

**NEW YORK UNIVERSITY**  
**Stern School of Business**  
**Accounting and the Blockchain**  
**Spring 2021**

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**Professor:** Amal Shehata, CPA  
Gender pronouns: She, Her, Hers  
E-mail: ashehata@stern.nyu.edu  
Class Time: Tuesdays from 6-9pm (Feb 9 – March 23)  
My Office Hours: **THURSDAYS FROM 12:15 – 1:15PM** or schedule through my calendly link  
for one-on-one: <https://calendly.com/amalshhata/prof-shehata-office-hour-appointments>

**Teaching Fellow:** Stephanie Wan  
E-mail: cyw337@stern.nyu.edu  
Office Hours: Wednesdays from 8-9am (Feb 9 – March 23)

## Course Description

A few recent predictions in the news:

*2016 Deloitte whitepaper: “The blockchain technology has the potential to shapeshift the nature of today’s accounting. It may constitute a way to vastly automate accounting processes in compliance with the regulatory requirements...A cascade of new applications will likely follow that are built on top of each other, leading way for new, unprecedented services.”*

[Gartner.com](#) **Forecast: Blockchain Business Value, Worldwide, 2017-2030 estimates:**

*“The business value-add of blockchain will grow to slightly more than \$176 billion by 2025, and then it will exceed \$3.1 trillion by 2030.”*

This course will explore the many dimensions of the accounting industry that will be impacted by blockchain technology. We will begin with the history of the existing financial reporting framework and an overview of how blockchain functions, exploring why and how Accounting processes are open to disruption and improvement from blockchain. We will then spend subsequent class periods examining specific areas, including financial reporting, auditing, tax services, the regulatory framework (or lack thereof to date), the criticisms and limitations of blockchain and more.

## Learning Objectives

1. Examine the history of the double-ledger accounting system, identifying weaknesses and opportunities for improvement that blockchain could provide;
2. Understand how blockchain will transform business and peer-to-peer activity and the related implications;
3. Research the status of the regulations across different dimensions, such as the GAAP and IFRS, and determine how to apply existing rules to blockchain activity;
4. Deliberate on issues including trust, privacy concerns and threats to traditional accounting;
5. Analyse real-world use cases of blockchain in business, with a particular focus on the accounting improvements and implications;
6. Develop a library of student content to explore, predict and analyse blockchain impact on accounting in real-time as it evolves.
7. Analyse the obstacles involved with adopting blockchain with a critical mindset.
8. This course will not explore the technical coding of blockchain (I will recommend several FinTech courses at Stern for this type of curriculum).

## Required Material

All of the assignments for the course will be posted as links and they will consist of my PDF slides, readings, podcast listenings or video viewings. Given that this is a short class, I am making every effort to make it affordable and use free resources.

Assignments will be given regularly and will be posted on Brightspace. Most students will not find the topics overly difficult, but the workload is steady and condensed over a short period of time. Please consider this course as a career investment rather than just another step towards graduation or GPA goals. With this perspective, you will be able to put learning first and foremost.

## Brightspace Learning Management System

We are going to have a bit of an adventure this semester as a pilot course for the new Brightspace (this is the new version of NYU Classes). I will use Brightspace extensively to lay out our class schedules with pre and post assignments, email you, post PDFs of our slides relevant articles and other course material so please make sure you are correctly registered and checking our sight on a regular basis. It is your responsibility to check the assignment schedule on Brightspace. Please note that due to the evolving nature of the subject matter, material may be updated as we go through the course.

## Guest Speakers

We are very fortunate that this course will feature a number of guest speakers from the industry. I have worked closely with each speaker over the past few months to develop

the custom curriculum for our class. Many of the speakers are prominent in the blockchain space and have limited availability so we may have to deviate from the syllabus based upon their schedules.

## Course Organization

The course is scheduled as 3 hour sessions over 6 weeks. We will start promptly at 6pm and we will have a 15 minute break during class (usually at 7:30pm but it may differ when we have guests)

## Grading

Participation & Attendance	10%
Individual Blockchain Use-Case Contribution	10%
Pre and Post Weekly Class Assignments	30%
Individual Research Assignment	20%
Blockchain Team Interview Assignment	20%
Team Presentation Recording	5%
Peer Review of 2 presentations	5%

Instructions for each component of the grade is below:

### Attendance and Participation

Attendance is expected for this class and it will help us achieve our learning objectives as we will have breakout room discussions, guest speakers and the chance to discuss and analyse topics as a group. If your time zone is not compatible with the class schedule, please consider waiting to enroll next semester.

### Individual Blockchain Use-Case Contribution

Please see full details [here](#)

## Pre and Post Weekly Class Assignments

We will usually have weekly assignments related to the topic of the week due either prior to or after our class. Full instructions will be available on Brightspace.

## Individual Research Assignment

Please see full details [here](#)

## Blockchain Team Interview Assignment

Please see full details [here](#)

## Course Schedule

Please note that the schedule is subject to change.

<p><b>Class 1: Feb 9, 2021</b></p> <p><b>Blockchain Technology and the History of Accounting</b></p> <p><b>&amp;</b></p> <p><b>Challenges and Criticisms of Blockchain Technology</b></p>	<ul style="list-style-type: none"><li>• The origin of the double-entry ledger system with a focus on why this became the basis for our capital markets system and why it is ripe for the change that blockchain represents.</li><li>• The concept of the triple-entry accounting system.</li><li>• The evolution of accounting from a regulatory perspective, the role of the audit in our capital markets system, how blockchain is part of this evolution.</li><li>• Introduction of blockchain technology, what is the difference between bitcoin and blockchain, what benefits and challenges are implicit in the technology.</li><li>• Analyse the advantages and disadvantages of decentralization provided by blockchain</li><li>• Consider the benefits, efficiency and security that centralization provides.</li><li>• How do we separate the benefits of blockchain from benefits from other (related) tools (ie, smart contracts)?</li><li>• When do we need a centralized, governing authority?</li></ul>
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	<ul style="list-style-type: none"> <li>● Introduction of Blockchain Interview Assignment: Groups of students will interview a person or business involved in blockchain technology.</li> </ul>
<p><b>Week 2: Feb 16, 2021</b></p> <p><b>Interactive Demonstration</b></p> <p><b>&amp;</b></p> <p><b>Introduce Auditing Today</b></p>	<ul style="list-style-type: none"> <li>● The PwC Blockchain “Game”: Our class will be a blockchain! PwC will host an Interactive demonstration of how blockchain works in a business environment. Attendance is required, please let me know if you have any conflicts.</li> <li>● Contrast of 2 prominent supply chain use cases IBM Maersk TradeLens and IBM-Walmart Food Trust, considering the accounting implications and the tensions in creating a collaborative blockchain.</li> <li>● A brief overview and history of the audit function, the existing regulatory environment and the fee structure.</li> </ul>
<p><b>Week 3: Feb 23, 2021</b></p> <p><b>Continue Auditing Today</b></p> <p><b>&amp;</b></p> <p><b>Blockchain Implications for the Future Audit</b></p>	<ul style="list-style-type: none"> <li>● How will this change the audit and how are the auditors preparing?</li> <li>● Will it change how quickly they provide the audit? Will it improve the quality of the audit?</li> <li>● Why are smaller firms, such as Grant Thornton, providing assurance for companies that rely on blockchain but the Big 4 are not?</li> <li>● We will welcome guest speaker, Professor Rod Brennan, co-author of a recent whitepaper, “Blockchain Auditing: Accelerating the Need for Automated Audits!”. Dr. Brennan is the former Director of Audit for Siemens Corporation and current Audit Technology Director for Lukka.</li> </ul>

<p><b>Week 4: March 2, 2021</b></p> <p><b>Interpreting and applying the accounting rules to crypto-assets</b></p> <p><b>&amp;</b></p> <p><b>Tokenization of Assets</b></p>	<ul style="list-style-type: none"> <li>● How to interpret and apply existing GAAP and IFRS rules to blockchain.</li> <li>● We will cover a Deloitte case study, “Classification of Cryptocurrency Holdings”</li> <li>● Tokenization Topics: <ul style="list-style-type: none"> <li>● Fiat currencies versus cryptocurrencies</li> <li>● The definition, types of, challenges and benefits of tokenization.</li> </ul> </li> <li>● Analysis of use-cases and the accounting implications: Filecoin and Basic Attention Token</li> <li>● What is the motivation behind utility tokens?</li> <li>● What is Central Bank Digital Currency and how is it being adopted internationally?</li> <li>● We will welcome subject matter expert, <a href="#">Luiza Romero</a>, for Weeks 4 and 5 class sessions.</li> </ul>
<p><b>Week 5: March 9, 2021</b></p> <p><b>Tax Today</b></p> <p><b>&amp;</b></p> <p><b>Blockchain Implications for the Future of Tax</b></p>	<ul style="list-style-type: none"> <li>● Complete our discussion of CBDC</li> <li>● A brief history and review of the current income tax process</li> <li>● Analysis of how blockchain technology could improve the existing tax process</li> <li>● Trust, governments and the potential for blockchain; use-case examples of governments that are using blockchain for tax purposes.</li> <li>● A detailed look at the concept of Country of Origin and how blockchain technology could impact this complex, global tax structure</li> </ul>
<p><b>Week 6: March 16, 2021</b></p> <p><b>Catch Up</b></p> <p><b>&amp;</b></p> <p><b>The future: a review of Accounting and the blockchain</b></p>	<p>Let’s take a step back and evaluate the pieces of the puzzle we have explored this semester</p> <p>2 Individual Use-Case Volunteers</p>

### **After this class: Recommended Stern FinTech courses related to blockchain:**

- [Digital Currency, Blockchains and the Future of Financial Services](#) (offered Spring 2021 by Professor David Yermack)
- Foundations of FinTech (offered each semester by several faculty),
- Applications in Entrepreneurial Finance: Fintech (offered Spring 2021 by Professor Sabrina Howell)
- Blockchain and Cryptocurrencies: Technical and Strategy Perspective (offered Spring 2021 by Professor Hanna Halaburda)
- Topics in Blockchain & Cryptocurrency Investing by Professor Ian D'Souza.
- More technical courses are also available at Courant and Tandon.

### ACADEMIC INTEGRITY

Our [Academics Pillar](#) states that *we take pride in our well-rounded education and approach our academics with honesty and integrity*. Indeed, integrity is critical to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:

Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.

Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.

Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

The entire Stern Student Code of Conduct applies to all students enrolled in Stern courses and can be found here: [www.stern.nyu.edu/uc/codeofconduct](http://www.stern.nyu.edu/uc/codeofconduct)

To help ensure the integrity of our learning community, prose assignments you submit to Brightspace will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived Web pages, periodicals,

journals, and publications. Additionally, your document will become part of the Turnitin database.

### General Conduct & Behavior

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with Stern's Policy in Regard to In-Class Behavior & Expectations

(<http://www.stern.nyu.edu/portal-partners/current-students/undergraduate/resources-policies/academic-policies/index.htm>) and the NYU Student Conduct Policy (<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>).

### STUDENT ACCESSIBILITY

If you will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for Student Accessibility (212-998-4980, [mosescsa@nyu.edu](mailto:mosescsa@nyu.edu)) verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the Moses Center for Student Accessibility, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation. For more information, visit the CSA website:

<https://www.nyu.edu/students/communities-and-groups/student-accessibility.html>