Purpose of this guide

This booklet provides a summary of the key information for citing and referencing, for students in the School of Biological Sciences. We have prepared this to give you a single source of information, outlining the referencing standards that we expect. This applies to all pieces of coursework where you are including references.

Why you need to include citations and references

Scientific writing relies on using information and ideas that have been presented and published by other people. It is essential that you appropriately and accurately cite your sources, in all your written assignments. This is part of your training in becoming a scientist, and gaining your degree. By including citations and references, your readers will be informed of the sources of your material. This will enable them to check the original information for themselves, if they wish. Referencing also provides an acknowledgement that you have used the ideas or information from other people, in your work. Failure to do so may constitute plagiarism. You must acknowledge your sources for every instance where you’ve included information or ideas generated by others, whether that came from a printed document, an online source or some verbal or other form of communication.

Academic journals and papers

The most important way in which biologists tell other biologists about their work is by publishing articles (“papers” or “manuscripts”) in scientific journals. These journals are collectively known as the “scientific literature” or simply “the literature”, and so scientists will often say they are “doing a literature search” when they are researching a topic. Two of the oldest and most famous scientific journals are called simply Science and Nature, but there are thousands more, and they often (helpfully) have the word “journal” somewhere in their title. Although nowadays these are read online, scientific journals were traditionally published (and are still kept in some libraries) as weekly or monthly magazines. Each magazine is called an “issue”, and all of the issues in a year are collected into a “volume”. These terms persist, even though hardly anyone reads contemporary journal articles on paper any more.

There is a crucial distinction between work published in scientific journals and other scientific material that you might find on the internet. A journal article is written by biologists, for biologists, and it has been checked by other biologists in a process called “peer-review” to make sure it conforms to certain standards. Everything else that you might find on the internet depends on it. It is, therefore, always better to read and cite a journal article than any other kind of document, not least because Royal Holloway pays to subscribe to many journals so you can read them from a computer on campus or through the CampusAnywhere VPN.
When you search for and find a piece of scientific writing on the internet it may not be clear to you whether it is a journal article or not. For instance, if you Google a general medical topic (e.g. “the causes of anemia”) the top results are much more likely to come from a governmental website than from the scientific literature. On the other hand, specialized academic search engines such as Google Scholar, PubMed or Web of Science will return scientific papers. For example, if you search for “causes of anemia” on Google Scholar then the top result is a paper entitled “Prevalence and causes of anemia in the United States, 1976 to 1980” that was published in The American Journal of Clinical Nutrition.

There are four important kinds of writing that you might find in a journal, although not every journal publishes all four. Only the first two are counted as belonging fully to the scientific literature, because it is only they that are peer-reviewed. Primary research papers are written by biologists to describe the results of original experiments and observations. These are the original building blocks of biology, and are considered by scientists to be the most important kind of article. Reviews are written by biologists not to describe new results but to offer a survey of a field from a particular perspective. They are similar to miniature textbooks, or essays, and used to be called “monographs” to indicate their precise focus on one subject. The third kind of writing is often called News and Views, because that is what these pieces are called in Nature. These pieces, again written by professional biologists, are a review of a single primary research paper that is usually to be found elsewhere in the issue. They are often useful and interesting to read, but they are not peer-reviewed and are not part of the scientific literature. Finally, in some of the most famous journals, you may find straightforward news pieces. These are written by scientific journalists, not by professional biologists, and are most definitely not part of the scientific literature (although they are often of great interest.)

What do I need to cite?

You should cite the original source material that reports that fact or idea that you are including in your essay. In most cases, this will be a primary research paper, where the work was carried out that demonstrated the observation you’re reporting or commenting on. You can also use review articles, but should indicate where this is the case. Review articles are useful for gaining a broad understanding of a topic, and as a condensed source of information. For final year studies, you should also be looking back at the primary research papers rather than solely relying on the review author’s opinion on a topic.

Many primary research articles contain a summary of background information in the Introduction to their paper. If you wish to include some of that background information in your essay, you should look at the papers that are referenced in the article, and then cite those. If you really can’t access the relevant paper, then you should refer to the information as a secondary reference (see below).

The most reliable sources of information for scientists are published scientific manuscripts. These are published in peer-reviewed academic journals, and can be found through searches on PubMed, Google Scholar or Web of Science. By the final year of your degree, the vast majority of your references should be from this class of material, with a mix of primary research articles and review...
papers. Text books can provide a useful starting point to help understand a subject, but are generally less up-to-date and less detailed than scientific manuscripts, so should be referred to only sparingly. It is acceptable to use the occasional reference to websites for providing general information on a topic, provided this is generated by a well-known organisation, such as the Government or a large charity. You should not cite other websites, including Wikipedia or chat forums, although you will often find useful references to scientific papers at the end of a Wikipedia entry.

There are two steps to referencing your sources. You need to provide a citation in the text, after each statement that uses information/ideas that come from other people’s work. You also need to provide a list of your sources at the end, in the form of the Reference List.

Various referencing styles are used in different places. The style that we wish students to adopt is a version of the “Harvard style” of referencing. This guide helps to summarise what we expect from students, for all coursework essays produced for the School of Biological Sciences.
Citations within the text

Every statement of fact or idea that is taken from someone else’s work must include the appropriate citation, usually at the end of that sentence. The citation should be in the form (Author, Year), where the author’s surname is given with the year of publication. Note that only the surname is used, without the first name or initials. There are a number of rules on exactly how to do this, depending on the number of authors. Note that where a fact is common knowledge (for example, chlorophyll is green; DNA is the genetic material), then no citation is required.

Citing a single-author source

If there is only one author, then this is very simple; the format will be: (Author, Year). For example:

Animal parasites have great diversity and varied ecology (Lewis, 2015).

The citation doesn’t need to be at the end of the sentence; you could refer to the author as the subject of the sentence. For example:

Lewis (2015) has provided a comprehensive review of animal parasites, detailing their great diversity and varied ecology.

Citing a source with two authors

If there are two authors, then give both author’s surnames, with the year. For example:

Ubeda and Gardner (2015) have demonstrated that kinship theory, rather than coadaptation theory, can best explain the outcome from breeding experiments with Grb10 mouse knockouts.

Or,

Analysis of data from Grb10 mouse knockout studies shows that the results can be explained by kinship theory (Ubeda & Gardner, 2015).

Citing a source with three or more authors

If there are three or more authors, then give just the first author, followed by et al. The et al. is derived from the Latin for “and others”, so should be in italics. For example,

Analysis of gas exchange through eggshell has ruled out the hypothesis that increased gas exchange might explain the rapid development of cuckoo embryos (Portugal et al., 2014).

Or,

Portugal et al. (2014) analysed gas exchange through cuckoo’s eggshells.
Citing more than one text from the same author and year

If you need to cite articles that are written by the same author and published in the same year, then differentiate between them with lowercase letters, using “a” for the first paper referred to in the text, “b” for the next, and so on. The letters should also be included in the reference list. For example:

Antisense oligonucleotides are being optimized to allow exon skipping of Duchenne muscular dystrophy (Popplewell et al., 2012a; Popplewell et al., 2012b).

Citing from chapters of a book

If you cite from different chapters of a book where the whole book is written by one person, then you cite that person. But if the different chapters are written by different people, then you should cite the name of the author for that chapter.

Secondary referencing

If you refer to a statement that is referenced in someone else’s work, then you are giving a secondary reference. This should be avoided, as it is much better to obtain and read the original material yourself. If you really must include a secondary reference (for instance, if the original source is no longer available) then you need to include the citation of the secondary source, indicating that you are referring to work they have cited. For example:

According to Strong and Hollander (1949), as cited by (Murdoch et al., 2001), the loop-tail mouse mutant arose spontaneously during breeding of the A-strain of house mice.

Citing a direct quotation

Direct quotations are widespread in the humanities but should be avoided within scientific writing. Practically the only time you should do it is to quote a famous scientist of the past in the introduction or conclusion of your essay. For example:

As Louis Pasteur once said, “Dans les champs de l'observation le hasard ne favorise que les esprits préparés.” (Pasteur, 1854).

Citing an image/picture/diagram/graph etc

If you use any form of image taken from elsewhere, then you should treat this as a direct quote, and provide appropriate referencing. You should give a citation within the text when you refer to the
figure, and also include a citation within the figure legend. If you modify the image at all, indicate this in the citation, by including the phrase “modified from” before the citation.

**Citing from anonymous sources**

On occasion you may wish to cite from a source where there is no author name. If the source is a recognized company or organisation, then you could create an author name that reflects this. For instance, if you found the following information on the Alzheimer’s Society webpage but which has no named author, you would include a citation like this:

> It is estimated that there are 850,000 people with dementia in the UK in 2015, and this is expected to rise to 1 million by 2025 (Alzheimer’s Society, 2015).

Citing from unnamed sources on websites for well-known organisations (such as the Government or a big charity) is acceptable. However, you should avoid citing unnamed sources from somewhere other than a well-known organisation, as these are likely to be unreliable!

**Where do I put the citation?**

Every statement of fact or idea that is taken from someone else’s work must include the appropriate citation. The citation is often included at the end of the sentence, but may also be included earlier in the sentence, as in several of the examples given. However, the citation must be within the sentence to which it refers. This is important. You will find that an essay that is full of information will also be full of citations, and you are likely to produce an essay with citations throughout each paragraph. This may initially seem to make your essay stilted and cumbersome, but this is the correct academic standard for scientists. Do not simply lump the citations at the end of the paragraph. You may need to include the same citation several times within the paragraph, if you make statements that are based repeatedly on the same piece of work.

**Including more than one citation**

You can have more than one citation at the end of a sentence, relating to the same information. In this case, provide the citations in ascending publication date, so the oldest references are cited first. For example:

> Approximately 40% of babies born with the most serious congenital heart defects die in infancy (Moller *et al.*, 1993; Yoon *et al.*, 2001; Hoffman & Kaplan, 2002; Pierpont *et al.*, 2007; Gilboa *et al.*, 2010; Mathews & MacDorman, 2013).
Prefering the Reference List

Every article or source material that you include as a citation should be listed in your reference list. Only those articles that you have included as a citation should be listed; do not include other material that you may have read while doing your research but did not subsequently cite within your finished essay. Using reference managing software can be a great help with keeping track of this, particularly with longer essays.

For every reference, you need, essentially, to provide four key bits of information:

1. Author or editor
2. Date of publication/broadcast/recording
3. Title of the item
4. Exactly where the item can be found, which will be the journal or book details, or the website.

The majority of your references are likely to be for published scientific papers. These have a set format for referencing. Other references may be for books, or chapters from books, or websites. Each of these will be dealt with in turn, to provide information on how to present the references.

What is the difference between a Reference List and a Bibliography?

In general you will be expected to generate a Reference List for your work, which is a list of all the items that you have cited in the text, and only the items you have cited in the text. But there may be occasions when you want to include a list of additional sources that you have consulted for your work, but have not cited. These would form a Bibliography. Items in the bibliography would be listed alphabetically and formatted in the same way as the reference list. Most often, you will need only the reference list, not a bibliography.
Formatting styles for the most common types of references

Accurate and complete referencing is important. The precise information and format you require will vary, for different types of source material. The most common types are listed below, with examples of each. Remember that your references will all be compiled together to create a single Reference List (as in the example at the end of this document). The most common article that you will include will be journal articles.

Journal articles

These can be primary research articles or review articles, but the format will be the same. Note that you need to give all the authors of the paper. You need to provide the information in the format:

Surname, Initials. (Year) Title of article. Journal name. Volume number, first-last page numbers.

For example:


The formatting of your references is important. Provide all authors, with initials but not first names; the year of publication is given in brackets; the journal name is in italics, with volume number in bold and the page range provided. Slight variations on this format that are acceptable include omitting the brackets around the year, and omitting full stops after each initial. Please do not include p or pp before page numbers, and do not include quotation marks around the title. Do not include the issue number. Journal names can be written out in full, or abbreviated (but you must be consistent). The formatting of your reference list must be entirely consistent throughout; again, reference managing software can help substantially.

Journal article: online/electronic

There is becoming less distinction between printed and online journals, as many printed journals are now also available online. It is unnecessary to state that the journal is found online, and we do not want you to put in any “access date”. However, it can be useful to include the DOI, after the traditional volume number and page number reference, as this provides a rapid way of retrieving the article. Online journals tend only to give the starting page number.


For example, if I have cited a paper about RNA-sequencing in honey bees (Manfredini et al., 2015), the full reference would be:

Journals that are purely online may have e to denote the electronic paging, such as this:


**Book: in print**

Surname, Initials. (Year) *Title of book*. Edition (if not first), Publisher


**Book: online/electronic**

Surname, Initials. (Year) *Title of book*. Edition (if not first), Publisher, Available from: URL. [Date accessed]


**Book: chapter in an edited book**

If you wish to cite from the chapter of a book, where the chapters are written by someone other than the editor, then you need to give both the details of the author of the chapter, and the editor(s) of the book.


For example, to cite that Copp et al (2006) published a summary of mouse mutants within the book about neural tube defects, the reference would be:

**Web page/website**

Surname, Initials. (Year) *Title of article*. [online] Available from: URL [Date of access]

Information on the web often does not have a named author. If that is the case, you can use the name of the organisation or company as the author. But beware of citing anonymous material from dubious websites, and avoid Wikipedia altogether. It is acceptable to use a website from a Governmental department or large charity, but others are best avoided.

The year refers to the date of publication; if none is given, then insert n.d.


**Personal Communication**

It is sometimes necessary to cite some information that has been communicated only verbally, or informally; this forms a personal communication. In the text, you would cite as (Author, Pers. Comm.). This is then included in the reference list as:

Surname, Initials. Professional occupation. (Personal communication, date provided)

For example;

Purse, F. Teaching lab technician. (Personal communication, June 15th 2016).

**Lecture/presentation**

You should rarely need to cite a lecture or other presentation, as you are expected to search out the relevant published material. If you do, the format to use is:

Surname, Initials (Year). *Title of lecture*. [Lecture/presentation] Title of course (if appropriate). Name of institution/location. Date of presentation.

Reference list

When you compile your reference list, all the different types of sources are put together, in a single list. This must be organised alphabetically by author surname, not in order of appearance in your essay.

The reference list below includes all the references to the citations and examples given in this document. The majority of references in the list below are journal articles, but there are also examples of each of the other formats.

If you are using a reference managing software tool, then select an output format that conforms to this as closely as possible. You can usually edit the software settings to get this to work perfectly. Do not just pick a random setting as many are inappropriate.

The list below has been generated in EndNote using the output style “Glob Ecol Biogeogr”, as this provides the correct format both for the citations and the reference list. But even when using referencing software, do look through your reference list, as occasionally glitches can occur. The referencing tool will only be able to output the information to the same standard as the data were inputted. It’s well worth investing time in learning how to use the referencing software, to import references electronically. Many different referencing software tools are available, and you may find some easier to use than others. The Library supports the RefWorks software and hands-on training courses are available to help you get started with this software tool: please ask the library staff about this. If using RefWorks, please use the “Global Ecology and Biogeography” journal type to generate your citations and reference list, as this should produce the format we want for work submitted to SBS. Whichever software you use, please ensure you conform to the citation and referencing format set out in this document.
Reference List


