4.

Why do Software Engineering?

The study of HSC Software Engineering enables students to develop an understanding of the fundamentals of computer science using a range of technologies including the Python programming language. Students will develop knowledge and understanding of software engineering, hardware and software integration, and the development, implementation and evaluation of computer programs.

- Develop your capacity to think creatively to develop and program software solutions
- Apply software solutions that you develop to real-world problems, using exciting new hardware.
- Improve your ability to apply knowledge, understanding and thinking skills to develop and communicate solutions to real-world problems.

5.

Career Opportunities

The course is recommended for students looking to pursue further study in computer science and related fields.

The technology industry continues to grow and is crying out for people in Australia. Other countries are already teaching their preschoolers to code, it is THE 21st century skill that everyone should be learning.

"Everyone should know how to program a computer, because it teaches you how to think."
- Steve Jobs

Software Engineering

YEAR 11 & YEAR 12 COURSES

COFFS HARBOUR
SENIOR COLLEGE

1.

Year 11 Course

Programming fundamentals including software development; designing algorithms; data for software engineering; and developing solutions with code.

The object-oriented paradigm (OOP) including Understanding OOP; and programming in OOP.

Programming mechatronics including understanding mechatronic hardware and software; designing control algorithms; and programming and building mechatronic systems.

2.

Year 12 Course

Secure software architecture including designing software; developing secure code; and the impact of safe and secure software development.

Programming for the web including data transmission using the web; and designing web applications.

Software automation including algorithms in machine learning (ML); programming for automation; and the significance and impact of ML and AI.

Software engineering project.

3.

Learning

GROK

We introduce students to programming through the GROK environment. This uses Python as the language of choice. Python is used widely in industry and is well supported in educational circles. Python is also the language that the HSC examination for this course will use as assumed knowledge.

GROK allows students to develop their coding skills at their own pace, in a supportive online environment.

NCSS

Each year, the college nominates students to attend NCSS Summer School. This is a wonderful opportunity for motivated students to work with University teachers as well as industry technology leaders.