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ISBN 9780170211048
Humans are attuned to visual stimuli. We respond to symbols, images and icons for many reasons: because they elicit an emotional response, have some personal or historical significance or simply attract the eye.

We live in a world where visual communication dominates our environment. It is an integral part of and impacts on many aspects of our everyday lives. As a means of expressing ideas, information and opinions, we rely on methods of visual communication to convey personal, commercial and professional messages. Additionally, advertising, marketing and the constructed environment, for instance, influence how we react to an issue, form an opinion or purchase a product.

Professional designers working in many design fields, including graphic design, multimedia, industrial design, architecture, interior design, advertising and fashion, understand the power of the visual, and they apply various methods of visual communication to express ideas, develop concepts and make a visual connection with an audience.

The universal applications of digital technologies have meant that the communication of visual ideas and the presentation of images now occur in rapid and sophisticated forms. Developments in technology and production methods, as well as social changes, serve to re-define the boundaries of visual language. Understanding visual communication developments and having a grasp of their origins helps us to process these vast quantities of visual information.

It is important for design students to develop an informed and analytical understanding of the scope and potential of visual communication. The study of Visual Communication Design will help you, as a student, to understand the important role that visual communication plays in our lives.

Throughout your study of Visual Communication Design you will be asked to convey concepts and devise solutions to design problems that rely on visual means for clarification. This book is designed to guide you through the key knowledge and assist you in the development of the key skills required for successful completion of the Visual Communication Design course work.

One of the core elements of Visual Communication Design is the design process. Facilitating a creative progression from an initial brief to the final presentations, the design process provides a defined yet flexible space for imaginative responses and experimentation where concepts are developed and refined. You will be given many opportunities to develop creative and innovative solutions to design problems, challenging you to extend your ideas, skills and knowledge within the framework of the design process.

Visual Communication Design covers a vast amount of information and introduces many practical techniques and methods of production. The practical and theoretical aspects of the subject are intrinsically linked, and a good grasp of both aspects fosters an ability to successfully interpret, analyse and produce effective visual communications.

This book is divided into four parts, to reflect the structure of the Visual Communication Design course. You will find resource material, discussion topics and creative ideas as well as information related to the course work. This book provides a framework for your critical and creative thinking, and provides you with the tools to understand, develop and apply a powerful visual language.

Why study Visual Communication Design?

There are plenty of good reasons to take on this challenging and stimulating subject! You will be aware that there are two sides or ‘hemispheres’ in your brain. The left side of the brain works in a linear fashion, thinking in a logical and methodical manner. The right side is the visual and creative side and is not linear at all.

But what does this have to do with Visual Communication Design? Well, there aren’t many VCE studies that challenge both sides of your brain as effectively as Visual Communication Design does.
In challenging you to follow the design process, to solve design problems creatively, to explore media and experiment with materials, Visual Communication Design puts both hemispheres of your brain to work. An active brain is a healthy brain and that can only be helpful for your other studies too.

Some students even see their Visual Communication Design classes as a ‘break’ from the rigours of subjects that are perhaps more left-brain focused.

**Where can Visual Communication Design take you?**

Many students choose to study Visual Communication Design because it provides a chance to build a folio for entry to a tertiary institution. Many visual art and design courses at TAFE and university level accept students after viewing a visual art folio during a preliminary interview. Keep in mind that many universities insist on good academic results as well as an impressive folio.

Studying Visual Communication Design during the VCE can lead to many different study and career paths, some of which are listed below.

+ Advertising
+ Animation
+ Architectural drafting
+ Architecture
+ Cartography
+ Cartooning
+ Costume design
+ Desktop publishing
+ Education
+ Fashion design
+ Film making
+ Fine arts
+ Furniture design
+ Graphic design
+ Graphic prepress and production
+ Illustration
+ Industrial design
+ Interior decoration
+ Interior design
+ Landscape architecture
+ Multimedia development
+ Offset printing
+ Photography
+ Publishing
+ Production design
+ Set/Theatre design
+ Signwriting
+ Textile design
+ Visual merchandising
+ Web design

It does not matter whether you choose to study Visual Communication Design in order to take a step towards a career in design, because it offers stimulation and challenges not found elsewhere in the curriculum, or simply because you like to draw. You have made your first move into a study that will change the way you view the world around you!

**How to use this book**

To assist you in using this book, icons are placed throughout to indicate the following:

**DID YOU KNOW**

Information to read that may expand your interest in the topic

**TIP**

Helpful information to assist in developing your skills

**TECH TIP**

Helpful information to assist in developing your skills with digital methods

**WEBLINK**

Websites that contain information that may assist your learning

**ACTIVITY**

A reminder that the companion workbook *Nelson Visual Communication Design VCE Units 1-4 Workbook*, contains many practical exercises to assist in developing your skills in visual communication design.
Preparing to study Visual Communication Design is no different to readying yourself to study other VCE subjects, in that good organisational skills are very important. The study of Visual Communication Design, however, also requires the use of an array of materials that you probably would not use in other subjects. Remember that it is possible to produce high quality work without breaking the budget on expensive equipment.

### Storing your equipment

It is a good idea to have a special container specifically for your Visual Communication Design equipment, such as a small box or case. Using a special container makes it easy to carry a collection of materials to class and ensures that you have everything you need for class sessions and exams.

### Pencils

Pencils are your most important piece of equipment. Traditional drawing pencils are made of graphite encased in a wooden body and are still the most inexpensive tools for putting your ideas onto paper. The ‘lead’ in your ‘greylead’ pencil is not actually lead; it is graphite, and virtually harmless. Some students and designers prefer to use solid graphite pencils, which are contained within a plastic rather than wooden casing.

- **B** = Black. B series pencils are softer than others, and are usually used in sketching, illustration and rendering.
- **H** = Hard. H series pencils feature a hard graphite and are often used for line work, technical drawing and drafting.
- **HB** = Hard/Black. HB pencils are equally hard and soft.
- **F** = Fine. F series pencils are similar in quality to HB, but slightly harder.

#### Erasing

When using pencils, ensure that you have a clean vinyl eraser handy. In technical drawing an erasing shield, which is a template that allows for accurate erasing, can be helpful and assist you in maintaining a clean drawing surface.

#### Micro pencils

Also known as mechanical pencils, micro pencils contain graphite of a specific width and grade and never require sharpening. The graphite feeds through the plastic casing of the pencil and maintains a consistent line width. Graphite refills are available in a range of widths and grades, which makes them ideal for technical drawing.
Coloured pencils

The range of coloured pencils on the market is enormous – everything from small tins of 12 pencils to wooden boxes with 100 or more pencils. For the purposes of the Visual Communication Design study, a pack of 24 or 36 good quality pencils, with leads soft enough for effective rendering, is adequate.

Paper

The International Organization for Standardization (ISO) established a system of standard paper sizes known as the ISO ‘A’ series. The series is based on a large paper sheet with an exact size of 841 mm × 1189 mm. This sheet is known as size A0. Other sizes include:

+ A1 - 594 mm × 841 mm, or half A0
+ A2 - 420 mm × 594 mm, or half A1
+ A3 - 297 mm × 420 mm, or half A2
+ A4 - 210 mm × 297 mm, or half A3

A standard folio in Visual Communication Design is usually no smaller than A3.

Papers are graded according to weight. It is possible to recognise their grade and suitability for a specific purpose by identifying the grams per square metre (gsm) standard. The higher the gsm number, the heavier the paper.

These are some of the papers you will use.

+ Newsprint: At 52 gsm, newsprint is a very lightweight paper that is used for preliminary sketches (and as tablecloths in trendy cafes!).
+ Bulky news: This is a heavier version of newsprint, with some texture. It is about 80 gsm.
+ Cartridge paper: Cartridge can range anywhere between 110 gsm and 200 gsm, and is often a crisp white colour. Your visual diary or sketchbook will contain cartridge of a medium weight. Cartridge is a good multipurpose paper, but markers or felt pens may ‘bleed’ into the grain when used with this paper.
+ Bleedproof paper and fineliner paper: These useful papers are coated to give a smooth surface that inhibits the ‘bleeding’ of markers and fineliners into the paper grain.
+ Special coated papers: These papers are designed specifically for use in colour inkjet printers. They are coated with a choice of gloss, satin or matt finish, which allows the ink to sit on the paper rather than be absorbed into the grain.

Pens

Technical pens are a popular choice with many designers. Ink-filled technical pens are refillable and available in a range of nib widths to allow precise line work. The most common nib widths are 0.25 mm, 0.5 mm and 0.7 mm. Technical pens are more durable than fibre tip pens such as fineliners, but they require considerable maintenance.

Fineliners and other fibre tip pens are a cost effective alternative to technical pens, and their deep black ink enables work to be easily copied or scanned. Unlike technical ink pens, fineliners have a flexible felt tip.

<table>
<thead>
<tr>
<th>Technical pens: line thickness in mm</th>
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<tbody>
<tr>
<td>0.18</td>
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</tbody>
</table>
Markers
Water-based markers are commonly used by graphic, industrial and product designers, who find that this marker allows quick, effective colour coverage and ease in rendering a surface. Most markers come with both a fine tip and a broad tip and can be refilled with pigmented inks. It is possible to purchase markers in sets or as individual pens. If you decide to invest in markers, it is recommended that you buy a product that can be refilled.

Although the use of markers may take some practice and they can be somewhat expensive, they are a very effective tool for rendering and illustration. Bleedproof paper should be used when working with markers. Information on marker rendering techniques can be found in chapter 2.

Drawing equipment
A substantial part of the Visual Communication Design study involves instrumental drawing. For this reason, you will need to become familiar with some special equipment.

Set squares
Set squares are designed to be used with a T-square (or straightedge) to create vertical lines or lines at a required angle. There are two set squares used in the Visual Communication Design study: 30°/60° and 45°.

T-square
The T-square (or straightedge) provides a horizontal base for the creation of true horizontal lines when used on a drawing board. The T-square supports the set square and templates.

Curves and templates
Curves, such as flexible curves, snail curves and French curves, enable you to draw curved lines or create irregular, curved shapes with accuracy.

Templates provide machine-cut shapes of set sizes to assist in constructing instrumental drawings. They include circle templates, ellipse templates and symbol stencils.

Texture board
Texture boards are a helpful tool when rendering with pencils or pastel. Offering a range of textures on
both sides, they can be used to suggest surface detail when rendering objects and environments.

Digital media
Portable devices, drawing tablets and design software packages provide scope to create some extraordinary digital designs. Digital media is an integral part of the Visual Communication Design study, so here are some important points to think about.

Photocopiers can be used as a creative tool in the development of your ideas. Both colour and black and white copiers offer the opportunity to manipulate size, paper types, transparencies and collage.

Digital cameras can help you gather material for research and create your own images for use in your final presentations. Instant film such as Polaroid can be useful in the documentation of the design process and in recording ideas.

Setting yourself up with the latest PC or Macintosh (Mac) computer can be an expensive exercise, especially if you buy the latest design software. The computer, no matter what the brand, is a tool, and should be seen as just that. Like your pencils and sketchbook, the computer can help you to work through the requirements of the study and assist you in creating successful final presentations.

The computer should not be seen as the only answer in design - the use of computers is one part of the solution to your design problems, not the solution itself.

That said, the computer offers you many opportunities for experimentation and visual risk-taking, and can provide you with the chance to
depict the images that you have previously visualised and sketched. Software packages that work with ‘vector’ shapes (such as Adobe Illustrator) or packages that enable ‘bitmap’ manipulation (such as Adobe Photoshop) provide boundless opportunities to turn ideas into high-quality final presentations. Packages such as InDesign enable you to combine vector, bitmap and text together.

Many schools offer access to high-end programs such as the Adobe suite. If you do not have access at school, there are many similar programs – and even some freeware programs - available on the Internet. There are many levels of software available, just as there are variations in the hardware that runs it. It is how it is used that defines the value of any software package.

Create a resource folder
Collect examples of visual communication, such as free postcards, screen captures of websites, packaging, swing tags and magazine advertisements. Collect whatever you can find – it is easy and fun to collect examples of visual communication that inspire or intrigue you.

Keep all of your resources together in an inexpensive display folder, or store them digitally. You never know when items in your collection will come in handy as sources of inspiration during your studies in Visual Communication Design.

Visual Communication Design terminology
Visual Communication Design has its own language. The VCE study uses terms that are specific to design and it is important to use them appropriately. There is a glossary at the end of this book that explains the meanings of many words used in the study design, however there are some key terms that are important to know at the very beginning of your studies in Visual Communication Design.
Media

Digital and traditional applications used in the creation of visual communications

<table>
<thead>
<tr>
<th>Digital media</th>
<th>Vector-based programs</th>
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<td>Non-digital media</td>
<td>Raster-based programs</td>
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<td>Pencils</td>
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<td>Ink</td>
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<td>Pastels</td>
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<td>Acrylic paint</td>
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<td>Gouache</td>
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<td>Dye</td>
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<td>Film</td>
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Materials

The surfaces upon which visual communications are created or the products used in the construction and manufacture of visual communications.

| Paper | Metal |
| Card | Plastic |
| Screen | Wood |

Final presentations

The formats in which visual communications are presented.

| Packaging | Signage/Wayfinding |
| Poster | Point of purchase display |
| Brochure | Instrumental/Engineering drawings |
| Publication design | Concept presentation |
| Website | Multimedia/Motion graphics |
| 3-D scale model | Information graphics |

Design thinking

In Visual Communication Design, design thinking is an integral part of the design process. You are required to apply creative, critical and reflective thinking to solve design problems. Thinking skills are applied throughout the design process, encouraging you to evaluate and analyse the progress and direction of your design concepts. Your thinking can be made visible through drawing and also expressed in meaningful written annotations. Thinking skills should not be saved for the end; they should be applied at every stage of the design process.

Creative thinking

In the design process, creative thinking can make use of brainstorming techniques to generate ideas and concepts for further exploration. Focused on possibilities rather than problems, creative thinking is open, non-judgmental and imaginative.

Key question for creative thinking: What are the possibilities?

Critical thinking

Using analytical language, critical thinking examines the effectiveness, suitability and possible directions of a design concept. Based in reason and supported by evidence, critical thinking is about asking relevant questions about a design problem then suggesting likely solutions. Critical thinking may rely upon a framework such as a design brief and is self-corrective and progressive.

Key question for critical thinking: Where or how might the design idea evolve further?

Reflective thinking

In a design context, reflective thinking is undertaken where evaluation is required. Reflecting on the success or failure of a design idea within the context of the design brief, this thinking technique relies upon the student's full knowledge of the original design problem. Armed with knowledge of the original task, it is possible to identify and evaluate the effectiveness of a concept.

Key question for reflective thinking: How does the design concept fulfill the needs of the brief/client/audience/purpose/context?
Design fields

Designers work in many professional areas, both individually and as part of a team. Many designers utilise a variety of skills in their work and call upon the expertise of specialists when required. Some of the design professionals you may come across in your Visual Communication Design studies include:

| Communication design | Graphic designer  
Multimedia/Motional graphics designer |
|----------------------|-------------------------------------------------|
| Product design       | Industrial designer  
Lighting designer  
Fashion/Textile designer  
Furniture designer  
Automotive/Vehicle designer |
| Environmental design | Architect  
Interior designer/Architect  
Landscape designer  
Exhibition designer |

Understanding copyright

Copyright is designed to protect the products created by writers, designers, artists, composers, filmmakers and other creative professionals. In Australia, copyright is automatically granted to a product once it is put into ‘material form’ such as being drawn or written down. The owner of the copyright has the right to show, publish or perform the work in the public realm and can prevent others from reproducing the work without explicit permission. The copyright owner may sell the rights to that work or ‘assign copyright’ to another party.

Copyright protects:
Artistic Works – paintings, photographs, maps, graphics, cartoons, charts, diagrams and illustrations
Literary works – novels, textbooks, poems, song lyrics, newspaper articles, computer software, computer games
Musical works – melodies, song music, advertising jingles, film scores
Dramatic works – plays, screenplays and choreography
Films and moving images – feature films, short films, documentaries, television programs, interactive games, television advertisements, music videos and vodcasts
Sound recordings – MP3 files, CDs, DVDs, vinyl and tape recordings, podcasts
Broadcasts – pay and free-to-air television and radio

Copyright logo. Even when the logo is not present, copyright still exists under Australian law.
Copyright does not protect techniques, concepts or ideas but it does protect their tangible physical representation. An idea for a chair design, for example, is not copyright however, copyright law covers the sketches, technical drawings, models and final design product.

The owner of copyright may be separate to the owner of the designed item. An individual may own the chair mentioned above yet the copyright to the chair design remains in the hands of the original copyright owner, who may be the designer or manufacturer.

Many designers use sourced imagery in their work. Copyright images and photographs may be used in publications, websites and other public domains only with the permission of the copyright owner.

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**DID YOU KNOW?**

**The copyright timeline**

Just because a work appears online does not mean that it is out of copyright. For artistic, literary, musical and dramatic works, the period of copyright protection runs from the time of creation until 70 years after the death of the creator. Films, sound recordings and broadcasts are protected for 70 years from the end of the year in which the work was released. Sometimes it takes some searching and research to identify whether creative products are in or out of copyright. Once out of copyright, a work is considered to be ‘in the public domain’ and can be used freely.

**Tips for students using the work of others**

1. Most importantly, always identify the source when using the work of others.
2. You are entitled to use a ‘fair’ amount of work from other sources for ‘research and study’.

---

**Copyright for students**

The rules for using copyright-protected materials in education are slightly different. Under Australian law, schools have expanded rights to use copyright materials without seeking permission from the copyright owner. This doesn’t mean open slather for schools. There are still parameters set as to the amount of copyright works that may be copied, displayed and reproduced but the rules make the use of copyright materials for educational purposes much more flexible.

Sources being used by students in Visual Communication Design should always be acknowledged. Importantly, the *Visual Communication Design VCE Study Design* requires that students acknowledge the origins of resources and materials used in design work.

When using images, the original source of the image should be acknowledged in an annotation that records the original author or copyright owner. If the owner cannot be identified and the image has been sourced from an online location, note the web address or use a screen capture to identify the source. This is called attribution.

If student work is to be displayed publically, for example, if Visual Communication Design VCE work is displayed as part of the Season of Excellence ‘Top Designs Exhibition’, there must be clear acknowledgement and attribution of any content used that has not been created by the student.

---

**WEBLINK**

**Copyright**

The website of the Australian Copyright Council. The council supports the copyright needs of creative professionals in Australia. The site offers information organised by profession and features detailed information about all aspects of Australian copyright law. Council members include representatives from the peak professional associations for Australian writers, musicians, photographers, visual artists, journalists, filmmakers and architects.

**Smart copying**

This official website is designed for teachers and students at Australian schools and TAFEs. Educational use of resources entails different copyright requirements and these are clearly outlined here.

**Australian Attorney-General**

The official website of the Australian Attorney-General offers information about current copyright law.
without gaining permission from the copyright owner; this is known as fair dealing. Fair dealing requires that the work is used only for research, criticism, satire and parody, or reporting of news. It is likely that most work used in Visual Communication Design will fall under the ‘research and study’ area.

3 You are entitled to use the work of others when you have express permission from the copyright owner to do so. You should have evidence of the permission.

4 You are entitled to use work with a Creative Commons licence that allows use by others (see Creative Commons on page xx).

Creative Commons

Creative Commons is an international non-profit organisation that provides free licences to copyright owners to allow others to legally share, reuse and ‘remix’ their material. Creative Commons was created in direct response to the increasing accessibility of materials via the Internet and a perceived lack of control that creators have in the digital domain. A creative commons licence is identified by a series of symbols, which indicate the context in which the author of the work is prepared to allow others to use the work. When a creator releases their work under a Creative Commons licence, it is made clear what the user can and cannot do with the work. All Creative Commons licences allow works to be used for educational purposes. Teachers and students can copy, share and often modify a Creative Commons work without seeking permission from the work’s creator.

How to attribute a Creative Commons work

Include the following:
+ the author name
+ the title of the work
+ the URL where the work was located
+ the type of Creative Commons licence attached to the work
+ any copyright notice attached to the work.

Creative Commons licence types

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meanings and letter code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="cc_icon_attribution.png" alt="Attribution" /></td>
<td>Attribution (BY)</td>
<td>This applies to every Creative Commons work. Whenever a work is copied or redistributed under a Creative Commons licence, the original creator (and any other nominated parties) must be credited and the source linked to.</td>
</tr>
<tr>
<td><img src="cc_icon_noncommercial.png" alt="Non-commercial" /></td>
<td>Non-commercial (NC)</td>
<td>Allows others to copy, distribute and perform the work for non-commercial purposes only.</td>
</tr>
<tr>
<td><img src="cc_icon_nonderiv.png" alt="Non-derivative works" /></td>
<td>Non-derivative works (ND)</td>
<td>Allows others to distribute, display and perform verbatim copies of the work. The work may not be adapted or changed in any way.</td>
</tr>
<tr>
<td><img src="cc_icon_sharealike.png" alt="Share alike" /></td>
<td>Share alike (SA)</td>
<td>Allows others to remix, adapt and build on the work, but only if they distribute the derivative works under the same licence terms that govern the original work.</td>
</tr>
</tbody>
</table>

WEblink

Creative Commons

This is the website of Creative Commons Australia. The organisation supports Creative Commons in Australia and administers the Australian Creative Commons licences. The website features detailed information about licenses including fact sheets and case studies.
AUTHOR
ACKNOWLEDGEMENTS

Thank you to my students, past and present, whose talents and skills never fail to inspire and surprise me!

Special thanks to my supportive colleagues at Woodleigh School, especially Pak, the Visual Art team (Rachel, Birra-Li and Lisa), Bree, Virginia, Ben, Suzanne and Troy.

A huge thanks to designer Mark Wilken of Studio Workshops for his great illustrations and advice. Thanks also to the professional designers who were happy to have their work featured throughout this book.

Thank you to my supportive family and to the editorial and production teams at Nelson Cengage Learning for their hard work.
Typography communicates in many ways. From a collection of letters that form recognisable words to the arrangement of type to convey a visual message, typography is fundamental to communication. An understanding of typography, along with the language, rules and conventions that inform how it is used effectively, is essential for students of design. Of course, there are uses of type that defy all the rules yet succeed all the same; type in knowledgeable and expert hands is what makes the study of typography so fascinating.

### 6.1 THE LANGUAGE OF TYPOGRAPHY

More so than any other design element, typography requires its own language. Terms that have their origin in the history of type design are still used today. In this section we will look at the key terminology that has evolved over time to explain the many elements of typography.

Some knowledge of the language of typography is essential when discussing any aspect of this design form.
**Ampersand**

An ampersand is a ligature (see this page) of the Latin ‘et’ (meaning ‘and’). The appearance of an ampersand can often identify the typeface in use.

![Ampersand](image)

**Bowl**

The part of a type character that encloses (or partially encloses) a rounded space, for example a lower-case a or upper-case G.

**Counter**

The counter (sometimes referred to as the counter space or counterform) is the negative space in and around the letterform. Counters are seen on lower-case a, b, d, e, g, o, p and q characters, and in most of their upper-case versions as well. The counter can be used creatively to enhance the meaning of a letterform or word.

![Counter](image)

**Ear**

The distinctive element that rests on the upper right of the lower-case g. ‘Ear’ is the root of the word ‘earmark’, a term for the distinctive visual features that identify different type families.

**Face**

The term ‘face’ is interchangeable with the term ‘typeface’.

**Family**

A type family is made up of all the widths, sizes and styles of a typeface. Helvetica, for example, includes Roman, Medium, Italic, Light, Condensed, Extended, Bold and Heavy in its family.

![Face](image)

**Font**

Originally, the term font was used to describe a type family of one size only, for example Times New Roman 10 pt (see ‘Type size’ on page 175). Since the advent of digital design, font has become interchangeable with the terms typeface and type family.

**Grotesque/ Grotesk**

In the 19th century sans serif type was commonly known as Grotesque, lineal or Gothic type. These days sans serif is the term more widely used but many typeface names still include reference to Grotesque/ Grotesk or Gothic.

**Italic**

An italic type is not mechanically slanted (i.e. forced to be italicised by selecting ‘i’ in your word processing program), rather, it is a separate version of a typeface that has been specifically designed on a slanted angle. Aldus Manutius and Francesco Griffo designed the first italic font in Venice in 1501.

**Letterform**

Letterform refers to individual type forms including symbols, numerals and icons.

**Ligature**

A ligature is formed by two or more letters being joined by a stroke or bar to produce one character, such as f and l or f and t. Ligatures originate from common letter combinations in Latin. They are often seen in script typefaces and in Scandinavian languages. When used in English, they are used to increase legibility.

**Lining and non-lining numerals**

Numerals can be identified as upper case and lower case. Lining, or upper-case numerals, adhere to the baseline.
Non-lining, or lower-case numerals, feature descenders that drop below the baseline. Not all typeface families carry both lining and non-lining numerals.

1234567890

1234567890

OpenType

OpenType fonts are suitable for use on multiple computer platforms. They are scalable fonts specifically created for use in digital design. They retain the integrity of the original typeface without becoming distorted when used across different computer platforms.

Roman

The roman form of a typeface is considered to be the standard, upright version of a font. It is sometimes referred to as the ‘parent’ type of the typeface family.

Serif

A serif is the small visual element at the end of a stroke. The serif is thought to aid the readability of a typeface and dates from Classical Rome. There are a number of serif styles including bracketed and non-bracketed serifs, slab serif, slur serif, wedge serif, hairline serif and rounded serif. Some of the most common are pictured here.

OpenType fonts are suitable for use on multiple computer platforms. They are scalable fonts specifically created for use in digital design. They retain the integrity of the original typeface without becoming distorted when used across different computer platforms.

Stroke

The main construction lines of a letterform. A has three, W has four and U has one.

Swash

A swash is the elongated entry point or exit point of a letterform usually seen in script typefaces.

Terminal

The end point of a stroke that does not finish with a serif. A terminal often has a slightly heavier visual weight to balance the letterform, for example serif versions of lower-case f and r.

DID YOU KNOW?

Type foundry

Although it sounds like a factory from the Industrial Revolution, a contemporary type foundry is a business that designs or distributes typefaces. Historically typeface foundries manufactured and sold the metal type required in typesetting. Today, digital type foundries sell typefaces online and may also distribute the work of freelance type designers.

Type classification

Categorising typefaces can be difficult. All faces have distinctive characteristics, which are known as earmarks. The distinctiveness of earmarks enables us to
distinguish between typefaces. Differentiation can be found on the upper-case Q, the upper-case G and also the ampersand (&). Other features that might assist in recognising typefaces are proportional differences; the variation between x-height (see page 176) and descenders/ascenders, for example. It takes a great deal of practice but in time you will find that you can distinguish differences between typefaces and this in turn will assist you in selecting the most appropriate typeface for your design task.

Blackletter
A heavy style, reminiscent of the ornate calligraphic style prevalent in the Middle Ages. This style was used in early type printing and is also known as Old English, Brokenletter and Gothic.

**Blackletter: Blackmoor**

**Humanist or Old Style**
First created in the 15th and 16th centuries, the classical calligraphy of the ancient Romans was the inspiration for this typographic style. Examples include Trajan, Garamond and Caslon.

**Humanist/Old Style: Garamond**

**Transitional**
Transitional typefaces have sharper serifs and a pronounced vertical axis on the curves. Baskerville is a good example of a transitional style as it has considerable width in proportion to its x-height.

**Transitional: Baskerville**

**Modern**
Designed in the 18th and 19th centuries, modern typefaces were controversial for their time. They feature strong contrasts between thick stems and thick strokes. Bodoni and Didot are notable examples.

**Modern: Bodoni & Didot**

**Slab serif (also known as Egyptian)**
Egyptian or slab serif type was introduced in the 19th century and was used extensively in poster advertising.

**Slab Serif/ Egyptian: Rockwell**

**Humanist sans serif**
Sans serif typefaces became common in the twentieth century. Many used humanist proportions and references to Classical style. Notable examples are Gill Sans and Optima.

**Humanist Sans Serif: Gill Sans**

**Geometric sans serif**
Based on the modernist principles of the Bauhaus, geometric sans serif type used geometric shapes as integral aspects of the typeface design. The use of circles and squares was common. Examples include Futura and Johnston.

**Geometric Sans Serif: Futura**

**Transitional sans serif**
The most famous of all the transitional sans serif typefaces is Helvetica. The consistently upright nature of its characters reflects earlier transitional serif typefaces. Similar fonts are Arial and Univers.

**Transitional Sans Serif: Helvetica**

**Script**
Based on calligraphic handwritten type, script faces are also known as copperplate. They are not used as body text and are most commonly used for titles on invitations or menus. Examples are Edwardian Script or Berthold Script.

**Script: Edwardian Script**

**Decorative/Graphic**
Decorative type is used for novelty and may appear on signage, invitations or advertising materials in small
Part B / Applications of Visual Communication Design

6.2 A HISTORY OF TYPOGRAPHY

Early books

In ancient civilisations, pictographic representations of language were common. Hieroglyphs, or symbolic representations, of words were used to convey meaning.

The printing of characters using carved wooden blocks can be traced back to 10th-century China, Korea and Japan. Images, symbols and Chinese characters were carved into a single block of wood and printed onto handmade paper.

Prior to the 15th century, books and documents were written by hand using ink on paper or parchment. Scribes and artists created single copies of books that were often highly ornamental and featured hand-painted images and decorative borders. Gold or silver gilding was often added, leading them to be called ‘illuminated manuscripts’. The scribes used a calligraphic style of letterform and it could take a scribe more than 20 years to produce a single book. These books were most commonly produced for the Catholic Church or for wealthy patrons. In the 14th century the earliest European universities commissioned handwritten manuscripts in this style.

Gutenberg and the printing press

Typography, as we know it, came into being around 1450. Johannes Gutenberg (1398–1468) is credited with inventing the first printing press in the West, using ‘moveable type’. Gutenberg cast individual letters from metal that could be rearranged according to the text, and used oil-based ink that adhered to metal. He was then able to print multiple copies of documents on the printing press.

Arguably, Gutenberg’s most famous printed document is the Gutenberg Bible. It was significantly cheaper and easier to produce than handwritten copies. The bible was printed in a typeface reminiscent of handwritten script. Gutenberg’s printed works featured the Blackletter typeface. This typeface was a deliberate recreation of the handwritten calligraphic style of medieval manuscripts.

Decorative: CURLZ MT

Graphic: Comic Sans

Digital type

Designed specifically for online legibility, digital fonts such as Verdana and Georgia have simple curves, increased x-height and more open forms than print typefaces.

Digital: VERDANA

Nineteenth-century lithograph of Gutenberg and his press

Corbis/Bettman

ISBN 9780170211048
Early typefaces

Following Gutenberg’s death in 1468 and the subsequent spread of his invention, printing and the use of moveable type expanded rapidly.

From the 16th century onwards, there was a proliferation of new typefaces. Though still hand-carved and then cast in metal, the new typefaces showed a consistency of width and size. Influenced by the values and artistic styles of the Renaissance, these early typefaces demonstrated key typographic principles. Many of them, including Garamond, Times and Jenson, are still in use today. Often referred to as roman, old style and humanist typefaces, these serif type families are highly legible and ensure that each character works visually with any other character. Roman typefaces refer to a classical style of letterform, most famously seen on Trajan’s Column in Rome.

Moveable type is defined by the use of individual characters or ‘glyphs’ including punctuation marks, which can then be moved about to create words and sentences. Many of the typographic terms we use today originate from the invention of this 15th-century method.
Developments in the 18th and 19th centuries

Eighteenth-century British printer William Caslon established a successful printing business with his sons, creating typefaces featuring crisp and upright elements, which appeared lighter and more refined than their roman counterparts. Across Europe, typographers such as Baskerville, Bodoni and Didot were experimenting with typographic elements to produce extreme contrasts between thick stems and slight serifs. The final results were often controversial but enduring. Driven by commercial imperatives, printers and typographers moved quickly from the calligraphic, handwritten traditions of earlier type styles and worked to, quite literally, stamp their personal mark upon type design. Many classic typefaces in use today bear the names of their creators: for example Aldus, Caslon, Baskerville, Clarendon and Bodoni.

The rise of the Industrial Revolution also influenced the design of type. The bold, highly contrasting faces of Bodoni and Didot gained traction as the power of print advertising grew. Bold letterforms on posters and signage dominated the design of advertising posters competing for attention in the growing urban landscape. Slab serifs and elongated or distorted letterforms were common. Large letterforms were often carved from wooden blocks while smaller type remained cast in metal. Dominated by serif typefaces, the first sans serif typeface was created in 1815 by William Caslon IV. Initially controversial, sans serif type can be seen on advertising posters of the 19th century, though often heavy with embellishments.

Monotype and Linotype machines were introduced in the mid-19th century and established a mechanised approach to setting type. Though complex in their functions, the machines increased efficiency and enabled lines of type to be produced more rapidly.

Twentieth-century modernism

With the growth of modernist movements in the 20th century, the clean aesthetic sensibility of modernism also influenced typographic design. In many cases, clarity and function were at the forefront of modernist typography, as modernists rejected the decorative type of the previous century. At the turn of the 20th century, the sans serif face called Franklin Gothic was created.
In 1913 Edward Johnston designed the sans serif signage of the London Underground transport system. The typeface (Johnston’s Railway Sans) was striking not only for its clarity and simplicity but also for its consistency, as few transport networks had used any consistent typography before this. Similar to other modernist type designs of the time, it uses a perfect circle as an ‘o’ and geometric squares as dots for lower-case ‘i’ and ‘j. An updated version of the Johnston typeface (New Johnston) is still used by the London Underground and has influenced the signage systems of many world cities.

Members of De Stijl in the Netherlands and Bauhaus in Munich each developed typefaces that were reduced to simple, geometric representations of letterforms. German designer Paul Renner designed Futura, a face that remains as contemporary as it was in 1927. Like Johnston, the perfect roundness of Futura’s ‘o’ strongly reflects its geometric roots. In 1928 book designer, typographer and teacher Jan Tschichold published Die Neue Typographie, a design manifesto that detailed the idea of simplicity, clarity and functionality in type design. He strongly supported the use of sans serif type and even described a preference for lower-case letters alone.

In the United Kingdom, as in Europe, the design of type rapidly embraced modernist design principles and Eric Gill, a gifted artist, sculptor and stonemason, and associate of Edward Johnston, developed his widely used Perpetua and Gill Sans to wide praise.

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Following World War II, advances in printing techniques saw the creation of phototypesetting. This enabled the printing of many more characters with more efficiency than prior typesetting methods. The advances in printing coincided with the design of many typefaces that are used today. Helvetica, designed in 1957 by Max Miedinger, remains one of the most popular sans serif typefaces of all time. It is reflective of the Swiss Style; a clean and modernist design aesthetic that evolved in Switzerland in the 1950s. Univers, designed by Adrian Frutiger also in 1957, typifies the efficient, universal appeal of the Swiss Style, although Helvetica quickly became more popular.

The 1950s and 1960s saw graphic design emerge as a separate discipline. The design and layout of printed products became a specialist area for trained designers whose expertise extended to the effective design of type.
Digital design

As computer-based design developed at the end of the 20th century, typesetting became a digital skill rather than a manual one. Computer-aided design gave designers more flexibility in the composition of type and a vast selection of new, digital typefaces. Software developments in the late 1980s, including Fontographer, enabled typefaces to be created by entirely digital means. Designers could also use vector software such as Adobe Illustrator to manipulate and distort typefaces. Ultimately, layout programs such as InDesign and Quark (also called desktop publishing or DTP), enabled designers to compose and adjust type efficiently and inexpensively.

Baseline

The baseline is the imaginary line that a typeface sits upon. Some letters, such as the O in certain typefaces, may sit slightly below the baseline. When a designer needs to adjust the position of letterforms above or below the baseline, they create what is known as a ‘baseline shift’.

Body text

Body text refers to the main areas of text in a document. Body text may also be called a text block. The selection of a typeface for body text is crucial and entirely defined by the context of the design. For example, newspapers and magazines often use serif type for body text as it is considered to be easier to read.

Case

Upper- (majuscule) and lower- (minuscule) case letters are named as such because printers using metal type kept them in the upper and lower type boxes or cases. Upper-case letters are less legible when used in body text. Combinations of upper- and lower-case letters are often known as sentence case.

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Typographic posters

www.typographicposters.com

An online showcase of contemporary typographic design, this website features designers from across the globe.
Kerning

Kerning refers to the space between individual letterforms. Some letterforms need to have the space adjusted when they are used together, for example a T and L used together have larger spacing than an M and E. The type designer kerns most commercial typefaces but design software programs allow some adjustment to kerning to improve visual appearance if required.

Leading

Leading (pronounced leding) is the distance between two lines of type. The term is derived from the strips of lead that were placed between lines of type in traditional typesetting. Leading directly affects the legibility of type and is usually set so that the eye flows easily from one line to the next. Leading is often set automatically in computer software but can be manipulated depending on the context.

Type size

Points are the units of measurement used in typography. One point is $1/72$ of an inch or 0.352 millimetres. Point refers to the height of the type block (pictured) rather than the letter itself.

Leading is the space between lines of type.
Leading affects the legibility of text.

Special cases for leading

Type without leading or with leading that is too close can interfere with the legibility of the text.

As can leading that is too far apart as the flow of the text may be too difficult for the reader to follow.

Most auto leading in computer software is set 1–2 points above the point size. For example, this sentence is set in 16 point type with 18 point leading.
X-height

The x-height of individual typefaces varies widely. Here we show three similar serif faces that have very different x-heights.

Garamond, Times New Roman and Georgia, all set at the same point size. Note that all have different x-heights. This variation should be taken into account when working with multiple typefaces in a composition.

Legibility

The purpose of typography is to communicate language. Legibility is extremely important. Type is often used for visual effect but its main purpose is to be read.

There are some effective 'rules of thumb' when considering legibility. One is to avoid using more than three typeface families in a design. Too many different typefaces can distract from the meaning of a visual message and can make a design product difficult to read.

The selection of typeface is of primary importance; the face should suit the context of the design product. It would not be suitable, for example, to set a formal document such as a financial institution's annual report in a graphic typeface such as Comic Sans. Similarly, to set an invitation to the opening of a children's play centre in a formal script would not suit the style or context of the event.

Legibility. Same menu, same text, but note the difference between the two designs. The design on the right uses two typefaces (Trajan Pro and Avenir) only; adjustments to alignment, leading and point size increase its legibility as well as its aesthetic appeal.

The use of kerning, tracking and leading are important factors in creating legible type. Especially important in body text, the distance between letters and lines of type will influence how easily a reader can follow the flow of words. Headlines and titles will often be set with greater spacing and leading to create impact and draw attention to the type.

Type and image

When type is treated as an image, legibility may take a back seat. Many designers use type purely as a graphic form to create visual impact within a composition.

Comics use type in a highly graphic way to communicate an event.
The use of shapes within the typeface and a distinctive colour serve to reinforce the environmental message of this logo.

The use of type to create imagery can be an effective way of emphasising meaning in a visual communication. The application of this approach should be defined by the context and legibility required.
Logo design

Cleverly, this motorcycle company uses type to convey the concept of a motorcycle jacket, while also creating a corporate identity in a highly graphic style.

Many logo designs use type in both legible and abstract ways. A logo that uses type alone (usually the company initials) is also known as a monogram. Using letterforms rather than images, a monogram can describe or ‘brand’ an organisation, forming its corporate identity.

Many corporations use type alone to identify their organisations. Many typefaces are described as having their own personality, derived from their appearance, historical background and common applications. In branding a business or organisation, the selection of an appropriate typeface can be a challenging and complex process.

Typography by hand

Hand lettering is an expressive and informal kind of typography that has been used in one form or another throughout time. Handwritten signage, and hand-drawn posters and flyers have been an inexpensive means of promotion. Before affordable home printers,
hand lettering was the only means of production for amateur designers. Many promotional posters for bands and independent art and design events were produced by hand.

Since 2000, the renewed interest in handmade design products has seen a similar resurgence in this kind of typography. As a contrast to a perceived sameness in computer-aided design, some designers have developed expressive and unique work using combinations of media and handwritten type. Contemporary handwritten type can often be seen on clothing, editorial illustrations and promotional posters.

‘We designed a poster announcing the new album of Lou Reed. The lyrics are extremely personal. We tried to show this by writing those lyrics directly over his face.’ Art direction and design by Stefan Sagmeister, and photography by Timothy Greenfield Sanders, for Warner Bros Music Inc. Size 680 mm x 984 mm. Date 1996

Poster for Sydney Dance Company by Frost Design. Vince Frost, Creative Director – Frost Design; Caroline Cox, Designer – Frost Design; Jeff Busby, Photographer

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Typographica

www.typographica.org

An online review of typefaces and type-related publications. It also includes articles and commentary on type design.
You use type creatively in your work, including some traditional type/printing processes. Can you explain what these are and how you have used them?

Several projects I have worked on for clients such as bookbinders, in the past, have lent themselves to traditional printing processes because they easily align with the notion of craft and quality. Letterpress is a printing process that reached its peak during the mid 19th century, before it was phased out in the face of more expedient methods. Many aspects of design are trend driven, and the revival of craft letterpress is a great example of this. For whatever reason (perhaps as a revolt against the influx of digital media), people started craving bespoke, tactile printing. It is ironic that back in its heyday, deep impressions (marks from metal type hitting the paper in the press) were seen as an imperfection, whereas now they are one of the defining characteristics people seek from it.

What is it about typographic traditions that inspire you?

Like a lot of design theory, I believe in learning the rules before you break them. With the wealth of typographic history, dating back to Gutenburg’s invention of movable type in the 1400s, it is important to look back in order to understand how we got to this point. Looking ahead, I am inspired by the prospect of new platforms such as the Internet and digital media that are very much in their infancy. It is a great opportunity to break new ground, try new things, make mistakes (and learn from them).

What considerations do print designers have to take into account when designing for online content?

The most common mistake is the assumption that content designed for print can simply be transposed into a digital medium. While they can appear the same on the surface, it’s important to understand that people don’t digest digital content in the same way they do with static printed material. There are so many extra levels of interaction and interfaces when dealing with online content, which the designer needs to take into consideration.
Some of your design work makes use of interesting materials and media. How do you make decisions about the choice of materials you use, for example stock type? I see the physicality of print as an opportunity to reinforce content. Sometimes the decision of stock/technique can be more obvious. For example, if you are designing a set of wedding invites, it might lend itself to an off-white stock with a premium finish such as a foil or emboss. Other times, there is an opportunity to surprise people with something they didn’t expect. Either way, I think it is important that these considerations are integrated into the process from an early stage, as you ultimately end up with a more coherent solution.

What are some of your strongest design influences and how do these have an impact on your design work? When I first started studying design, it was helpful to be able to identify which designers and what work I gravitated towards, partly because I wanted to emulate it but also because it helped me to develop a better understanding of my own aesthetic. To be able to dissect a piece of communication and express why it is/isn’t successful is a very useful and necessary tool for professional practice. I tend to think there is more value in looking outside of the industry for inspiration. In general, I would argue that some of the more successful designers are those who look in unexpected areas. Art, science, whatever, anything that inspires or motivates you has the potential to inform your work in an innovative way; the key is being able to find it.
6.4 DIGITAL DESIGN

Working with digital type

Working with type in a digital context requires different considerations to working with type in print. The nature of type on screen means that some typefaces that work perfectly well in print, can appear to be distorted on screen.

As with any design, it is important to establish the end use of the design product before making a decision about which typeface to use.

Screen resolution is usually between 72 ppi (pixels per inch) and 96 ppi (pixels per inch) that means type can appear jagged (or pixelated) on screen.

There are many typefaces available designed specifically for screen use. Type families such as Calibri, Tahoma and Verdana (sans serif), Cambria and Georgia (serif) were created to help legibility on screen. These typefaces have expanded counters, wider tracking and increased x-height to increase readability and reduce the fatigue experienced by the reader. They are versatile typefaces that can also be used in print design.

CoolType (Adobe), ClearType (Microsoft) and Quartz (Apple) are type software technologies used in e-books and on mobile devices, including laptops and touch-screen products. These typefaces are purpose designed and increase the intensity and resolution of screen pixels to improve readability.

Web designers have traditionally had limited typefaces to choose from and were restricted to the use of ‘web-safe fonts’. In order to display typographic images, type was included as a graphic such as a jpeg. With sophisticated developments in programming languages, it is now possible to design web pages with a wider selection of fonts.

Working with digital images

There are two image types that you will work with in the digital area: vector images and raster images.

Vector images are mathematically defined images that consist of lines and curves. Formed in programs such as Illustrator, Corel Draw and Freehand, vector images are sometimes known as object-oriented images. This is due to the ability to move and manipulate entire lines, shapes and curves independently of other image elements. Vector images are not affected by resolution and can be resized with minimal loss of image quality. Common uses for vector images are logos, symbols, illustrations and diagrams.

Raster images (also known as bitmap images) use a grid (or raster) of small squares of data known as pixels to create images. The term pixel is based on the words ‘picture’ and ‘element’, and refers to the smallest element of visual information on a computer monitor. Unlike the shapes, lines and curves of vector images, bitmap images can be edited pixel by pixel, or in groups of pixels. Popular pixel-based editing programs are Photoshop, Painter and Paint Shop Pro. Refer to Chapter 2 for examples of raster and vector images.

Many bitmap and vector-based programs can be used together to create documents and presentations using both image methods. Programs such as Flash support both vector and raster images.

Type design on screen

+ Experiment with type; don’t limit your use of type on screen but make sure that you test the effectiveness of a typeface prior to digital publication.
+ Significant contrast can make type hard to read and the viewer can experience eyestrain.
+ The use of colour is important; black text on a white or very light grey background is easiest to read.
+ Select a typeface that is effective but legible.
+ Remember that on-screen type is not linear like a book. It can direct and divert the viewer as an interactive element.

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Art of the title

www.artofthetitle.com

Offers analysis of film and TV title design. Screenshots and video explain the use of images and typography, and in-depth interviews with the creators offer insights into the creative process behind them.
Anti-aliasing

Pixels are squares of digital information, and it can be difficult to create smooth curves or rounded edges with square elements. Consequently, many bitmap software programs feature an option called anti-aliasing. Anti-aliasing creates an illusion of smoothness by adding small graduated areas of colour similar to that of the surrounding pixels. This tricks the eye into seeing pixels that are smooth, and is helpful when applying text in bitmap (raster) programs.

Preparing images

Before using a digital camera or scanner, it is essential to have a clear idea of the end use of the proposed images. Are they to be used as part of a full-colour, printed final presentation? Are they for use on a CD-ROM or website? The end use of the images will dictate the resolution you need and the type of image file required.

Resolution

The higher the resolution of an image is, the higher the quality. Image resolution is commonly referred to in pixels per inch (ppi) which indicates the number of pixels of information that are represented within an inch of image space. Artwork that will be printed, either professionally or on an inkjet printer, needs to be of a high resolution. For the Visual Communication Design course, a resolution higher than 300 ppi is not generally required for final presentations. An image scanned at 300 ppi can comfortably be enlarged to at least three times its size without losing any sharpness or clarity. An image created in Photoshop at 300 ppi with an image size of 210 mm x 297 mm, for instance, can be enlarged to 630 mm x 900 mm with minimal loss of quality.

Images that are to be used mainly for web-based or screen-based purposes, such as web pages and digital presentations, have resolutions of 72 or 75 ppi. Images scanned or created at 72 ppi are not suitable for printing because they lack the sharpness and detail of higher-resolution images. The advantage of low-resolution images, however, is that they are fast to download and view online, or send via email because of their smaller file size.

DID YOU KNOW?

The difference between PPI and DPI

PPI (pixels per inch) refers to pixels within an image and is related to screen resolution. For example, a 300 ppi image contains 300 pixels in each inch of image size. It is the preferred term when referring to the quality of an image.

DPI (dots per inch) is related to the printing of images using a printer. Generally a printer uses four or more coloured inks to recreate images. Each pixel of the screen image is created by a series of tiny ink dots. A 1200 dpi printer, for example, will print 1200 dots of ink per inch of image. The higher the dpi, the better the print quality; however, the printer will use more ink and the print will take longer to execute.

Note that images created at a low resolution such as 72 ppi cannot have pixels ‘added’ later to create a higher-resolution image, as the ‘extra’ digital data simply doesn’t exist. This is why it is vitally important to establish the end purpose and subsequently the resolution of your images before you start.

Image size

It is possible to increase image resolution by adjusting image size. If you scan an A4 image (210 mm x 297 mm) at 72 ppi but plan to print it at a size of 70 mm x 100 mm, it is possible to reduce the size and increase the resolution to gain a higher-quality image, suitable for print. This is an important technique to use with digital camera images that are only 72 ppi but very large in actual image size.

Resizing images

You can usually use a rule of thirds when resizing images and increasing resolution. Reduce the size of a 72 ppi image by one-third and increase the resolution by one-third. It is best to do this with large jpeg files, however, as small files will not contain enough pixels to work with.
Image types

You will come across a number of common image types in your study and in your use of the Internet. Each of the types has one or more distinct applications. Your choice of image type will be determined by the intended use of the image itself.

<table>
<thead>
<tr>
<th>Image type</th>
<th>Use</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIFF</td>
<td>Print</td>
<td>This is one of the main formats for preparing graphics for print and publication. TIFF files retain the maximum amount of visual information and consequently maintain a large file size.</td>
</tr>
<tr>
<td>JPEG</td>
<td>Web (and print if high quality)</td>
<td>A popular web graphics format. Although JPEG files are compressed (which causes some loss of quality) they are a good format for high-quality images that need to be emailed or published electronically. JPEG files are often smaller in size and this can be adjusted by altering the quality in a program such as Photoshop or Image Ready.</td>
</tr>
<tr>
<td>GIF</td>
<td>Web</td>
<td>A standard format for web graphics such as icons, toolbars and thumbnail images. GIF files contain minimal visual information and exist in a highly compressed format so their file size is very small.</td>
</tr>
<tr>
<td>EPS</td>
<td>Print</td>
<td>A file type preferred by commercial printing companies that print publications on very high-resolution printers. PostScript is a vector language used in desktop publishing software such as InDesign and QuarkXPress, and it treats all images, including fonts, as objects rather than bitmaps.</td>
</tr>
<tr>
<td>PDF</td>
<td>Print and web</td>
<td>A proprietary Adobe format that is created and/or read in Adobe Acrobat. A PDF file enables a document to be compressed, sent, viewed and printed electronically without any loss of the original format, fonts or graphics. Many commercial printers prefer files submitted as PDF format.</td>
</tr>
<tr>
<td>BMP</td>
<td>Print and web</td>
<td>A file format for saving high-quality bitmap images, originally designed for Microsoft Windows systems. A BMP file is similar in type and file size to a TIFF.</td>
</tr>
<tr>
<td>PICT</td>
<td>Print and web</td>
<td>A high-quality proprietary Macintosh file type designed for use on Macintosh machines.</td>
</tr>
</tbody>
</table>

Colour management

There are several colour modes that apply to digital images and, as with resolution, it is helpful to know the purpose of the artwork in order to identify the most appropriate mode of colour.

CMYK: Cyan Magenta Yellow Black

If you are creating images and presentations for commercial print production, you will need to save your images in CMYK mode (see page xxx). Many home inkjet printers also use four separate ink cartridges to produce image colour. RGB images can be converted to CMYK but some colour change is likely to occur. CMYK is a subtractive colour mode and is also referred to as four colour and process colour.

RGB: Red Green Blue

RGB colour is used for screen and digital designs where professional printing is not the desired final outcome. Varying amounts of red, green and blue light creates RGB colour. RGB mode is used on digital devices such as computer monitors, laptops and mobile devices. RGB is an additive colour mode.

Web safe colours

There are 216 RGB colours that are considered ‘web safe’. This means that colours used on a website (or other presentation designed for viewing on a computer monitor) are guaranteed to appear as intended.
As computer users have monitors adjusted to different colour settings, the web safe colours provide for the most basic setting. You can use a myriad of RGB colour combinations, but there is no guarantee that every user will view them in the same way, due to differences in device quality. Each of the web-safe colours is identified by a hexadecimal code; for example, a bright red may have an RGB value of R255 G0 B0 and a hexadecimal code of #FF0000. This code is used in HyperText Markup Language (HTML), the code used to create web content, to identify colour.

Making the right choices

As mentioned earlier, it is important to know the context in which your digital work will be used, so that you can plan ahead. There is nothing worse than spending hours on an image, only to find that the resolution is not good enough to print or that your colour mode is incorrect.

Be aware of image sizes when downloading images from the Internet to use in your design work. Make sure they are large enough to print them if you wish to. It is possible to adjust your image search to ‘large’ to find images of better quality. When downloading images, remember to attribute the source of your images (see chapter 11).

<table>
<thead>
<tr>
<th>Planned use</th>
<th>Suggested resolution</th>
<th>Suggested colour mode</th>
<th>Suggested file format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artwork for full-colour printing</td>
<td>300+ ppi*</td>
<td>CMYK or PMS/Spot colours</td>
<td>TIFF, EPS or PDF (or large, high-quality JPEG)</td>
</tr>
<tr>
<td>Black and white for printing</td>
<td>150+ ppi</td>
<td>Greyscale</td>
<td>TIFF, EPS or PDF (or large, high-quality JPEG)</td>
</tr>
<tr>
<td>Simple web graphics such as icons and buttons</td>
<td>72–75 ppi</td>
<td>Indexed colour or RGB</td>
<td>GIF</td>
</tr>
<tr>
<td>Detailed, photo-realistic graphics such as large images for use on the Internet</td>
<td>72–75 ppi</td>
<td>RGB</td>
<td>JPEG</td>
</tr>
<tr>
<td>Graphics for digital presentations such as PowerPoint, video, etc.</td>
<td>72 ppi</td>
<td>RGB</td>
<td>JPEG</td>
</tr>
</tbody>
</table>

*Pixels Per Inch

6.5 COMPOSITION AND LAYOUT

In both digital and print, composition refers to the layout of type, image, design elements and principles in a space. The effective placement of content such as text and images and the organisation of visual information involve considerable planning.

Grid

When creating a composition, the application of type, image and other visual elements is often managed within a visual ‘grid’. A grid is an invisible structure that supports the layout of print and digital content. A designer will use a grid to create hierarchy within a design composition and to delineate the placement of text and image. Grids can be seen in newspapers, magazines, web pages and even mobile devices. The grid can be a powerful tool when used well; it can draw the eye through a composition and create strong visual relationships between type and imagery.

Columns

Columns provide a sense of order in a design. They are vertical ‘containers’ that hold text and visual elements. The width and number of columns in a composition is established in the planning stages.

Flowlines

These are the horizontal grid lines that define areas for the placement of type and images. The combination of column and flowline creates the modules of the grid.

Gutter

The gutter refers to the spacing between columns. It is also used to describe the space between pages, near the binding, in a book or magazine.

Margins

Margins are the white space that surrounds a composition and separates the design/ artwork from
The main components of a grid:

- **Column**
- **Margin**
- **Module**
- **Gutter**
- **Marker**
- **Flowlines**
- **Spatial zone**

Some common grid formats:

- Single-column grid
- Two-column grid
- Multiple-column grid
- Modular grid
- Hierarchical grid

The edge of the composition. Printed compositions allow enough space in the margins for the page to be cut (trimmed).

**Marker**

A marker is a repeating element that assists navigation on a page. It may be a page number, footer or even an icon.

**Modules**

Modules are the grid areas defined by the columns and flowlines. These are the spaces that may contain text or images. Multiple modules create spatial zones. Interestingly, many striking designs have been created by designers ‘breaking’ the grid. This involves challenging the ‘rules’ of composition while maintaining visual balance and harmony.
Alignment

Alignment is the placement of elements in relation to one another. When using word-processing software, you may have used the text alignment tools, which enable you to justify (align) your text to the left, right or centre of your page. These tools can give your text and images a sense of order and organisation that keeps the message clear. Alignment tools exist in all graphics software packages.

Effective use of alignment demonstrates that your composition is organised and implies that elements have relationships with other elements and images. Establishing a relationship between elements helps to lead a viewer’s eye to – and through – your design. Elements and images placed without organisation will appear lost and unrelated to the composition.

TECH TIP

Layout software is ideal for creating your composition but it is possible to create equally effective grids using standard word-processing software. Use a table to form a grid and insert images and text into cells. You can hide the outlines of the table and adjust margins to form your compositional grid.
Option 1: ‘Photo-typo-alphabet’

Collect examples of type in your local environment to create a graphic alphabet. Put your images together using software such as Photoshop or InDesign. Using the most effective image as the inspiration point, develop your own, unique typeface using a vector program such as Adobe Illustrator.

Option 2: A festival of type

Redesign the typeface of an existing music festival or concert. Start by using photography to create a strong background image. Use this image and typefaces of your choice to create a large format poster and ticket design.

Option 3: Type for every day

Create a ‘four seasons’ desk calendar with a combination of type and found images. Use techniques such as collage and freehand drawing to design images, and create a visual relationship between image and type, for each of the four seasons and for the calendar cover.

Option 4: Judge the book

Select a favourite book series and design the book covers for it using type and image. Create a visual relationship between each cover through the creative use of type and other design elements and principles.

Option 5: Type in the news

Create the background imagery for the newsreader of the evening news. Observe the graphics used on nightly news services to communicate a news story. Use type and found imagery (using correct attribution methods) to create a series of three designs.

Option 6: Type in publication

Design a typeface for the cover of a new magazine of your choice, or re-design an existing special interest publication. Create the front cover design using both type and imagery. Research existing magazine covers to assist in planning the hierarchy of visual information. Additionally, create a double-page spread for a feature article in the magazine. Create a grid layout and add the title and body text as well as suitable photographic images or vector illustrations.

Resources for typography are available in the Nelson Visual Communication Design VCE Units 1–4 Workbook.