

Faculty Rights and Responsibilities

Florida Atlantic University respects the right of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions which do not impede their exercise. To ensure these rights, faculty members have the prerogative:

- To establish and implement academic standards
- To establish and enforce reasonable behavior standards in each class
- To refer disciplinary action to those students whose behavior may be judged to be disruptive under the Student Code of Conduct

Schedule Outline:

Date	Topic	Discussion	Reading and Quiz
Week 1	Course Discussion Introduction to Blockchain	Introduction to Blockchain and Technological Innovations in Business. Why Blockchain matters? Blockchain Questions from Business Leaders	Arun et al, Chapter 1
Week 2	Blockchain: Opportunities and Challenges	Case Study 1: Blockchain Is Changing How Companies Can Engage with Customers	Arun et al, Chapter 2 Quiz 1
Week 3	Understanding the Technology Landscape and Types of Blockchains	Case Study 2: A Decentralized Token Economy: How Blockchain and Cryptocurrency Can Revolutionize Business	Arun et al, Chapter 3 Quiz 2
Week 4	The Business Model: Path to Blockchain Enterprise Adoption	Case Study 3: Ripple: The Business of Crypto	Arun et al, Chapter 4 Quiz 3
Week 5	Catch Me If You Can. The Decentralized Economy: Governance Structure of Blockchain	Case Study 4: Government, Governance, Data, and You	Arun et al, Chapter 5 Quiz 4
Week 6	Enterprise Structure and Blockchain: Building Effective Teams and Projects	Case Study 5: Maersk: Betting on Blockchain	Arun et al, Chapter 6 Quiz 5
Week 7	Blockchain Financial Models, Smart Contracts, and Risk Frameworks.	Case Study 6: Ethereum: Navigating the Blockchain's Sustainability Versus Profit Dilemma	Arun et al, Chapter 7 Quiz 6
Week 8	The Future of Blockchain	Case Study 7: Looking to the Future	Arun et al, Chapter 8 Quiz 7
Week 9	Accelerated Cycle of Technology Innovation Impacting Business Strategies	Case Study 8: Fidelity Labs & the Digital Transformation	Schilling, Chapter 1 Quiz 8
Week 10	Sources of Innovation	Case Study 9: Cloud Wars Go Global: Amazon, Microsoft, Google and Alibaba	Schilling, Chapter 2 Quiz 9
Week 11	Innovation Types, Patterns, and Dimensions. Product innovation vs. process innovation	Case Study 10: Digitizing Isn't the Same as Digital Transformation	Schilling, Chapter 3 Quiz 10
Week 12	Standards Battles, Modularity, and Platform competition	Case Study 11: A Better Way to Onboard Using AI	Schilling, Chapter 4 Quiz 11
Week 13	Defining the Organization's Strategic Direction	Case Study 12: Implementing a Digital Strategy: Learning from the Experience of Three Digital Transformation Projects	Schilling, Chapter 6 Quiz 12
Week 14	Organizing for Innovation	Case Study 13: A Crisis of Ethics in Technology Innovation	Schilling, Chapter 10 Quiz 13
Week 15	Managing the New Product Development Process	Case Study 14: Alibaba in Blockchain: Integrating Blockchain-based Remittances into Cloud Services	Schilling, Chapter 11 Quiz 14
Week 16	Competing in the Age of AI and Blockchain	Student Presentations	

Selected Harvard Business Case Studies

1- Blockchain Is Changing How Companies Can Engage with Customers. HBR Case #: H06369-PDF-ENG
2- A Decentralized Token Economy: How Blockchain and Cryptocurrency Can Revolutionize Business. HBR Case #: BH1014-PDF-ENG
3- Ripple: The Business of Crypto. HBR Case #: 719506-PDF-ENG
4- Government, Governance, Data, and You. HBR Case #: BEP522-PDF-ENG NG
5- Maersk: Betting on Blockchain. HBR Case #: 518089-PDF-ENG
6- Ethereum: Navigating the Blockchain's Sustainability Versus Profit Dilemma. HBR Case #: B5964-PDF-E
7- Looking to the Future. HBR Case #: BEP523-PDF-ENG
8- Fidelity Labs & the Digital Transformation. HBR Case #: TB0587-PDF-ENG
9- Cloud Wars Go Global: How Amazon, Microsoft, Google and Alibaba. HBR Case #: IN1658-PDF-ENG
10- Digitizing Isn't the Same as Digital Transformation. HBR Case #: H0691R-PDF-ENG
11- A Better Way to Onboard Using AI. HBR Case #: R2004C-PDF-ENG
12- Implementing a Digital Strategy: Learning from the Experience of Three Digital Transformation Projects HBR Case #: CMR749-PDF-ENG
13- A Crisis of Ethics in Technology Innovation. HBR Case #: SMR797-PDF-ENG
14- Alibaba in Blockchain: Integrating Blockchain-based Remittances into Cloud Services. HBR Case #: IN1547-PDF-ENG

References

- Bashir, Mastering Blockchain: *A deep dive into distributed ledgers, consensus protocols, smart contracts,* 2020, ISBN:978-1839213199,
- Davis, Le Merle, Blockchain Competitive Advantage, 2019, 978-1950248049
- Tapscott, D and Tapscott, A., Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World, Portfolio, 2018, ISBN-10: 1101980141, ISBN-13: 978-1101980149
- Drescher, Blockchain Basics: *A Non-Technical Introduction in 25 Steps*, 2017, ISBN: 978-1484226032
- Knapp, Blockchain 2035: The Digital DNA of Internet 3.0, 2019, ISBN: 978-0578474502
- Mehta, Agashe & Detroja, Blockchain Bubble or Revolution: The Future of Bitcoin, Blockchains, and Cryptocurrencies, 2019, ISBN: 978-0578528151
- Sahota & Ashley, Own the AI Revolution, *Unlock your Artificial Intelligence Strategy to disrupt your competition.,* 2019, McGraw Hill Publications*.*
  ISBN: 978-1-260-45837-4
- Iansiti & Lakhani, Competing in the Age of AI*, Strategy and Leadership when Algorithms and Networks Run the World.,* 2020, Harvard Publications
- Armstrong, *Disruptive Technologies: Understand, Evaluate, Respond*, Kogan Page, 2017, ISBN: 978-07494-77288
- *The Technology Takers: Leading Change in the Digital Era*
- Juma, Innovation and Its Enemies: *Why People Resist New Technologies,* 2016, Oxford Press
  ISBN: 978-01904-67036
- Knaflic, Storytelling with Data: *A Data Visualization Guide for Business Professionals,* 2015, Wiley
ISBN: 978111905-5259

- Diamandis & Kotler, Bold: *How to Go Big, Create Wealth, and Impact the World, by Peter H. Diamandis,* 2016, Simon & Schuster ISBN: 978-14767-09567
- Schwartz*, A Seat at the Table: IT Leadership in the Age of Agility,* ITRevolution, 2017, ISBN: 978-194278-8119
- Crouch, Will the gig economy prevail, 2019, Polity Press ISBN:978-150953-2445
- Osann, Mayer & WieleThe Design Thinking Quick Start Guide: *A 6-Step Process for Generating and Implementing Creative Solutions*, 2019, Wiley ISBN: 978-1119679899