ATENEO DE MANILA UNIVERSITY
Loyola Schools

SYLLABUS FOR UNDERGRADUATE COURSES
MAJOR, CORE CURRICULUM, and ELECTIVES

A. COURSE INFORMATION

COURSE NUMBER	ISCS 30.66			**NO. OF UNITS**	1
COURSE TITLE	GUIDED STUDIES IN DEVELOPING DECENTRALIZED APPLICATIONS ON PUBLIC BLOCKCHAINS				
PREREQUISITE/S	CSCI 21 / MSYS 21				
DEPARTMENT/ PROGRAM	DISCS			**SCHOOL**	SOSE
SCHOOL YEAR	SY 2022-2023			**SEMESTER**	2
INSTRUCTOR/S	CHRISTIAN E. PULMANO				
VENUE	CTC 215	**SECTION**	C1	**SCHEDULE**	M 1100-1200

B. COURSE DESCRIPTION

This course introduces students to basic concepts of developing decentralized applications (dApps) on public blockchain networks. Students are able to develop smart contracts that are deployed to public blockchain networks. The course also requires the students to build decentralized applications that interact with smart contracts.

WHERE IS THE COURSE SITUATED WITHIN THE FORMATION STAGES IN THE FRAMEWORK OF THE LOYOLA SCHOOLS CURRICULA	
	FOUNDATIONS: Exploring and Equipping the Self
✓	ROOTEDNESS: Investigating and Knowing the World
	DEEPENING: Defining the Self in the World
	LEADERSHIP: Engaging and Transforming the World

C. COURSE LEARNING OUTCOMES

Alignment of the Course to the Core Curriculum Learning Outcomes

The Ideal Ateneo Graduate: A Person of Conscience Competence Compassion Commitment							
CCLO 1	CCLO 2	CCLO 3	CCLO 4	CCLO 5	CCLO 6	CCLO 7	CCLO 8
	✔	✔	✔		✔	✔	

By the end of this course, students should be able to:

COURSE LEARNING OUTCOMES	
CLO1	Identify the tools needed in developing decentralized applications in the context of blockchain
CLO2	Develop a decentralized application context of Blockchain
CLO3	Evaluate the impact of decentralized applications to society

D. COURSE OUTLINE and LEARNING HOURS

Course Outline	CLOs	Estimated Learning Hours
Schola Brevis	NA	1
Introduction to Blockchain, Permissionless Blockchains, and Decentralized Applications	CLO 1	7
Development of Decentralized Applications	CLO 2	12
Use Cases	CLO 3	10

E. ASSESSMENTS AND RUBRICS

Assessment Tasks	Assessment Weight	CLOs
Class Participation	20%	CLO 1,2,3
Laboratory Exercises	80%	CLO 1,2,3

RUBRICS:

Assessment Tasks	A	B+/B	C+/C	D/F
Class Participation	Actively listens, engages, or contributes to the discussion	Often listens, engages, or contributes to the discussion	Seldom listens, engages, or contributes to the discussion	Exhibits little to no initiative to listen, engage, or contribute to the discussion
Laboratory Exercises	Displays a high level of understanding of the requirement and the expected solution	Displays a substantial understanding of the requirement, and the expected solution	Displays a limited understanding of the requirement, and the expected solution	Displays little to no understanding of the requirement and the expected solution

Specific rubrics of grading will be included in Laboratory Exercises specification sheets.

F. TEACHING and LEARNING METHODS

TEACHING & LEARNING METHODS and ACTIVITIES	CLOs
Synchronous Discussion	CLO 1,2,3
Asynchronous Modules	CLO 1,2,3
Asynchronous Discussions	CLO 1,2,3
Online Consultations	CLO 1,2,3
Laboratory Exercises	CLO 1,2,3

G. REQUIRED READINGS

All required readings shall be posted in Canvas.

H. SUGGESTED READINGS

Badr, Bellaj, Richard Horrocks, and Xun Brian Wu. Blockchain By Example: A developer's guide to creating decentralized applications using Bitcoin, Ethereum, and Hyperledger. Packt Publishing Ltd, 2018.

Bashir, Imran. Mastering Blockchain: A deep dive into distributed ledgers, consensus protocols, smart contracts, DApps, cryptocurrencies, Ethereum, and more. Packt Publishing Ltd, 2020.

Hill, Brenn, Samanyu Chopra, Paul Valencourt, and Narayan Prusty. Blockchain Developer's Guide: Develop smart applications with Blockchain technologies-Ethereum, JavaScript, Hyperledger Fabric, and Corda. Packt Publishing Ltd, 2018.

Mukhopadhyay, Mayukh. Ethereum Smart Contract Development: Build blockchain-based decentralized applications using solidity. Packt Publishing Ltd, 2018.

Taş, Ruhi, and Ömer Özgür Tanrıöver. "Building a decentralized application on the Ethereum blockchain." In 2019 3rd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), pp. 1-4. IEEE, 2019.

I. GRADING SYSTEM

93-100 A Excellent

87-92	B+	Very Good
81-86	B	Good
75-80	C+	Satisfactory
69-74	C	Sufficient
60-68	D	Passing
<60	F	Failure

Notes:

Rounding off of grades is at the discretion of the instructor. Rounding off grades is not automatic (even if the grade is x.9999999.).

No exemptions will be given for the final exam.

J. CLASS POLICIES

1. Students are expected to be familiar with the policies described in the ADAA Memo dated 10 January 2023: Undergraduate Academic Policies Adapted to Onsite and Fully Online Learning, Second Semester SY 2022-2023
2. The first onsite session will be held on **16 January 2023**, **Monday, 1100-1200** at **CTC 215**
3. Onsite sessions will be held every **Monday** unless stated otherwise.
4. Communication Channels
    a. The official communication channels are Canvas and email.
    b. Official announcements will be posted on Canvas (https://canvas.ateneo.edu/). It is the student's responsibility to visit the course page for the latest updates regarding the class.
    c. Other communication channels deemed necessary for better class engagement are supplementary only to the official Canvas course page.
5. Learning Management System (LMS)
    a. All course-related information will be available on Canvas and/or through agreed communication channels. It is the responsibility of each student to frequently check the website for announcements, assignments, and other updates regarding the course. Students are expected to check Canvas before sending any inquiries regarding the course. During the first day of the course, check if you can log in using your credentials and inform the instructors of any problems.
    b. Only students who are officially enrolled will be able to access the Canvas course page.
    c. Only officially enrolled students will be allowed to participate in the class.
    d. Students with limited or no internet connections are expected to communicate immediately with the instructor regarding their situation so that adjustments may be made.
6. Submissions and Academic Integrity
    a. Submission of deliverables will also be made on Canvas unless stated otherwise. Late submissions may incur penalties unless stated otherwise. All soft copy submissions, online or otherwise, must be virus free. Infected files will not be checked.
    b. All quizzes and exams are to be conducted onsite.
    c. Cheating will not be tolerated. Cheating in any requirement will result in a *minimum* penalty of a grade of 0 for that requirement. It will be reported to the appropriate authorities, as provided by the Student Handbook. Duplicate work will merit penalties for *both* the student who copied and the student from whom the work was copied.
    d. Students are expected to comply with the DISCS Academic Integrity Policy. With each submission, students must include a certification that their work is substantially their own and not copied from others. In addition, students must acknowledge and specify any help from outside sources, such as other classmates, the Web, books, etc., that they received while doing their projects. Failure to acknowledge such may be interpreted as intellectual dishonesty. Consult the course website for details on these policies.
7. Please ensure that for every engagement we do within or outside our class, we do it with respect to the individual. Discrimination on any basis will not be tolerated. See the following link for more information on the LS Gender Policy and Code of Decorum and Administrative Rules on Sexual Harassment, Other Forms of Sexual Misconduct, and Inappropriate Behavior.

8. Additional policies, with due consultation with the students, may be implemented by the instructor to adapt to the class environment.

K. CONSULTATION HOURS

NAME OF FACULTY	EMAIL	DAY/S	TIME
Christian Pulmano	cpulmano@ateneo.edu	W	1200-1600

I would appreciate appointments that are set at least two (2) days before your desired schedule.

L. REFERENCES

Core Curriculum Learning Outcomes (CCLOs)

PLO #	MAJOR PROGRAM LEARNING OUTCOMES
CCLO 1	Demonstrate effective communication skills (listening and speaking, reading and writing) in English and Filipino.
CCLO 2	Evaluate information and issues in various spheres of life using mathematical reasoning and statistical tools to process and manage data.
CCLO 3	Propose ways to address pressing social and ecological problems using appropriate critical approaches and scientific thinking
CCLO 4	Develop a creative and moral imagination that is responsive to contemporary global realities and challenges, but also deeply rooted in local histories, conditions, norms, and institutions.
CCLO 5	Internalize the significance and value of her/ his unique existence and purpose in life in light of Christian faith.
CCLO 6	Discern life choices with a keen awareness of ethical dilemmas and considerations.
CCLO 7	Exemplify a commitment to enhancing human life and dignity, especially those who are excluded and in greatest need.
CCLO 8	Practice a vision of leadership and committed citizenship rooted in Christian humanism.