

The Chinese University of Hong Kong  
Department of Systems Engineering and Engineering  
Management

**SEEM5770/ECLT5840      Open Systems/Electronic  
Commerce**

**2020-21      A Report on Cryptocurrencies**

This report is for further understanding cryptocurrencies and coins, which is worth of 40% of the unit's assessment. The report must be written in English with at least 1,500 words. The editorial errors (e.g., typos, grammar) will be taken into account too. The due for this report is 11:59pm on December 18, 2020. You need to put down your student id and your name when you submit your report. A soft-copy submission is required to be submitted to the online eLearning system. **Late submission is not allowed.**

There are many materials on the related topics that you can find on the Internet. You are not supposed to copy the materials available. You need to write it on your own. The CUHK VeriGuide is an online tool for plagiarism detection. You must submit your report to the VeriGuide ([https://academic.veriguide.org/academic/login\\_CUHK.jsp](https://academic.veriguide.org/academic/login_CUHK.jsp)) to check in which you can find out the corresponding course you have registered.

**You must submit your final report to BOTH VeriGuide and elearning system.**

Pay attention to Departmental Guideline for Plagiarism (Department of Systems Engineering and Engineering Management): If a student is found plagiarizing, his/her case will be reported to the Department Examination Panel. If the case is proven after deliberation, the student will automatically fail the course in which he/she committed plagiarism. The definition of plagiarism includes copying of the whole or parts of written assignments, programming exercises, reports, quiz papers, mid-term examinations and final examinations. The penalty will apply to both the one who copies the work and the one whose work is being copied, unless the latter can prove his/her work has been copied unwittingly. Furthermore, inclusion of others' works or results without citation in assignments and reports is also regarded as plagiarism with similar penalty to the offender. A student caught plagiarizing during tests or examinations will be reported to the Faculty office and appropriate disciplinary authorities for further action, in addition to failing the course.

The report is based on the discussions we had on Bitcoin in our course. Note that there is a free reference book, as given in the first of the three lecture notes, on "Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction". We covered the first three chapters and some discussions from Chapter 5.

First, Ethereum ([ethereum.org](https://ethereum.org)) is known as a platform to develop de-

centralized applications due to the needs that many want to develop their own 'coins' like Bitcoin. You can find details from Ethereum home <https://ethereum.org>, or read online books available in CUHK library (<https://www.lib.cuhk.edu.hk>) by searching using the keyword of "ethereum". Summarize what the Ethereum is about, and discuss the main differences regarding Bitcoin. Some hints are as follows. Explain differences between Ether and Bitcoin, explain smart contract used in Ethereum, and explain why the time interval between two Ethereum blocks is about 10-20 seconds whereas the time interval between two Bitcoin blocks is about 10 minutes.

Second, as you can see that there are many coins traded online (<https://coinmarketcap.com/>). How are the 'coins' developed on top of Ethereum? Are such coins developed on top of Ethereum the same as Ether? How do we trade a coin such as Tether for example with Ether? Pick up one coin that you want to invest, and justify your decision with a focus on its technique side if any.

You can focus on one of the two topics listed above, or discuss both.

In addition, we encourage students to discuss anything related to the topic of cryptocurrencies, blockchains, and decentralization.