ATENEO DE MANILA UNIVERSITY
Loyola Schools

SYLLABUS FOR UNDERGRADUATE COURSES
MAJOR, CORE CURRICULUM and ELECTIVES
<u>**Student Copy**</u>

A. COURSE INFORMATION

COURSE NUMBER	ITMGT25			NO. OF UNITS	3
COURSE TITLE	Information Technology Application Programming				
PREREQUISITE/S					
DEPARTMENT/ PROGRAM	Quantitative Methods and Information Technology/ Management Engineering			SCHOOL	John Gokongwei School of Management
SCHOOL YEAR	2024-2025			SEMESTER	Intersession
INSTRUCTOR/S	IBARRA, Nirel Marie ILAGAN, Jose Ramon GAW, Adriel Jeremy GONZALES, Joaquin Emmanuel				
VENUE	SOM 106	SECTION	A	SCHEDULE	D 0800-0930
	B 102		A1		D 0800-0930
	K 203		J		M 1130-1500; TH 1200-1600
	K 203		M		F 0800-1200; T 0800-1130
	K 203		N		F 1200-1600; T 1130-1500

B. COURSE DESCRIPTION

This course aims to provide students with a foundation in programming applications (i.e., programs for end users). Alongside fundamental programming concepts, this course will survey various applications of programming in business (e.g., analytics, modeling/simulation, web development). Students who pass this course will be able to use software packages with purely programmatic interfaces to participate in advanced courses and/or to build user-friendly applications around such packages.

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

C. COURSE LEARNING OUTCOMES

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

COURSE LEARNING OUTCOMES	
1	Describe and use the basic components of their computers' operating systems.
2	Build and compose programming functions and subroutines to manipulate data and/or achieve effects.
3	Transform raw sets of data into useful analyses and visualizations for specific target audiences.
4	Produce software prototypes that manage transactions with persistent data stores.
5	Manage and contribute to small software projects.

D. COURSE OUTLINE and LEARNING HOURS

Course Outline	CLOs	Estimated Contact or Learning Hours
Module 1: Foundations	1	4
Module 2: Basic Programming Concepts	1, 2	6
Module 3: Control Flows	1, 2	10
Module 4: Data Manipulation	1, 2, 3	14
Module 5: Python's Ecosystem	2, 3, 4	18
Module 6: Tabular Data	3, 4	14
Module 7: Capstone	5	24

E. ASSESSMENTS AND RUBRICS

Assessment Type	Assessment Category	Assessment Weight	CLOs
Individual	**Formative Tasks** Includes any tasks intended by the instructor to develop students' skills.	25%	1, 2, 3
Individual	**Summative Assessment(s)** Includes at least one (1) major test meant to assess students' achievement of the learning outcomes. The instructor has the final say on the form (e.g., written, oral, etc.) of the test.	60%	3, 4, 5
Group	**Project** Includes one (1) group project that aims to develop a useful business application. The instructor has the final say on the maximum group size, but groups should ideally consist of no more than three (3) students.	15%	5

F. TEACHING and LEARNING METHODS

TEACHING & LEARNING METHODS and ACTIVITIES	CLOs
Written Material	1, 2, 3, 4
Videos	1, 2, 3, 4
Synchronous Lectures	1, 2, 3, 4, 5
Whiteboarding Activities	2, 3, 4
Exercises	2, 3
Case Discussions	3, 4, 5
Live Coding	1, 2, 3, 4, 5
Mini Projects	3, 4, 5

G. REQUIRED READINGS

Notes, handouts, miscellaneous lab files, and online links to be posted by the instructor in the Learning Management System (LMS).

H. SUGGESTED READINGS

Software Carpentry, The Unix Shell. *https://swcarpentry.github.io/shell-novice/*

Franzini, G. Windows Command Line, Univerona Workshop , 26 Oct. 2017, https://enexdi.sciencesconf.org/data/pages/windows_vs_mac_commands_1.pdf

Chacon, S. & Straub, B., Pro Git 2nd Edition, 2014

Downey, A., Think Python, O'Reilly Media, 2012.

Yau, N., Data Points: Visualization That Means Something, O'Reilly Media, 2013

Yau, N., Visualize This: The Flowing Data Guide to Design, Visualization, and Statistics, O'Reilly Media, 2011

Kleppmann, M. Designing Data-Intensive Applications: The Big Ideas Behind Reliable, Scalable, and Maintainable Systems, O'Reilly Media, 2017

I. GRADING SYSTEM

This course uses a 4-point grading scale that maps to letter grades. A student's final grade is the weighted average of the grades of each category (i.e., formative, summative, and project) of assessment. The grade of a category is, itself, also a weighted average of tasks that compose it.

Any given task may be assessed a grade from the following table.

Letter Grade	4-point Scale Equivalent	Description
A	4.00	Exhibits mastery
B+/A	3.75	
B+	3.50	Exhibits undeniable competence
B/B+	3.25	
B	3.00	Generally exhibits competence with a few lapses
C+/B	2.75	
C+	2.50	Exhibits rectifiable deficiencies in their understanding of the material
C/C+	2.25	
C	2.00	Exhibits severe deficiencies in their understanding of the material
D/C	1.50	
D	1.00	Exhibits at most a superficial understanding of the material
F/D	0.50	
F	0.00	The instructor cannot take the student's submission seriously

A student's final 4-point scale grade will be subject to the following letter grade translation table.

Letter Grade	4-Point Grade
A	3.60-4.00
B+	3.25-3.59
B	2.75-3.24
C+	2.25-2.74
C	1.50-2.24
D	0.75-1.49
F	0.00-0.74

Borderline cases will be resolved by considering evidence that the student has earnestly pursued the learning objectives of the course.

J. CLASS POLICIES

- The official means of digital communication in this class is the Canvas Learning Management System (LMS).

- Should a student wish to ask questions or consult with the teacher, the official consultation hours are found in Section K of this syllabus. Consultation time outside of the hours specified in the table may be at the discretion of the teacher and the class but is discouraged.

- The use of artificial intelligence (AI) to complete non-summative coursework (i.e., formative assessments and projects) is tolerated but encouraged only to the extent that it helps students achieve the course learning outcomes. Students are expected to cite their use of AI in formative tasks and/or the project. The instructor reserves the right to assess a student poorly if they determine that the student has not achieved the learning outcomes for reasons including (but not limited to) the abuse of AI.

- The use of AI to complete summative coursework is prohibited. The instructor reserves the right to assess a student a score of 0.00 if it is clear that the student used AI to perform a summative task.

- This course is structured around the principle that hands-on experience is the most effective way to learn programming. Students should consider completion of the formative assessments the primary driver of learning. Lectures and

consultations, whether remote or face-to-face, may be conducted to augment and synthesize hands-on experience upon mutual agreement between students and the instructor according to official class hours and official consultation hours.

- Academic Integrity Policy: Cheating will not be tolerated. Cheating in any requirement will result in a minimum penalty of having a grade of 0.00 for that requirement and will be reported to the appropriate authorities, as provided for by the Student Handbook. Duplicated projects/lab exercises will merit penalties for both the student who copied and the student from whom the work was copied.

- All work submitted must be accompanied by a **Certificate of Authorship (COA)** filled up and signed by either an individual or all group members. The template of the COA will be available in the LMS.

- This course will follow the academic policies set by the Loyola Schools which include (but are not limited to):
    - LS Gender Policy
    - Code of Decorum and Administrative Rules on Sexual Harassment, Other Forms of Sexual Misconduct, and Inappropriate Behavior

K. CONSULTATION HOURS

NAME OF FACULTY	EMAIL	SECTION	DAY/S	TIME
IBARRA, Nirel Marie	nibarra@ateneo.edu	A1	TH	1500-1600
ILAGAN, Jose Ramon	jrilagan@ateneo.edu	J	T	1100-1200
GAW, Adriel Jeremy	agaw@ateneo.edu	M	W	1300-1400
GAW, Adriel Jeremy	agaw@ateneo.edu	N	W	1400-1500
GONZALES, Joaquin Emmanuel	jjgonzales@ateneo.edu	A	W-TH	1200-1300

L. ADDITIONAL NOTES

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