Computer Engineering Careers Assignment

Computer Science

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Computer Engineering

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1. [Post Secondary Education](#)

School

The school website that I choose to use to research upon Computer Science is University of Toronto.

Description of the Program

Computer Science is the study of computers as well as computation systems. To start with, in computer science we don't quite deal with hardware and electronic devices, instead computer science deals with the software side of devices, this includes their theory, design, development, and application. In addition, there are wide branches within computer science including artificial intelligence, computer systems and networks, security, database systems, human computer interaction, vision and graphics, numerical analysis, programming languages, software engineering, bioinformatics and theory of computing. Furthermore, most people think that computer science is only dealing with coding, but that is not true as computer scientists also have to analyse and design algorithms, study the performance of the software as well as hardware, and many other aspects. To conclude, computer science is a leading and rapidly growing area and our society is depending more and more on technology everyday which makes software so crucial.

Years to graduation
- 3 years full time
- 6 years part time

Tuition cost
- The first year tuition cost is $6100.
- Upper year tuition cost is $11,420.

List of courses of the program
- CSC104H1 - Computational Thinking

- CSC110Y1 - Foundations of Computer Science I
- CSC111H1 - Foundations of Computer Science II
- CSC120H1 - Computer Science for the Sciences
- CSC148H1 - Introduction to Computer Science
- CSC165H1 - Mathematical Expression and Reasoning for Computer Science
- CSC199H1 - Intelligence, Artificial and Human
- CSC236H1 - Introduction to the Theory of Computation
- CSC240H1 - Enriched Introduction to the Theory of Computation
- CSC304H1 - Algorithmic Game Theory and Mechanism Design
- CSC396Y0 - Designing Systems for Real World Problems
- CSC456H1 - High-Performance Scientific Computing
- CSC490H1 - Capstone Design Project
- CSC491H1 - Capstone Design Project
- CSC494H1 - Computer Science Project
- CSC495H1 - Computer Science Project

Entrance Requirement
- Advanced Functions (MHF4U)
- Calculus & Vectors (MCV4U)
- English (ENG4U)
- Mathematics of Data Management (MDM4U) is recommended

The average requirement to get into Computer Science at University of Toronto is minimum 86%

Areas of specialization and possible job types and description
- **Data Analytics** - Analyzing data in order to make closure about that information which is used to minimize processes to boost the overall efficiency of a system or business
- **Software Engineering** - Create and evaluate websites and applications such as finding problems or areas of improvement and development solutions for the issues as well as testing and implementing the software changes

- **Computer Engineering** - Designing, constructing, implementing and maintaining softwares and hardware components of computing system as well as computer driver devices

Resources:
https://www.utm.utoronto.ca

2. The Job Market

Job type
Software Engineer

Job Responsibilities
- Collect and document user's requirements and develop logical and physical specifications
- Research, evaluate and synthesize technical information to design, develop and test computer-based systems
- Develop data, process and network models to optimize architecture and to evaluate the performance and reliability of designs
- Plan, design and co-ordinate the development, installation, integration and operation of computer-based systems
- Assess, troubleshoot, document, upgrade and develop maintenance procedures for operating systems, communications environments and applications software
- Lead and coordinate teams of information systems professionals in the development of software and integrated information systems, process control software and other embedded software control systems

Salary
- $47 per hour for 30 hours a week.
- $73,320 per year

<u>Technical and Soft Skills Required</u>

- Problem solving and logical thinking skills
- Communication skills
- Team work skills
- Time management skills
- Accountability
- Creativity

Resources:

https://www.jobbank.gc.ca/jobsearch/jobposting/32030949