

Curriculum Building Blocks

The SIS way of learning is through building blocks, where students first grasp the foundations of IS before being given free rein to find solutions to problems.

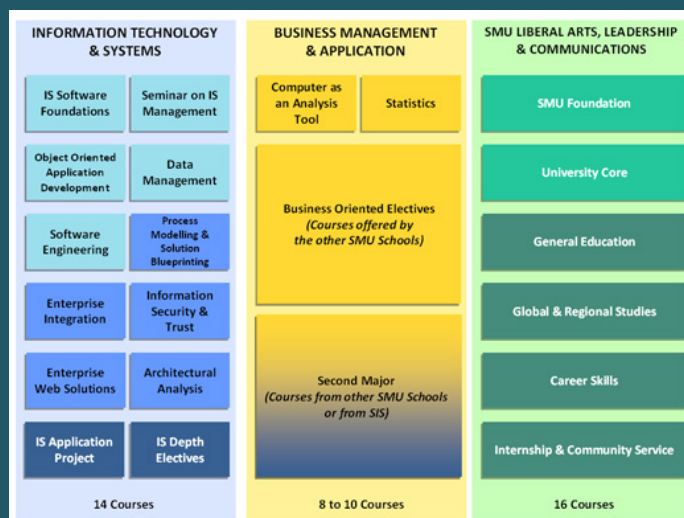
Without a solid foundation, a building with no amount of beauty on its façade can't stand up in the long term.

It's the same principle that guides the learning process in SIS, where undergraduates from all walks of life, with varying levels of IT skills, learn by building block by block the foundations of IS knowledge.



In Year 1, students learn that they have to get up to speed pretty fast. Within weeks of coming to SIS, they are tasked with learning Java programming skills, along with other basic IS concepts. Almost in a blink of an eye, they realise they have to

complete a small project where they have to develop a basic online shopping cart, used on a website for users to buy or trade items. This is the first building block, taught in the basic IS courses in Year 1, that many other more sophisticated knowledge will be based on in future.



First jumping into programming, and then into project work that demands pro-active involvement, is not an easy for many students who have not taken similar computing classes previously. For those who enter the school with no prior experience with designing software, it can be a big challenge at first, as many freshmen will attest, and seniors and alumni will remember. Says third-year student Olivia Chiu, who was previously an Arts student in a junior college: "I hated programming when I first came to SIS. I seriously 'caught no ball'. Sometimes, I couldn't understand what was happening in the Year 1 software design courses. Finally, at my first internship at a

Dutch bank, I was forced to learn programming all by myself because they had a coding project and I told myself I could not just quit on the first day!”

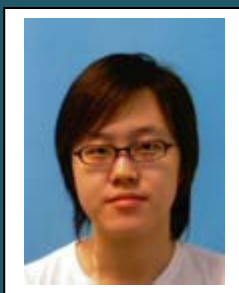
But learning to understand the code in a software program is just the beginning, as students find out through the four years in SIS. In the second year, they are challenged to develop a more complex business solution than the simple shopping cart they developed in Year 1. For example, in 2008, the second-year students developed an online booking system.

As they progress, they also learn about the types of larger-scale, enterprise information systems that are used by real-world businesses. They learn how these systems are designed, how they are applied and how they are used to better manage a company. For example, students learn how information systems are used to interconnect the different parts of a company, or to link business partners into a value chain that spans many companies across multiple industries.

Or, they learn how to make use of the ever-increasing amounts of data available to a business to extract intelligence and knowledge for business decisions. Few senior SIS students and alumni will forget how far they progress from developing a simple application that does just one thing in Year 1 to making use of enterprise applications that tap on different information sources and existing systems in Years 3 and 4.

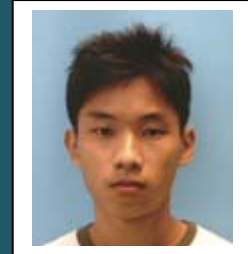
When students do their IS Application project, aka Final-Year Project, in Year 3 or 4, they often work with real-world companies to enhance a business solution. The companies will always have older, existing computing systems, which they refer to legacy computer systems. SIS students, in the course of their projects, often have to learn how to interconnect the new solution they are developing with the existing, legacy systems.

In their senior years, students are able to start architecting a real-world information system, by drawing on all they have learnt to find a solution to a business problem. When SIS students graduate, they are already experienced professionals, who not only understand the practical “grunt” work but also the business challenges and strategic potential of a business transformation project enabled by IT.



The building blocks approach is something Agnes Ang, a third-year SIS student, feels is useful to train up undergraduates for the working world. “With each program, you sense that you are building on your knowledge, and you begin to feel that you can code more effectively,” she recalls.

Classmate Edwin Ng agrees. “To an extent, it helps you understand things at a micro level, and then as you learn more, you understand the bigger things like enterprise-level interfaces. By starting small, you also get to know that small factors contribute to a bigger system ultimately, and they are just as important to a big project.”



Both Edwin and Agnes have put those building blocks to good use in their FYP or final-year-project, which is to develop a system for Merrill Lynch to handle their project data. Previously, the company saved all the information on Excel spreadsheets, which soon became massive and hard to view as the projects piled up. Edwin, Agnes and their teammates’ task: develop a SQL server database that could handle the information more neatly and make everything more easily searchable and viewable. It’s a task that requires them to have both coding skills and project management skills. They have to come up with the software pretty fast and also to ensure the requirements are met, so that the confidential data can be input by Merrill Lynch themselves.

Says Edwin: “The FYP gives you an experience working with a real-life client, and it is a good addition to what you learn in school.” The FYP is where students put all of the building blocks together.

Another important building block of the programme is the second major, which can be in any of the other areas of study provided by the other schools of SMU, such as economics, marketing or psychology. It can also be in advanced business technology, an option offered within SIS.

Second majors build the ability to understand a functional area, like marketing, or a specific industry like banking, and enable students to solve problems making use of both business and technology.