UNIVERSITY OF
Southampton
School of Electronics
and Computer Science

COMP1205
Formal Technical Reports, Referencing and Academic Integrity

Hugh Davis hcd@soton.ac.uk
(and Nick Gibbons, Andy Gravell and Su White)

" Last week I read something in the Guardian that said that tea was nothing like as popular a drink as it used to be. Apparently the general public think that is not particularly satisfying, and show an increasing preference for coffee. Certainly it looks that way in my office, although maybe coke is more hip. But it occurs to me that there could be a number of reasons, other than change in taste, for this decrease in popularity. Perhaps the quality of the tea has changed? Or perhaps people have forgotten how to make tea properly?

Certainly one of the things that bugs me is the American custom, when you order a tea, of bringing you a cup of hot (but certainly no longer boiling) water, and a selection of tea bags; the Americans are so obsessed by choice that they have forgotten taste. So I decided to conduct a survey. I made two cups of tea for everyone in the office – one from a big pot of tea, and for the other I put hot water into the tea cups, and tea bags on the saucer. Three quarters of the people expressed a firm preference for the tea from the pot, and no-one preferred the tea bag in the cup.

This certainly shows that one of the reasons people are going off tea is that it is often badly made. "

What's this?

This Week

In this lecture we will talk about
- Technical Reports
- How to correctly cite and reference the work of other people
- (and thus how to maintain "Academic Integrity")

In this week's activities you will
- Practice marking other people's technical reports
- Learn some standard conventions for citing and referencing
- Understand the Academic Integrity rules **and take the AI test on-line. (deadline next Monday)**

Technical Report Writing – Basic Principles

- The purpose of a technical report is to communicate.

- You wish to communicate:
  - What you did
  - Why you did it
  - What you have found out

Before Getting Started

- You wish to communicate "What you have found out". If you didn't find anything out : STOP NOW!
- Most technical reports are intended as communication of new knowledge.
  "I had this hypothesis and I tested it like this; here are my results and this is what we learn from them"
- BUT as a student you are asked to write technical reports about things that you know that the person who reads it (the marker) will already know. Don't worry – your marker is not your audience (see later) – and your task is still to express what *you* found out.

What Sort of report are you producing?

- Lab Report
- Blog
- Magazine Article
- Essay
- **Technical Report <-** what this lecture is about
- Technical reports may be:
  - Academic Papers
  - Industry "White Papers"
  - Description of a project undertaken

  - And they may be published on paper or on-line. The rules do not change.

Who are you writing for?

Lab Report	
University Coursework	
Third Year Project	
PhD Thesis	
Published Scientific Paper	
Magazine Article	

Who is writing this report?

- The convention is to write everything in the third person (objectively, not subjectively)
- This does not apply to Blogs and Magazine articles which are often intentionally subjective
- Can lead to unpleasant use of passive voice. Compare
  - "I did a survey of one hundred web sites to ascertain…."
  - "One Hundred web sites were surveyed to ascertain…."
  - "The author surveyed one hundred web sites to ascertain…."
- Some "expert writers" break the rules – just as some expert artists break the rules. In both cases you need to make sure you know how to do the job "properly" before you try!

Technical Report Structure

Title Page	Name, affiliation, date, contact details, etc.
Declaration	Who did this work?
Acknowledgement	People who have helped or influenced your work
Contents	Sections, sub-sections and page numbers (probably not sub-sub-sections)
Abstract	Stand-alone summary of report
Introduction	Provides the motivation and context and outlines other related work
Main Body	Theory, experimental method, results, discussion
Conclusions	Including appropriate future work
References	Works that you have cited
Bibliography	Sources of further information
Appendices	Anything which would interfere with the continuity of the main report (typically detail)

The Abstract

- must be stand-alone
- must not contain citations
- is a concise summary – not a précis.
- **IS VERY IMPORTANT**

- Generally an abstract should be four or five sentences.
    1. What is the problem, and why is it a problem?
    2. What is your suggested solution?
    3. What results did you get?
    4. Why is that useful?

- It's a good idea to write the abstract before you begin (even if you re-write it after you finish)

Engineering Village

Search History - Selected Records - My Profile - My Alerts

End Session

Tags + Groups | Easy Search | Quick Search | Expert Search | Thesaurus | Ask an Expert | Help

Search Results | New Search

Next Page ▶

Abstract - Detailed

Blog This | E-Mail | Print | Download | Save to Folder

Record 1 from Inspec for: ((Shadbolt, N) WN AU), 1969-2008

Check record to add to Selected Records

☐ 1.

Accession number:	8573653
Title:	**Ontology-mediated distributed decision support for breast cancer**
Authors:	Dasmahapatra, S.[1] ; Dupplaw, D.[1] ; Hu, B.[1] ; Lewis, P.[1] ; Shadbolt, N.[1]
Author affiliation:	[1] Sch. of Electron. & Comput. Sci., Southampton Univ., UK
Source:	Artificial Intelligence in Medicine. 10th Conference on Artificial Intelligence in Medicine, AIME 2005. Proceedings (Lecture Notes in Artificial Intelligence Vol.3581)
Publication date:	2005
Pages:	221-5
Language:	English
ISBN-10:	3 540 27831 1
Document type:	Conference article (CA)
Conference name:	Artificial Intelligence in Medicine. 10th Conference on Artificial Intelligence in Medicine, AIME 2005. Proceedings
Conference date:	23-27 July 2005
Conference location:	Aberdeen, UK
Publisher:	Springer-Verlag
Place of publication:	Berlin, Germany
Material Identity Number:	XX2005-01263

Abstract: We have developed a prototype system to support decision making in breast cancer, wherein the varied nature of expertise is modelled by multiple ontologies that provide domain-specific grounding to concepts and relationships used. While the different medical experts need to be co-present at a meeting, our system employs a distributed architecture for handling data and invoking services appropriate for the requirements of this decision-making process. This distributed system is built upon semantic Web technology, which enables the possibility of Web-based tele-medicine

Number of references: 10

Inspec controlled terms: cancer - data handling - decision support systems - distributed decision making - medical expert systems - medical information systems - ontologies (artificial intelligence) - semantic Web

Experimental Report Abstract

"   Tea drinkers report major differences in their satisfaction with cups of tea, even when they have been made from the same tea leaves. One possible cause of this variability is the temperature of the water at the time it is poured over the tea leaves. This report describes an experiment in which one hundred tea drinkers were asked their views on teas made with water at different temperatures. The results demonstrate a significant preference for tea made with boiling water. The perceived quality of tea, particularly in the USA, would be much enhanced if caterers observed this convention. "

(5 sentences, 97 words)

Review Report Abstract

· You've been asked to write a report on Folksonomies...

"   Folksonomies are internet based collections of user assigned labels, or "tags", for web resources. There is a debate within the Web Science community as to the importance of social tagging in general, and folksonomies in particular. This report surveys a range of current social tagging systems and distinguishes between true folksonomy systems such as Del.icio.us, which attempt to enhance the classification of resources, and simple tagging systems such as Flickr, which merely improve description. The report concludes by describing some research work in progress to extract semantic metadata from folksonomies in order to improve search engine performance. "

(4 sentences. 97 words)

Implementation Project Abstract

"   Experts in wine tasting like to keep structured records of their tasting notes and a number of well established PC database applications exist for this purpose. However, increasingly applications tend to be web service based applications and many focus on the benefits of social tagging. This report describes the specification, design and implementation of a web based application to store wine descriptions according to a standard ontology, which allows users to enter their tasting notes as tags. The report concludes by evaluating the new features that are facilitated by this novel implementation. "

(4 sentences. 95 words.)

Introduction and Conclusion

- Again they should (as a pair) be stand-alone. (Not everyone wants to read the detail)
- The Introduction should motivate why you have done the work, and demonstrate your awareness of related literature. What are your objectives?
- The conclusion should:
  - Make it clear what the "take away message is".
  - Demonstrate analysis and synthesis that you have undertaken
  - Explain any limitations in your work
  - Detail future work to be undertaken

- On analysis and synthesis.
  There is no room for "I think..", "I believe". Technical reports should take an objective and scientific standpoint.

Checklist before you submit

- Have you followed the formatting instructions, and kept to length limitations.
- Does the abstract tell me what you did, why you did it and what I will learn from it?
- Are the Introduction and Conclusion stand-alone, and are there some "take away lessons" in the conclusions?
- Have you adhered to a referencing / citation convention?
- Have you ensured that there are no references without full provenance?
- Does the writing "tell a story" without getting bogged down in unnecessary detail? (Detail -> Appendices)

Citations and Referencing

The Basic Principle

You need to show the where the information you have used (your 'sources') comes from

..so that a person could find the work you read

...and so that you are not committing any breach of academic integrity

Citations, References and Bibliography

- *Citations* are the pointers you put in-line in your work to indicate where what you have just said or just quoted came from

- *Reference lists* contain the **full details** all of the works that you've **cited** in your article

- *Bibliographies* are reading lists, that provide more background on the area, but which you have not specifically cited

Citation and Reference Styles

- Many different citation styles, often specific to a particular publisher, discipline or community

- Computer science tends to use the following styles:
  - IEEE /ACM (very little difference)
  - Harvard

IEEE /ACM are most often used in printed journals (where space is in short supply)

Harvard is always preferable where space is not an issue

(Davis and White, 2013) has more meaning than [23]

Building a Reference

- First question: do you have all the necessary information?
  - Names of authors
  - Title of work
  - Title of journal/proceedings (if it's an article in a larger work)
  - Volume/issue number (if it's a journal article)
  - Page range
  - Year of publication

- Second question: what sort of thing are you referencing?
  - Different rules for books, journal articles, etc

- Third question: what style are you using?
  - Will often be stipulated by the journal or conference you're writing a paper for
  - If not stipulated, pick a commonly understood style - like IEEE or Harvard - and stick with it

General shape of references

- In Harvard:
  - Authors, Year, Title, <where it was published>

  E.g.

  - Gamma, E., Helm, R., Johnson, R. & Vlissides, J., 1995, *Design Patterns: Elements of Reusable Object-Oriented Software*, Addison-Wesley

- In IEEE/ACM:
  - Authors, Title, Publisher, Date

  E.g.

  - E. Gamma, R. Helm, R. Johnson and J. Vlissides, *Design Patterns: Elements of Reusable Object-Oriented Software, Addison-Wesley*, 1995

There are different rules for books, contributions to books, journals, web pages etc. Look how other authors do it, imitate and learn. (See hidden slides)

Referencing a Book

- In Harvard:
  - Authors, Year, Title, (Volume, Edition) Publisher, (Pages)

  - Halpern, J.Y., 2003, *Reasoning about Uncertainty*, MIT Press
  - Gamma, E., Helm, R., Johnson, R. & Vlissides, J., 1995, *Design Patterns: Elements of Reusable Object-Oriented Software*, Addison-Wesley

- In IEEE:
  - Authors, Title, <where it came from> Date

  - J.Y. Halpern, *Reasoning about Uncertainty*, MIT Press, 2003
  - E. Gamma, R. Helm, R. Johnson and J. Vlissides, *Design Patterns: Elements of Reusable Object-Oriented Software, Addison-Wesley, 1995*

Referencing a Journal Article

- In Harvard:
  - Authors, Year, Article Title, Journal Title, Volume, Issue, Pages

  - Lenat, D.B., 1995, CYC: A Large-Scale Investment in Knowledge Infrastructure, *Communications of the ACM*, vol. 38, no. 11, pp. 33-38

- In IEEE:
  - Authors, Article Title, Journal Title, Volume, Issue, Pages, Year

  - D.B. Lenat, CYC: A Large-Scale Investment in Knowledge Infrastructure, *Communications of the ACM*, vol. 38, no. 11, pp. 33-38, 1995

Referencing a Conference Article

- In Harvard:
  - Authors, Year, Article Title, Conference Title, Location, Pages

  - Carr, L., De Roure, D., Hall, W. & Hill, G., 1995, "The Distributed Link Service: A Tool for Publishers, Authors and Readers", In *Proceedings of the Fourth International World Wide Web Conference*, Boston, Massachusetts, pp. 647-656

- In IEEE:
  - Authors, Article Title, Conference Title, Pages, Year

  - L. Carr, D. De Roure, W. Hall and G. Hill. "The Distributed Link Service: A Tool for Publishers, Authors and Readers", In *Proceedings of the Fourth International World Wide Web Conference*, Boston, Massachusetts, pp. 647-656, 1995

In-text citation (Harvard)

- Harvard allows two types of citation:

    This change in the nature of the graph to a small world network is characterised variously as a transition on the rewiring probability **(Watts and Strogatz, 1998)** or as a crossover phenomenon involving both the size of the network and the rewiring probability **(Barthelemy and Amaral, 1999)**

    Barabasi and Albert (1999) call the class of random networks with power-las degree distribution scale-free networks, which differ from Erdos-Renyi random graphs […]

- When citing a work with three or more authors, it is usual to abbreviate the list in the citation using "et al"
    - (Harchol-Balter, Leighton and Lewin, 1999) becomes (Harchol-Balter et al, 1999)

In-text citation (IEEE/ACM)

- IEEE has only one type of citation:

  This change in the nature of the graph to a small world network is characterised variously as a transition on the rewiring probability **[3]** or as a crossover phenomenon involving both the size of the network and the rewiring probability **[13]**

  Barabasi and Albert **[6]** call the class of random networks with power-las degree distribution scale-free networks, which differ from Erdos-Renyi random graphs […]

Strictly IEEE required numbers in reference lists to be allocated in order of citation.
ACM suggests the order should be in alphabetic order of surname of first author

Referencing a Webpage

UNIVERSITY OF
Southampton
School of Electronics
and Computer Science

- In Harvard:
  - Authors, Year, Title, (Publisher), URL

  - Koster, M., 1994, Guidelines for Robot Writers, Available at: http:// .... (last accessed 11th Nov 2010)

- In IEEE/ACM:
  - Authors, Title, Year, Citation Date, URL

  - M. Koster, Guidelines for Robot Writers, 1994, [11 Nov 2010], Available at: http://...

Some Links

- Hints on Technical Writing (John Ringwood)
  http://odtl.dcu.ie/wp/1999/odtl-1999-03.html
- Writing Tips – Newcastle Chemical Eng Dept
  http://lorien.ncl.ac.uk/ming/Dept/Tips/writing/writeindex.htm
- Writing Scientifically
  http://www.academic-skills.soton.ac.uk/studytips/science_writ
- Instructions on how to enrol on the blackboard course
  including academic writing skills
  http://www.academic-skills.soton.ac.uk/toolkit.htm

Academic Integrity

Why this is important

Background

Basic Principles

- We expect you to
  - be **honest** and balanced in evaluating the strengths and weaknesses of your own work, and that of others
  - **respect** the intellectual property of others, and their moral rights, and copyright
  - **conduct yourself according to the standards** and conventions of your discipline
  - **avoid taking unfair advantage** of others

  - i.e. to be honest and not to lie or cheat

Definitions (taken from the OED)

· Academic

   Of or belonging to an academy or institution for higher learning; hence, collegiate, scholarly

· Integrity

   Soundness of moral principle; the character of uncorrupted virtue, especially in relation to truth and fair dealing; uprightness, honesty, sincerity

- Some details of what you have to know

Important Guidelines

University Policy

- The University has adopted policy and procedures regarding the standards we expect from our students, and what should be done in cases where students fall short of these standards
  - "breaches" of academic integrity

- See the Calendar and the QA handbook
  (both available on-line via SUSSED)

Summary of Policy

- You must ensure you avoid:
  - plagiarism

    copying or paraphrasing without acknowledgement material attributable to, or the intellectual property of, someone else

  - cheating

    gaining unfair advantage for yourself or another

  - falsification

    fictitious or distorted data, false claims

  - re-cycling /self-plagiarism

    re-using your own work without declaring you have done so

  - collusion
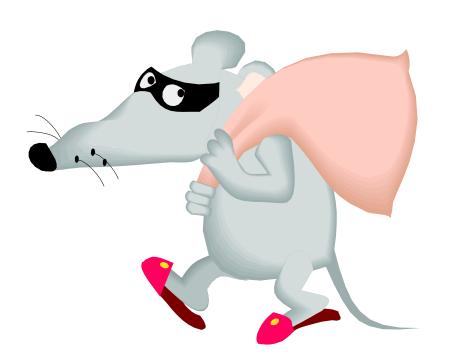
    submitting essentially the same work as someone else

Range of Penalties

- Your mark for the affected work may be reduced
  - for example, by ignoring any plagiarised material
- A mark of zero may be returned
- You may fail the whole module
- You may fail the whole year
- Your degree classification may be reduced
- Your studies may be terminated
- You may be deprived of a degree
  - even after it has been awarded

- What it is, and how to avoid it

Plagiarism

What is Plagiarism?

- In some countries/cultures students may expect to copy
- Teachers may want students to repeat exactly what is in text books or lecture notes.
- At the University of Southampton, however, all work you submit for marking must be your own original creation

Plagiarism is using someone else's work...

...without indicating that it is not your own
...without crediting the original author

How to Avoid Plagiarism

1. Quote any material copied from elsewhere
   - it may be appropriate to paraphrase rather than copy and quote, as discussed below
2. Follow the quotation (or paraphrased material) with a citation such as [3] which clearly identifies an item in your references section
3. Put the references section at the end of your report
   - this must give bibliographic details such as title, author, and year for each source you have cited
4. You must do this for all sources

How to Quote

- The easiest and clearest way to identify a quotation is with quote marks "..."
  - for example "the other pre-eminent name in British Computing, Maurice Wilkes, arguably contributed rather more than Turing, certainly in practical terms, but is much less prominent in the popular perception"(Citation goes here)
- An alternative is to indent, or display, the quoted material, which is usually in italics and sometimes indented

The other pre-eminent name in British Computing, Maurice Wilkes, arguably contributed rather more than Turing, certainly in practical terms, but is much less prominent in the popular perception (Citation here)

Referencing Figures Correctly

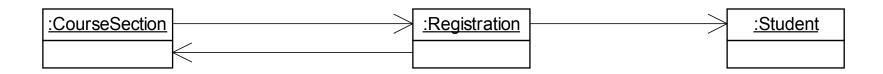Figure 1: a UML communication diagram (Lethbridge and Laganiere [5], chapter 8, page 290)

Figure 2: a UML communication diagram (based on one in Lethbridge and Laganiere [5], chapter 8, page 290)

How and When to Paraphrase

- Copyright law only allows you to copy small amounts of text (one or two line)
  - longer quotes require the author to give permission
- In such cases you should paraphrase the source by putting the material in your own words
  - Wilkes, though not as famous as Turing, perhaps made greater practical contribution
- You should also paraphrase to make sure your report flows smoothly and reads well
  - a sequence of quotations can confuse your reader

Paraphrasing vs Plagiarism

- It could be plagiarism if you
  - take too much from one source,
  - only replace some words with synonyms, or
  - simply swap words or phrases round to make the sentence look different
- Instead you should
  - summarise the key points from your source
  - use your own words and phrases
  - comment on and evaluate your source

Why Do We Cite Our Sources?

- We are *legally* obliged to respect the author's moral right to be acknowledged as the source
- And also to support the scientific process:
  - new results are published
  - leading to new claims being made
  - these results and claims may be challenged
  - or they may be supported by further findings
- This is how scientific understanding develops
- And the process requires a clear audit trail

A "Victimless Crime"?

- If you plagiarise
  - you deny the true author the credit, and
  - undermine the scientific publication process
- All breaches of academic integrity
  - divert staff from more constructive activities, and
  - undermine the reputation of ECS degrees

- Where to draw the line

Group Work,
Collaboration and Collusion

Group Working

- Some assignments, labs, and projects are carried out in groups
- For small tasks it will be assumed that everyone contributed equally
  - if a member of your group is not doing their share of the work, you must tell the lecturer
- For major pieces of work you will be asked to indicate your contribution and that of others
  - so keep a record of this in your log book

Outside Help

- Occasionally you may ask a friend for help
- They can go through the material to you, and try to clarify any misunderstandings, but what you submit must be your own work
  - you must be able to explain it if asked to do so
- If you copy or paraphrase some material from your friend's solution you must declare this
  - this is my own work except for <material> which I have copied from <friend>
- Similarly if you download code from the Internet
  - this is my own code except for <class/method> which I have downloaded from <Internet site/author>

Collaboration and Collusion

- Occasionally when you have worked on a problem together it is difficult to know who should get the credit – this is collaboration
- You should declare this also
  - this is my own work except for <material> which <friend> and I developed together
- If you don't declare your collaboration, this is called collusion which will be treated as a breach of academic integrity
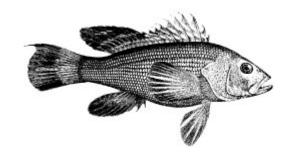
- How we detect cases of plagiarism

Plagiarism Detection

Avoiding Plagiarism In ECS

- The concept of plagiarism extends to all sorts of academic work, lab work, design and build, programming and written work
- We have an electronic handin machine for courseworks:
  - handin.ecs.soton.ac.uk
- We make use of programs which check for plagiarism in program code and in written assignments
  - across student groups

- When you complete a handin you will be asked to confirm that the work is your own. Make sure you
  - explain any collaborative work you may have done, and
  - acknowledge the use of other people's work such as code, design, graphs and diagrams

Plagiarism Detection Service

- To help us detect breaches of academic integrity, we use automated plagiarism detection systems
- In the last two years, these have detected a small number of cases where there has been a major level of plagiarism
  - and some students have failed their degrees as a result ☐

A Fictional Case Study

An Example Report by Angela Brown

This is a short example to show the importance of using your own words in the reports that you write. Here is an additional sentence with a long and unusual structure in it that will definitely be tracked as a distinctive item by the plagiarism detection software that we use.

This is my own work (signed) Angela Brown.

The Case Study Continued

An Example Report by Cheating Dastard

Another student has copied Angela's report, without any reference to the original work. This is a short example to show the importance of using your own words in the reports that you write. Here is an additional sentence with a long and unusual structure in it that will definitely be tracked as a distinctive item by the plagiarism detection software that we use. To make the report a little longer, some material has been included from another source off the Internet....

An Example Plagiarism Report

- Overall Similarity Index: 71%
1. 38% match (internet, wikipedia)
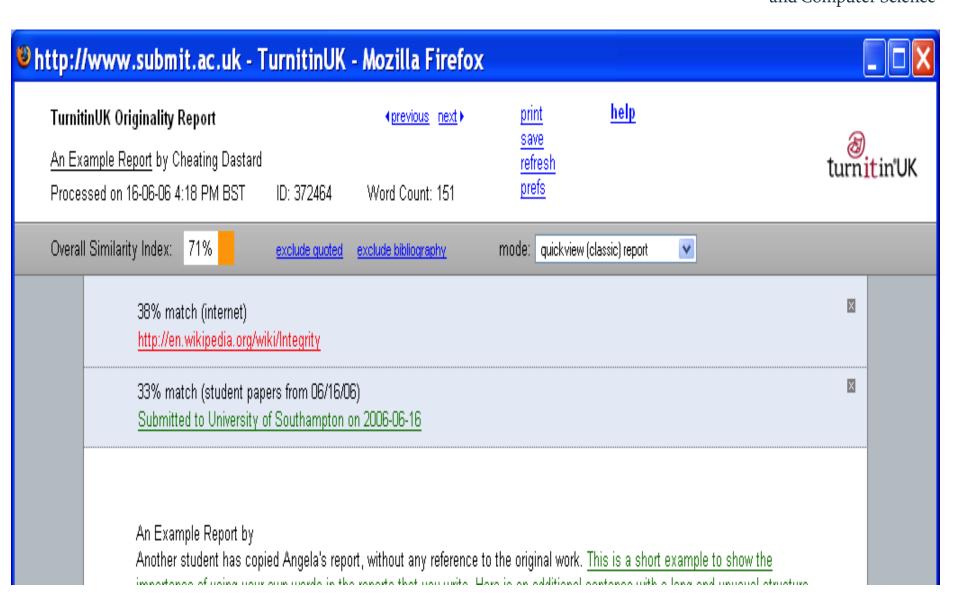2. 33% match (student papers from 06/16/06)

An Example Report by Cheating Dastard

Another student has copied Angela's report, without any reference to the original work. This is a short example to show the importance of using your own words in the reports that you write. Here is an additional sentence with a long and unusual structure in it that will definitely be tracked as a distinctive item by the plagiarism detection software that we use.
To make the report a little longer, some material has been included from another source off the Internet. Integrity comprises the personal inner sense of "wholeness" deriving from honesty and consistent uprightness of character. The etymology of the word relates it to the Latin adjective integer (whole, complete). Evaluators, of course, usually assess integrity from some point of view, such as that of a given ethical tradition or in the context of an ethical relationship. This is my own work (signed) Cheating Dastard.

Actual Screen Shot

UNIVERSITY OF
Southampton
School of Electronics
and Computer Science

http://www.submit.ac.uk - TurnitinUK - Mozilla Firefox

TurnitinUK Originality Report

◀ previous   next ▶

print
save
refresh
prefs

help

turnitinUK

An Example Report by Cheating Dastard

Processed on 16-06-06 4:18 PM BST   ID: 372464   Word Count: 151

Overall Similarity Index: **71%**   exclude quoted   exclude bibliography   mode: quickview (classic) report ▼

38% match (internet)
http://en.wikipedia.org/wiki/Integrity

33% match (student papers from 06/16/06)
Submitted to University of Southampton on 2006-06-16

An Example Report by

Another student has copied Angela's report, without any reference to the original work. This is a short example to show the
importance of using your own words in the reports that you write. Here is an additional sentence with a long and unusual structure

Summary

Please Remember

· Academic Integrity is important

· Breaches include plagiarism, cheating, falsification, re-cycling and collusion

· We use automatic plagiarism detection software to help us identify breaches

· Students have been caught, and some have failed their degree as a result

· Make sure you quote (or paraphrase) and cite all your sources in a clear and standard way

Further Information

- University of Southampton Academic Skills Guides provides advice on academic integrity, and how to research, cite, and reference your sources
  - http://www.academic-skills.soton.ac.uk/

- University of Southampton Plagiarism Policy
  - Student Handbook
    - http://www.studentservices.soton.ac.uk/studenthbk/plag.html
  - Calendar: Plagiarism and Cheating: Policy and Procedures
    - http://www.calendar.soton.ac.uk/sectionIV/part8.html

- ECS Student Handbook
  - Section 3.1.2 Originality of Work
    - https://secure.ecs.soton.ac.uk/ug/handbook/