Columbia Business School
AT THE VERY CENTER OF BUSINESS

DIGITAL LITERACY FOR DECISION-MAKERS (Marco Morales) SP2024

B8125, 1.5 credits

PROFESSOR AND TA INFO

Professor Office Location: 1185B Kravis
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Office Hours: by appointment

TEACHING ASSISTANT
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TA Office Hours: TBD

Communications from the instructor and teaching assistants about the course will take place through Canvas. Students should make sure they regularly check for announcements and messaging notifications.

COURSE DESCRIPTION

Unrelenting technological progress demands entrepreneurs, executives, and managers to continually upgrade their skills in the pursuit of emerging opportunities. Often, this implies making competent decisions on domains that quickly drift into technology, computing, software, data, machine learning, or even innovations in the making — like the metaverse.

This course conceives **Digital Literacy as a contextual layer** that is necessary to operate in this increasingly technological world. Non-technical entrepreneurs, executives and managers do not need to be experts in all things "digital", but they need to have a sufficient understanding of technology concepts to be able to ask the pertinent questions from their technical counterparts, manage technical teams, and make appropriately informed decisions.

While targeted at **non-technical entrepreneurs**, **executives** and **product managers** who see the competitive advantage in managing and building digital solutions, this course is recommended for anyone who agrees that Digital Literacy is a prerequisite for remaining competitive in today's marketplace.

STUDENT LEARNING OUTCOMES

When completing this course, students should be able to:

- employ the historical and technical context of digital technologies to participate more fully in the discussion around new technologies and assess the implications of tech news,
- interpret the concepts that underpin the latest uses of computers, data, and software to engage with technical counterparts credibly and confidently,
- decipher the processes and tools used to build digital solutions,

- dissect what product managers do, appraise the details of managing the development of digital solutions, and employ best practices to evaluate and improve digital solutions,
- assemble strategies to identify, recruit, and nurture the technical talent they will need to source from today's highly competitive tech job market, and
- analyze the next generation of technological breakthroughs and predict how new technologies will shape future business environments.

CLASSROOM NORMS AND EXPECTATIONS

Core Culture

Students are expected to adhere to CBS Core Culture in this class by being Present, Prepared, Participating.

Inclusion, Accommodation, and Support for Students

At Columbia Business School we believe diversity strengthens any community or business model and brings it greater success. The School is committed to providing all students with equal opportunity to thrive in the classroom by providing a learning, living, and working environment free from discrimination, harassment, and bias on the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability.

Students with documented disabilities may receive reasonable accommodations. Students are encouraged to contact Columbia University's Office of Disability Services for information and to register for services.

Columbia Business School adheres to all community, state, and federal regulations as relate to Title IX and student safety. Read more about CBS' policies to support Inclusion, Accommodations and Support for Students.

Honor Code and Academic Integrity

The Columbia Business School Honor Code calls on all members of the School community to adhere to and uphold the notions of truth, integrity, and respect both during their time in school, and throughout their careers as productive, moral, and caring participants in their companies and communities around the world. All students are subject to the Honor Code for all of their academic work. Failure to comply with the Honor Code may result in Dean's Discipline. Here you can review examples of Academic Misconduct which may result in discipline.

Course materials (videos, assignments, problem sets, etc) are for your use in this course only. You may not upload them to external sites, share them with students outside of this course, or post them for public commentary without the instructor's permission.

Course Attendance Policies

Students from all programs should review and be familiar with the MBA Core Attendance Policy. This course will adhere to the attendance requirements for MBA Core Class and will strictly follow the policy on Excused Absences.

Students are expected to **attend all classes.** **Attending the first class is mandatory**. Leaving or arriving halfway through any session will be considered an unexcused absence from class. Students who miss more than 3 classes (unexcused) will receive an F; students who miss between 2 and 3 classes (unexcused) will receive a P1 at most; students who miss one class (unexcused) will receive a minimum 1% reduction in their overall course grade.

We will strictly enforce a **closed laptop** and **no cellphone** policy during class. Only tablets will be allowed for notetaking.

Generative AI Policy

You **may** use Generative AI tools, such as ChatGPT, for your work in this course, but **only** in the ways I have specified in the assignments. When you use any of these tools, you must include a **citation** describing how you used them to generate your response to the assignment. Please contact me if you have any questions about this policy before submitting your work.

Sample citation format: "Description of chat" prompt. Name of AI tool, Company, Date of chat, URL.
Using this format, one citation might look like this: "Examples of harm reduction initiatives" prompt. ChatGPT, OpenAI, 4 Mar. 2023

COURSE ROADMAP/SCHEDULE

Session	Topic(s)	Required Pre-Readings	Assignments Due
1 3/19/2024 (T)	***A "Soft" Introduction to Digital Literacy.*** *Introductions. Course outline and overview. Why this course? What is digital literacy? A broader definition of "digital". A blueprint for Digital Literacy: what, where, how, who. A practical example as a preview of how it all comes together. What is a computer? How do computers communicate?*	Read syllabus carefully.	
2 3/26/2024 (T)	***Backend (computing).*** *The cloud. Computing architecture. Sequential vs parallel vs distributed computing. Cloud vs on-premises vs hybrid architectures. Edge computing. Soft introduction to Machine Learning.*	Annotated materials on Canvas	Submit Medium handle (C: Indiv)
3 4/2/2024 (T)	***Backend (data) and Frontend.*** *Data pipelines. Data storage: object storage vs database storage. Relational and non-relational databases. Data management: data lakes, data warehouses, data lakehouses. Cloud service providers. Frontends. The world wide web. Browsers and browser wars. Tech stack to build frontends: HTML, CSS, Javascript.* Guest Lecturer: User Experience (UX)	Annotated materials on Canvas	Tech news commentary (C: Indiv)

Session	Topic(s)	Required Pre-Readings	Assignments Due
4 4/9/2024 (T)	***The Process to Develop Digital Solutions.*** *The development lifecycle of digital products. Philosophies and tools to manage the cycle. Version control. Working environments (development, QA, staging, production). Containers. APIs. Orchestration. Open source. Software testing. Deploying digital solutions. MVPs.* Guest Lecturer: Product Management (PM)	Annotated materials on Canvas	Tech news commentary (C: Indiv) Tech Op-Ed (C: Indiv)
5 4/16/2024 (T)	***The Human Layer.*** *Managing technical teams. Data Engineering vs Machine Learning Engineering vs Software Engineering: what are these roles and what skills are required for each one of them? Data Science vs Analytics: what are these roles and what skills are required for each one of them? How to hire for these roles? How to retain tech talent? Diverse teams: the "diversity bonus" perspective.*	Annotated materials on Canvas	Tech news commentary (C: Indiv)
6 4/23/2024 (T)	***Emerging trends.*** *Description, state of the art and future trends in Machine Learning and Deep Learning (AI), the metaverse, web3, blockchain, [blank] as a service. Past and current trends in the tech job market.*	Annotated materials on Canvas	Tech news commentary (C: Indiv) Tech Op-Ed (C: Indiv)

METHOD OF EVALUATION

Class participation	10%
Weekly quizzes (5 quizzes)	10%
Weekly tech news commentary (4 submissions)	40%
Tech Op-Ed (2 submissions)	40%

Class participation

The course encourages active dialogue – among students and between students and instructor – to provide a richer learning experience. Students are expected to contribute substantively to class discussion by answering open questions posed by the instructor, asking questions and sharing comments that are relevant to class.

Weekly quizzes

The course will carry out weekly in-class quizzes on the previous week 's material. Quizzes will be graded and be computed as part of the final grade. Only students who are present in the classroom will receive a grade for the corresponding week's quiz.

Weekly tech news commentary

Submit four 500-word pieces (roughly one page, single spaced) where you identify and comment on a news article on technology or other topics related to the course that uses a term you are not familiar with, and that the article fails to explain fully. Make sure to include:

- the title and hyperlink to the article,
- a short paragraph summarizing the article,
- a few lines to explain why it caught your attention, and
- single out the one tech-related term (e.g. a word, an acronym, a process, a technology, etc) that you are not familiar with, and that the article did not explain fully. Research this term and include a paragraph where you provide a brief explanation in terms that would make sense to a non-technical audience. You may use Generative AI tools for this portion of the assignment using the appropriate citation.

Post your Weekly Tech News Commentary in the corresponding ***Ed Discussion*** channel and submit the link to your posted commentary through the corresponding Canvas assignment. Your Tech News Commentary will be graded on fulfilling the above criteria.

Tech Op-Eds

Submit two 750–950-word Forbes-like blog posts (roughly two pages, single spaced) on a topic of your choice related to technology or other topics related to the course. For each of these assignments, you should produce a piece that could be published online demonstrating mastery of a specific area of digital literacy. Your submitted Op-Eds will be graded on the following criteria:

- **A clear original argument.** Is the piece putting forth an interesting point of view?
- **Quality of exposition.** Is the argument written clearly, coherently, and in non-ambiguous terms?
- **Appropriate contextualization.** Does the piece provide (and link) relevant pieces that put the point of view it advances in an appropriate context?
- **Clearly articulated implications.** Does the piece clearly enunciate consequences (e.g. for an industry, a company, a country) that follow form the point of view advanced in the article?
- **Germaneness.** Is the topic directly related to the topics and objectives of the course?

Post your Tech Op-Ed in the course's ***Medium*** publication and submit the link to your post through Canvas. You may use Generative AI tools to help draft specific ideas or parts of your Tech Op-Ed using the appropriate citation. Since the Tech Op-Ed requires an original argument *from a human*, you may not use generative AI to write or draft the totality of the assignment.

Late Submission Policy: All class assignments are expected to be submitted on the due date. If no attenuating circumstances are communicated to us before the due date, a penalty will be applied corresponding to 10% of the maximum grade for each day the assignment was submitted after the due date.

COURSE MATERIALS

There are no required textbooks for this course. We will rely instead on a combination of curated background materials for each session made available through Canvas. These materials include — but are not limited to — texts (articles, book chapters, reports, white papers), videos, or podcasts. Technology changes fast, and the course keeps current with this

strategy. You may skim these materials before class, but it is recommended that you consume them thoroughly **after class** when they will help consolidate your learning for the session.

In addition, a list of suggested tech publications will be made available so you can keep up with developments in the digital tech space in real time during the term.