

Digital Literacy for Decision Makers

Instructor: Brett Martin

COURSE DESCRIPTION

Unrelenting technological progress demands entrepreneurs, executives, and managers to continually upgrade their skills in the pursuit of emerging opportunities. As “software eats the world”, executives from all industries are increasingly called upon to be “Full Stack”: capable of making competent decisions across domains as diverse as digital technology, design, product, and marketing.

In this course, we begin with primers on code, design, and product management. Once the foundation is laid, we examine the best practices for building great products and exceptional teams. This is followed by an overview of how technology is changing the way products are marketed, distributed, and monetized. We conclude with a discussion of upcoming technologies that have the potential to shape the next 20 years. Our goal is to equip “non-technical” executives with the terminology, tools, and context required to effect change in a software and internet-driven world.

COURSE LEARNING OBJECTIVES

- To provide an understanding of the technologies that we encounter everyday, and how history can inform the technology decisions executives face today.
- To become familiar the concepts that underpin modern computer programming, empowering managers to engage with engineers credibly and confidently.
- To shed light on the processes and tools designers use to solve user-facing design and architecture challenges.

- To clarify what product managers do, walk through the nitty-gritty of managing software development, and equip executives with the best practices for evaluating and improving their products.
- To prepare managers to identify, recruit, and nurture the technical talent they will need to succeed in today's highly competitive labor market.
- To familiarize students with the dynamic context in which technology products live, ensuring the profitable and widespread delivery of those products.

COURSE ROADMAP

Session 1. Predicting Technology's Future by Understanding Its Past

Session one introduces digital literacy by demystify the technologies we rely on everyday. We begin with a rapid fire history of the Internet, the WWW, and the underlying technologies (ARPAnet, TCP/IP, routers, HTML, web browsers, servers) to illustrate how often abstruse concepts can be understood through a historical lens. For there, we jump right into today's most pressing but commonly misunderstood issues (The Cloud, Net Neutrality, Privacy & Government Surveillance, Security & Encryption, APIs, The Internet of Things).

Session 2. Characteristics of Code, the Tech "Stack," and Back-end Programming

Session two lays out the core characteristics of modern computer programming, answering simple questions such as what is code, what does it look like, and how does it work. Next, we use real life examples to explore the "tech stack," helping students decide which coding languages (Java or JavaScript) and databases (SQL or no-SQL) to employ for their own projects. We conclude with an overview of Big Data, Data Science, AI, and other bleeding edge trends to help students decipher between value-add and vaporware.

Session 3. Front-end Programming, UI/UX, and Practical Design Concepts

Session three moves up the stack to the interface layer where code and humans interact. We begin with a primer on design thinking, the process designers use to fuse form, function, and content. Once we get our hands dirty learning how to prototype and wireframe, we examine the front-end technologies (HTML, CSS, Javascript) capable of breathing life into our designs. We conclude with an overview of trends in Human Computer interaction, from desktop to mobile and beyond (VR/AR, IoT, Wearables, and more).

Session 4. Managing Teams to Make Software that People Want

Session four dives into the dark art of product management: what it is, why it matters, best practices, and common pitfalls. We then examine common engineering patterns (continuous delivery, agile vs. waterfall, testing), agile software development and SCRUM (key principles, roles, and meetings), and techniques for managing technical complexity (CRUD, dependencies, novelties, platforms). We use real life examples to provide practical tips for writing effective engineering specs (user stories and roadmaps), managing tech teams (features, bugs, code review, chat, git), and addressing common issues in software development (1st Party vs. 3rd Party software, cloud or on premise, technical debt, scalability). Finally, we equip students with an analytical tool kit for evaluating and improving their existing products (analytics, feature adoption/frequency), as well as a checklist for testing and launching new ones.

Session 5. Digital Marketing and Monetization

Session five puts our newfound understanding of technology into context. We explore how digital products are distributed from websites to Facebook to SnapChat to whatever media come next. This session makes sense of the jargon (SEO, SEM, ASO, CPM, CPC, CPI, CAC, LTV, etc.) used to describe market opportunities (top down, bottom up), go to market plans (segmentation, customization, channel selection), and monetization strategies (SaaS, subscription, marketplaces, advertising, lead gen, data) in the digital age.

Session 6. What's Next? Blockchain, Crypto, and Clean Up.

Session six ponders which up and coming technologies have the potential to transform what it means to do business 20 years from now. Specifically, we'll take a look at blockchain-based technologies, crypto currencies, and distributed systems. How do they work, why is everyone so excited about them, what changes could they affect, and what could go wrong. The remainder session will also be used to clarify lingering questions from prior lessons.

ASSIGNMENTS/METHOD OF EVALUATION

Grading for this course is based on a combination of class participation and homework:

6 Classes (10 points each)

4 Homework assignments (10 points each)

= 100 points total

Class participation

- **Please come to class prepared and ready to participate actively.** The success of this class depends on everyone's gracious sharing of their perspective, opinion, and experience. I will prod, poke, and instigate debate with questions based on the readings, assignments, current events and/or in-class discussion.

Homework

- 4 assignments. Due before the beginning of the next class.
- Assignments will be graded based on your ability to clearly articulate and apply concepts from class.

REQUIRED COURSE MATERIALS

- **No textbooks required.** From time to time, I may share relevant links via Canvas.
- **Bring a laptop to class.** Most of class I'll ask you to put your laptop away so that we can focus on the discussion, but there may be exercises that require a laptop with internet access. Bring your charger.

CLASSROOM NORMS AND EXPECTATIONS

- **Class will start on time.** Show up five minutes early for the good seats.
- **Please keep laptops closed and phones turned off during class.** Your full presence is requested. If you need to take notes, please bring a pen and some dead tree.

- **Be brave.** As outlined above, more than half of your grade depends on in and out of class participation. You stand to lose more by towing the line than by genuinely putting yourself out there, as long as you think before you speak.
- **Be courteous.** Please be respectful and professional toward your fellow classmates. I wholeheartedly encourage vigorous debate but please don't be nasty, aggressive, or condescending. If you feel uncomfortable in class for any reason (the material, other students, me, you, anything), please confidentially email me or DM me on Slack. I will do everything I can to make our class as hospitable as possible but I can only do so if I am aware of the situation.

TARGET AUDIENCE

While targeted at non-technical founders, executives, and managers who see the competitive advantage of being able to manage and build digital solutions for their problems, this course is recommended for everyone who agrees that digital literacy is a prerequisite for competition in the 21st century.

INSTRUCTOR

Brett Martin is Brooklyn-based entrepreneur and investor. He is the managing director of Charge Ventures, an early stage venture capital fund. Previously, he co-founded @GetSwitch, the easiest way for passive job seekers to find their next job on their mobile phones, and @Sonar, a popular location-based mobile app that leveraged social networks to connect millions of people in the physical world. Before that, Brett built K2 Media Labs, a New York-based seed stage mobile incubator, launched Vice Magazine's web presence (VBS.tv), and worked on Wall Street as a senior equity research associate at Thomas Weisel Partners. He graduated from Dartmouth College with an A.B. in Economics.

INCLUSION, ACCOMMODATIONS, AND SUPPORT FOR STUDENTS

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