Year 12 [level 2]

COM201 Computer Science 201

PRIOR STUDY REQUIRED / PREFERRED
Good logical ability, minimum of 10 credits in Digital Technology including passing AS1.41, 1.42 and 1.43 in DTI101 or AS1.45, 1.46 and 1.50 in COM101 or with agreement of the Head of Department.

BRIEF DESCRIPTION OF THE COURSE
This course is for students who want to study Information Systems or Computer Science at tertiary level. It will develop their skills in developing a web front-end for a database. Students will plan and create an interactive computer program. The computer science concepts taught include user interface design, data representation, encoding and networking.

DTI201 – Digital Technology 201

PRIOR STUDY REQUIRED / PREFERRED
Good logical ability, minimum of 10 credits in either DTI101 or COM101 including passing AS1.42 and 1.43 in DTI101 or AS1.45, 1.46 and 1.50 in COM101 or with agreement of the Head of Department.

BRIEF COURSE DESCRIPTION
This course covers many aspects of digital technology. Students will integrate a range of software to develop a website prototype using Adobe Illustrator, Photoshop and Dreamweaver. Students will also gain knowledge of a network, information system/s and the sharing of information as well as an understanding of sustainable design.

Year 12 and 13 [level 2]

COM203 – Computer Studies 203

PRIOR STUDY REQUIRED / PREFERRED [OPEN ENTRY]

BRIEF DESCRIPTION OF THE COURSE
This course is suitable for anyone wanting an overall basic grounding in all areas of computing, including beginners. Software applications students will use include: Microsoft Word, Publisher, PowerPoint, Excel (spreadsheets) and Adobe Photoshop.

COM303 – Computer Studies 303

PRIOR STUDY REQUIRED / PREFERRED [OPEN ENTRY]

BRIEF DESCRIPTION OF THE COURSE
This course is suitable for anyone wanting an overall basic grounding in all areas of computing, including beginners. Software applications students will use include: Microsoft Word, Publisher, PowerPoint, Excel (spreadsheets) and Adobe Photoshop.

NOTE: Students taking both COM203 and COM303 could gain the National Certificate in Computing Level 2 qualification. You can take both courses in one year if you want to. The National Certificate in Computing qualification goes up to Level 8 and this study can be continued after you've left school through tertiary providers.

Year 13 [level 3]

COM301 – Computer Science 301

PRIOR STUDY REQUIRED / PREFERRED
A minimum of 12 credits in COM201 plus a pass in Level 2 literacy or with agreement of the Teacher in Charge.

BRIEF DESCRIPTION OF THE COURSE
This course is for students who want to study computing at tertiary level. It will develop their skills in creating a database that is integrated with a student created program. Students will choose to study one or more of the following computer science concepts for the external assessment: formal programming languages, network communication protocols, complexity and tractability, intelligent systems, software engineering, graphics and visual computing. Students will also learn about technologies that enable the Internet. The course is on the approved University Entrance list.

DTI301 – Digital Technology 301

PRIOR STUDY REQUIRED / PREFERRED
A minimum of 12 credits in DTI201 or COM201 plus a pass in Level 2 literacy or with agreement of the Head of Department.

BRIEF DESCRIPTION OF THE COURSE
This course is designed to follow on from Digital Technology 201. Students will integrate a range of skills and software to create a website including Adobe Illustrator, Photoshop and Dreamweaver. Students will also use project management skills whilst creating a computer game using Scratch (freeware).

DTM301 – Digital Media 301

PRIOR STUDY REQUIRED / PREFERRED
Prefer completion of a Year 12 Digital Technology (DTI201 or COM201) course with a minimum of 14 credits gained. A background in using Adobe Photoshop and InDesign and/or strong digital technology grounding would also be considered after discussion with the Head of Department.

BRIEF DESCRIPTION OF THE COURSE
This is a comprehensive print design course where students produce a number of portfolios suitable for application to tertiary institutes or for employment. Students learn planning for a client, image manipulation, illustration, typography and print layout. They work with a range of software including industry standard graphic software Adobe InDesign, Illustrator and Photoshop.

NOTE: A student wishing to do more than one Level 3 Digital Technology course must have the approval of the Head of Department. If a student chose to take two technology courses they would count as two separate approved subjects providing the standards are different.

COMPUTING AND DIGITAL TECHNOLOGY DEPARTMENT

Massey High School

Today, and into the future, students will need to be technologically literate no matter what path they take when they leave school. Learning knowledge and skills in information technology is ongoing and students who take this subject will be better prepared for the many opportunities they will face in the future whether it is:

- to university for technology or non-technology related courses
- other tertiary training - trades and national diplomas
- modern apprenticeships and industry training
- direct to the work force, or
- into the community.

Technology education will help equip students to meet the needs and opportunities of the local, national and global communities. New Zealanders are well-known for their DIY, entrepreneurial and innovative ideas which are encouraged through information technology. Many learning institutes, industries, services and entrepreneurial opportunities require students to have competence and confidence in their knowledge and skills of information technology.

Source: H. Fancy (2005) 'Dreams, Realities and Future Directions -Technology Curriculum 1995 -2015'. Technology Education New Zealand (TENZ) Conference by Howard Fancy, Secretary for Education on 5 October 2005.

Course Pathways

Year 9

9 DTE Digital Technology

Students will learn alpha-numeric keyboard skills plus use a wide range of industry standard software applications: Microsoft Office Suite (Word, Excel); Adobe Creative Studio (Photoshop, Illustrator and InDesign). Other resources students will use in this course are internet, digital cameras and colour laser printers. *[OPEN ENTRY]*

Year 10

10 DTI Digital Technology

Students will gain knowledge and skills in computer graphic design, photo manipulation, game making and interactive media using Adobe Photoshop and InDesign plus Scratch freeware. Students also use Microsoft software applications (Word, Excel and PowerPoint), the internet and online learning resources. In this course a number of computer peripherals are used including digital cameras and scanners. Also taught are techniques and industry codes of practice in computer graphic design and digital media incorporating images/ graphics and text as well as alpha-numeric keyboarding.
[OPEN ENTRY]

10 ADT Advanced Digital Tech

This course develops the Digital Technology skill areas to a higher level. Students gain knowledge and skills in graphic design, photo manipulation, game making and interactive media using Adobe Photoshop, InDesign and Illustrator plus Scratch and Sketchup freeware. Students also use Microsoft software applications (Word, Excel and Access), the internet and online learning resources. In this course a number of computer peripherals are used including digital cameras, scanners, electronic tablets and laser colour printers. Also, taught are techniques and industry codes of practice in desktop publishing, digital media incorporating images/graphics plus an introduction to basic programming as well as alpha-numeric keyboarding.

PRIOR STUDY REQUIRED / PREFERRED
This course is for students who have completed the Year 9 Digital Technology course to a high level. Also, students who are confident using various computer software applications may like to talk to one of the Digital Technology teachers about their suitability to enroll in this course.

ASSESSMENT
There will be the opportunity to gain **6 Level One NCEA credits**.

Year 11 [level 1]

COM101 Computer Science 101

PRIOR STUDY REQUIRED / PREFERRED *[OPEN ENTRY]*

Note: To take this course as well as Fabric Technology 101 or Food Technology 101 students must obtain prior approval from the HODs of both subject areas. See the explanatory note under the listing of standards below.

BRIEF DESCRIPTION OF THE COURSE
In this course you will learn fundamental skills in developing algorithms and programs. You will also learn the skills needed to develop a brief. Students will have the opportunity to design and create a computer program using Java. Computer science concepts are taught; including graphical user interface design, algorithm optimisation and an overview of different programming languages. Hardware components and their purpose are studied and students are assessed on their understanding of computers and the procedures for servicing of a computer. This course demands the planning of solutions as well as practical computer use.

BUILD YOUR OWN PC (OPTIONAL)
For the unit on servicing a PC, students have the opportunity to purchase the necessary computer components and assemble a PC as part of their assessment. The parts required should not exceed $500 (excluding a monitor). Student will need to source their own parts and advice will be given on necessary parts to buy. This is optional and students can take the assessment without providing their own equipment. This assessment takes place in term three.

METHODS OF ASSESSMENT
Five of the assessments are assignment based and internally assessed. Achievement Standard 91074 [1.44] is externally assessed.

RELATIONSHIP TO NATIONAL CERTIFICATE AND TERTIARY QUALIFICATIONS
COM101 is one of two, Digital Technology, level one courses. This course leads to four Digital Technology level 2 courses (DTI201, COM201, COM203 and COM303) and then onto three level 3 courses with approved subjects in this field (DTM301, DTI301 and COM301).

DTI101 Digital Information 101

PRIOR STUDY REQUIRED / PREFERRED *[OPEN ENTRY]*

Note: To take this course as well as Fabric Technology 101 or Food Technology 101 students must obtain prior approval from the HODs of both subject areas. See the explanatory note under the listing of standards below.

BRIEF DESCRIPTION OF THE COURSE
This course covers both Digital Information and Media categories of the Digital Technology curriculum. You will use a range of software applications (e.g. Microsoft Office Suite plus Adobe Illustrator, Photoshop and InDesign) to learn knowledge and skills whilst creating a variety of computer generated solutions. Digital media content will be original (for example your own graphics, sound editing, video/still images, web pages and printed documents) and show an integration of various software applications.

METHODS OF ASSESSMENT
Assessment will include observations, conceptual designs and prototype/one-off solution development plus portfolios. Achievement Standards 1.40 is externally assessed.

RELATIONSHIP TO NATIONAL CERTIFICATE AND TERTIARY QUALIFICATIONS
DTI101 is one of two, Digital Technology, level one courses. This course leads to four Digital Technology level 2 courses (DTI201, COM201, COM303 and COM303) and then onto three level 3 courses with approved subjects in this field (DTM301, DTI301 and COM301).

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Computer and Digitial Technology Course Pathways by Year

Year 9	Year 10	Year 11	Year 12	Year 13
9 DTI	10 DTI 10ADT	COM101 DTI101	COM201 DTI201 COM203 COM303	COM301 DTI301 DTM301 COM303

→ See the Careers Pathway Flier