**(OPTIONAL) Resources: Bitcoin & Blockchain**



**Week 1, Lesson 1 Resources: Bitcoin & Blockchain**

The following resources were selected to provide an overview of the topic of Bitcoin & Blockchain. We would like to acknowledge the authors of the various web articles, videos, and papers for their insightful discussions and analytics which helped form the basis for some sections of the lessons and modules.

**Title of resource:** [**Bitcoin Whitepaper**](http://www.bitcoin.org/bitcoin.pdf)

**Resource type:** Paper

Description: This paper was released by Satoshi Nakamoto prior to the release of the now famous cryptocurrency Bitcoin.

**Title of resource:** [**Bitcoin's Academic Pedigree**](https://queue.acm.org/detail.cfm?id=3136559)

**Resource type:** Paper

Description: How Bitcoin, a radically different proposal for a decentralized cryptocurrency showed that digital cash could be viable.

**Title of resource:** [**What is Blockchain Technology? A Step-by-Step Guide For Beginners**](https://blockgeeks.com/guides/what-is-blockchain-technology/)

Resource type: Website

Description: A step by step guide that goes into the details of what Blockchain technology is.

**Title of resource:** [**Blockchain: The Invisible Technology That's Changing the World**](https://www.pcmag.com/article/351486/blockchain-the-invisible-technology-thats-changing-the-wor)

Resource type: Website

Description: Article that expands on a new immutable digital fabric remaking the internet without people even realizing it. It also shows how Blockchain-based networks, decentralized apps (DApps), and distributed ledgers are becoming the foundation of digital life.

**(OPTIONAL) Resources: Blockchain Structure**



**Week 1, Lesson 2 Resources: Blockchain Structure**

The following resources were selected to provide an overview of the topic of Blockchain Structure. We would like to acknowledge the authors of the various web articles, videos, and papers for their insightful discussions and analytics which helped form the basis for some sections of the lessons and modules.

**Title of resource:** [**Unspent Transaction Output, UTXO**](https://www.smithandcrown.com/definition/unspent-transaction-outputs-utxo/)

Resource type: Website

Description: An explanation on how UTXO’s operate vs other methods.

**(OPTIONAL) Resources: Basic Operations**



**Week 1, Lesson 3 Resources: Basic Operations**

The following resources were selected to provide an overview of the topic of Basic Operations. We would like to acknowledge the authors of the various web articles, videos, and papers for their insightful discussions and analytics which helped form the basis for some sections of the lessons and modules.

**Title of resource:** [**How Bitcoin Works (investopedia.com)**](https://www.investopedia.com/news/how-bitcoin-works/)

Resource type: web article

Author: David Floyd

Description: This article provides a basic description of Bitcoin, including key takeaways.

**Title of resource:** [**How does the Blockchain Work? (Part 1)**](https://medium.com/blockchain-review/how-does-the-blockchain-work-for-dummies-explained-simply-9f94d386e093)

Resource type: Website

Description: An article written by Collin Thompson on Medium that gives a simple and easy explanation on how blockchain works.

**Title of resource:** [**How Does the Blockchain Work?**](https://medium.com/@micheledaliessi/how-does-the-blockchain-work-98c8cd01d2ae)

Resource type: Website

Description: An article written by Michele D'Aliessi on Medium that explains blockchain technology in simple words.

**Title of resource:** [**How Do Bitcoin Nodes Verify Transactions?**](https://smartereum.com/8970/how-do-bitcoin-nodes-verify-transactions/)

Resource type: Website

Description: An article describing some of the features that mining nodes check for transaction validation.

**(OPTIONAL) Resources: Beyond Bitcoin**

A view of a city from space

Description automatically generated

**Week 1, Lesson 4 Resources: Beyond Bitcoin**

The following resources were selected to provide an overview of the topic of Beyond Bitcoin. We would like to acknowledge the authors of the various web articles, videos, and papers for their insightful discussions and analytics which helped form the basis for some sections of the lessons and modules.

**Title of resource:** [**A Gentle Introduction to Blockchain Technology**](https://bitsonblocks.net/2015/09/09/a-gentle-introduction-to-blockchain-technology/)

Resource type: Website

Description: This article is a gentle introduction to blockchain technology and assumes minimal technical knowledge. It attempts to describe “what it is” rather than “why should I care”.

**Title of resource:** [**On Public and Private Blockchains**](https://blog.ethereum.org/2015/08/07/on-public-and-private-blockchains/)

Resource type: Website

Description: A blog posted by Vitalik Buterin, the founder of Ethereum. He goes on to explain the differences between the different types of blockchains.

**Title of resource:** [**What is Cryptocurrency. Guide for Beginners**](https://cointelegraph.com/bitcoin-for-beginners/what-are-cryptocurrencies#accept-as-payment-for-business)

Resource type: Website

Description: An easy to understand guide on cryptocurrencies, including its history and future.

**Title of resource:** [**2017 Was Bitcoin's Year. 2018 Will Be Ethereum's**](https://www.coindesk.com/2017-bitcoins-year-2018-will-ethereums/)

Resource type: Website

Description: The following article written by Jez San, CEO of FunFair Technologies, an Ethereum-powered casino platform, explains why Ethereum will continue to evolve throughout the year 2018.

**Title of resource:** [**What is Cryptocurrency: Everything You Need To Know**](https://blockgeeks.com/guides/what-is-cryptocurrency/)

Resource type: Website

Description: This introduction explains the most important things about cryptocurrencies and where they are headed.

**Title of resource:** [**What is the Difference Between Public and Permissioned Blockchains?**](https://www.coindesk.com/information/what-is-the-difference-between-open-and-permissioned-blockchains/)

Resource type: Website

Description: An article that introduces a description of the three technologies that make up blockchain technology: cryptographic keys, a distributed network and a network servicing protocol.

**REQUIRED Quiz Resources and Directions: Blockchain Defined - Week 1**

**Week 1 - Defining a Blockchain**

**Quiz Directions**

**Task 1: Understanding the Genesis Block (Q2-Q3)**

In this task, you will explore the Genesis blocks (i.e. Block 0), for 2 different implementations of Blockchain, i.e. Bitcoin Blockchain (resource 1 or resource 2) and Ethereum Blockchain (resource 3). You need to check the previous block hash, transactions, and the reward.

**Task 2: Exploring a block in the Bitcoin Blockchain (Q4-Q5)**

In this task, you will inspect and explore block #490624 on either resource 1 or resource 2 provided above. Locate the hash of this block, the hash of the previous block, and the number of transactions in that block. You may explore other things contained in the block as well. After this, you will go to the previous block (by block number) and verify the hash of this block is the same as mentioned in the block you were exploring before.

**These prompts and the resources are provided in the quiz as well.**

**Quiz Resources**

**The following resources are provided to assist you in answering the quiz questions.** We would like to acknowledge the authors of the various websites for their platform and transactions which help form the basis for some sections of the lessons and modules.

**Title of Resource: 1.** [**Blockchain**](https://blockchain.info/)

Resource Type: Website

Description: Blockchain is the world's leading software platform for digital assets. Offering the largest production blockchain platform in the world and using new technology to build a radically better financial system.You can use this website to explore and answer questions related to Bitcoin Blockchain.

**Title of Resource: 2.** [**Bitcoin Block Explorer**](https://blockexplorer.com/)

Resource Type: Website

Description: Block Explorer is an open-source web tool that allows you to view information about blocks, addresses, and transactions on the Bitcoin blockchain. You can use this website to explore and answer questions related to Bitcoin Blockchain.

**Title of Resource: 3.** [**Etherscan**](https://etherscan.io/)

Resource Type: Website

Description: EtherScan is a Block Explorer, Search, API, and Analytics Platform for Ethereum, a decentralized smart contracts platform. You can use this website to explore and answer questions related to Ethereum Blockchain.

**Note: Use Blockchain or Bitcoin Block Explorer to explore Bitcoin Blockchain. Use Etherscan to explore Ethereum Blockchain.**

