

# Academic Integrity

at the

Massachusetts Institute  
of Technology:

**A Handbook  
for Students**

[integrity.mit.edu](http://integrity.mit.edu)





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# Academic Integrity

> You are a student at the Massachusetts Institute of Technology because of your demonstrated intellectual ability and because of your potential to make a significant contribution to human thought and knowledge. At MIT, you will be given unusual opportunities to do research and undertake scholarship that will advance knowledge in your fields of study. You will also face many challenges.

As the world becomes more complex, scientists and engineers, as well as humanists, social scientists, managers, architects and planners, need to be able to communicate what they know both to each other and to the public. One of MIT's goals is to graduate articulate men and women who will be able to take their expertise into the world and communicate it effectively. During your academic life at MIT, you will be required to complete assignments based on oral communication and writing, some of which will require research in libraries and laboratories and accessing electronic resources.

MIT anticipates that you will pursue your studies with purpose and integrity. The cornerstone of scholarship in all academic disciplines is honesty. MIT expects that you will approach everything you do here honestly – whether solving a math problem, writing a research or critical paper, or writing an exam.

Some of you may be coming from educational systems where rules of academic integrity were not clearly defined or enforced. Others may be studying in the United States for the first time and may have different and culturally-based understandings of academic integrity. To ensure that all MIT students understand the high academic standards of the Institute, we have prepared this handbook to help guide you when you approach the writing, research, coding and test-taking tasks your classes will demand of you.

This handbook outlines important information you will need to know about correctly acknowledging your sources when you write a report, research paper, critical essay, or position paper. It provides guidelines for collaboration on assignments and writing code. The handbook also provides information about what constitutes violations of academic integrity and the consequences of committing such violations. Please familiarize yourself with this material before you begin work in your classes, and use it as a resource when you have questions — at MIT and beyond. Ignorance is never an excuse for academic dishonesty.

## *An important note on Responsible and Ethical Conduct of Research:*

This handbook does not address issues related to research ethics, which often are field-specific. Through the Office of Sponsored Programs (OSP), we encourage MIT students engaged in research to take the free online course in Responsible Conduct of Research (RCR) at <http://osp.mit.edu/compliance/rcr>. Example topics include: data acquisition and management; responsible authorship and allocation of credit; peer review; mentoring; conflicts of interest; and collaborative research. OSP also provides a summary of all MIT policies affecting research at <http://osp.mit.edu/policies>.

Students involved in research should also review the Relations and Responsibilities section of the Responsible Conduct at MIT site at <http://mit.edu/conduct/relations.html>. This provides specific policies on personal conduct, harassment, retaliation, and responsibilities of supervisors.

For further questions or issues dealing with responsible conduct of research, your research supervisor, department, Ombuds Office, and the Office of the Dean for Graduate Education are important sources of information.



# What is Academic Integrity?

Fundamental to the academic work you do at MIT is an expectation that you will make choices that reflect integrity and responsible behavior.

MIT will ask much of you. Occasionally, you may feel overwhelmed by the amount of work you need to accomplish. You may be short of time, working on several assignments due the same day, or preparing for qualifying exams or your thesis presentation. The pressure can be intense. However, no matter what level of stress you may find yourself under, MIT expects you to approach your work with honesty and integrity.

**Honesty is the foundation of good academic work.** Whether you are working on a problem set, lab report, project or paper, avoid engaging in plagiarism, unauthorized collaboration, cheating, or facilitating academic dishonesty. Follow this advice:

>	<b>Plagiarism</b>	
	<b>Do</b>	<b>Don't</b>
	Trust the value of your own intellect.	Don't purchase papers or have someone write a paper for you.
	Undertake research honestly and credit others for their work.	Don't copy ideas, data or exact wording without citing your source.
>	<b>Unauthorized Collaboration</b>	
	<b>Do</b>	<b>Don't</b>
	Do your own thinking.	Don't collaborate with another student beyond the extent specifically approved by the instructor.
>	<b>Cheating</b>	
	<b>Do</b>	<b>Don't</b>
	Demonstrate your own achievement.	Don't copy answers from another student; don't ask another student to do your work for you. Don't fabricate results. Don't use electronic or other devices during exams.
	Accept corrections from the instructor as part of the learning process.	Don't alter graded exams and submit them for re-grading.
	Do original work for each class.	Don't submit projects or papers that have been done for a previous class.
>	<b>Facilitating Academic Dishonesty</b>	
	<b>Do</b>	<b>Don't</b>
	Showcase your own abilities.	Don't allow another student to copy your answers on assignments or exams. Don't take an exam or complete an assignment for another student.

# Violations of Academic Integrity: What are the consequences?

The consequences for cheating, plagiarism, unauthorized collaboration, and other forms of academic dishonesty can be very serious, possibly including suspension or expulsion from the Institute. Any violation of the rules outlined in this handbook, established by the instructor of the class, or deviating from responsible conduct of research, may be considered violations of academic integrity. The MIT Policy on Student Academic Dishonesty is outlined in MIT's Policies and Procedures 10.2 at <http://web.mit.edu/policies/10/10.2.html>.

**Instructors, research or thesis supervisors decide how to handle violations of academic integrity on a case-by-case basis, and three options exist:**

## Academic consequences within a class or research project

**Within a class, the instructor determines what action is appropriate to take.** Such action may include:

- requiring the student to redo the assignment for a reduced grade.
- assigning the student a failing grade for the assignment.
- assigning the student a failing grade for the class.

**For a research project, the supervisor determines what action is appropriate to take.** Such action may include:

- terminating the student's participation in the research project.

The instructor or supervisor may also submit documentation to the Office of Student Citizenship in the form of a letter to file or a formal complaint. These options are outlined below.

## Letter to file

**The instructor or supervisor writes a letter describing the nature of the academic integrity violation, which is placed in the student's discipline file.** *The discipline file is maintained by the Office of Student Citizenship (OSC) and is not associated with the student's academic record.*

- A letter may be filed with the OSC in addition to the action already taken in the class or research project.
- If a student receives a letter to file, s/he has the right to:
  - submit a reply, that is added to the student's file.
  - appeal the letter to the Committee on Discipline (COD) for a full hearing.
- In resolving the violation described in the letter, the OSC reviews any previous violations which are documented in the student's discipline file.

## Committee on Discipline (COD) complaint

**The instructor or supervisor submits a formal complaint to the COD, which resolves cases of alleged student misconduct.**

- This complaint may be filed with the OSC in addition to the action already taken in the class or research project.
- A COD complaint is reviewed by the COD Chair and considered for a hearing. Any previous violations documented in the student's discipline file are reviewed as part of this process.
- Cases resulting in a hearing are subject to a full range of sanctioning outcomes, including probation, suspension, dismissal, or other educational sanctions.

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**Questions?** Contact the Office of Student Citizenship ([citizenship@mit.edu](mailto:citizenship@mit.edu)). View an outline of the typical MIT student discipline process at: <http://studentlife.mit.edu/citizenship/process>.

# What is Plagiarism?

During your academic career at MIT, you will write original papers and give oral presentations that require research in libraries and laboratories and accessing electronic resources. It is important to understand that standards for reusing other people's creative output vary from discipline to discipline and culture to culture. For example, in the United States our copyright law does not protect ideas or facts, but does protect the particular, original expression of an idea in words or images when they are expressed in a tangible form.

In some cultures, the concept of "owning" words that are arranged in a particular sequence may seem strange. Students from these cultures may have been encouraged to repeat the words of others and incorporate them into their own writing without quoting or otherwise indicating that they came from another source. Other cultures accept the practice of copying phrases or sentences into a paper without using quotation marks as long as the writer shows where they came from. These practices are not acceptable in North American academic culture.

Creative expression of ideas through words, images, and other media is the lifeblood of this academic culture. For this reason, we expect that our original expressions should not be used by others without attribution and acknowledgment.

**Plagiarism occurs when you use another's words, ideas, assertions, data, or figures and do not acknowledge that you have done so.**

If you use the words, ideas, or phrasing of another person or from published material, you must

- Use quotation marks around the words and cite the source, or
- Paraphrase or summarize acceptably and cite the source.

If you use charts, graphs, data sets, or numerical information obtained from another person or from published material, you must also cite the source.

**You must always acknowledge your sources by citing them.** In this way, you have the right to use another's creative output by giving that person credit for the work s/he has done.



# Avoiding Plagiarism: Cite Your Source

Whenever you take information from a source, whether that source is published on paper, presented in a lecture or broadcast, or made available online, you must tell your reader where the information came from: that is, you must cite your source.

## What does it mean to “cite” a source?

In writing a paper, it means:

- You show, *in the body* of your paper, where the words or information came from, using an appropriate format,
- **and**
- You provide complete information about the source (author, title, name of publication, date, etc.) at the end of your paper, in the bibliography (also called the works cited or references page, depending on the style you use).

*Note: Different disciplines use different citation styles, as do various journals within a single discipline. We discuss this further on page 14. If you are unsure which citation style to use, check with your instructor or research supervisor.*

In giving a formal presentation, it means:

- You acknowledge, *on your slide*, where the graph, chart or other information came from.

In writing a computer program, it means:

- You use comments to credit the source of any code you adapted from an open source site or other external sources. Generally, providing a URL and the date of retrieval is sufficient. You also need to follow the terms of any open source license that applies to the code you are using.

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## Why should I cite my sources?

- To show your readers that you have done your research.
- To give credit to others for work they have done.
- To point your readers to sources that may be useful to them.
- To allow your readers to check your sources, if there are questions.

Citing sources points the way for other scholars. Future generations of engineers, scientists and leaders will look to work done at MIT to solve some of the world's greatest problems. Citation helps that process continue.

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# Avoiding Plagiarism: Cite Your Source (continued)

## What should I cite?

- **Print sources:** books, journal articles, newspaper – any material published on paper.
- **Electronic sources:**
  - Articles retrieved from databases such as Lexis-Nexis and ProQuest
  - Personal and organizational websites
  - Government and institutional websites
  - Blogs
  - Email messages
  - Social media, such as Tweets and Facebook pages
  - Computer source code

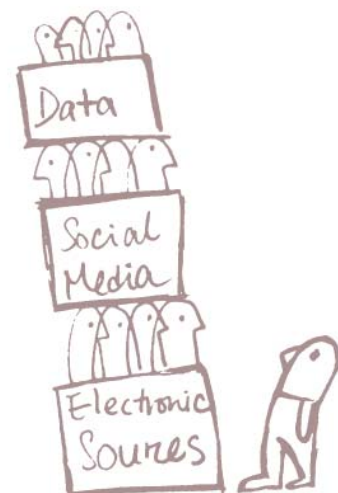
### In short, any material published or made available on the Internet.

- **Data:** geospatial (GIS) data, Census, economic and other types of data published by governments, data from surveys, economic indicators, bioinformatics data.
- **Images:** charts, graphs, tables, illustrations, architectural plans, photographs.
- **Recorded material:** television broadcasts, podcasts or public speeches.
- **Spoken material:** personal conversations, interviews, information obtained in lectures, poster sessions, or scholarly presentations of any kind.

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The MIT Libraries provides additional guidance on what, why and how to cite:

<http://libguides.mit.edu/citing>.



# What is Common Knowledge?

You may have heard people say that you do not have to cite your source when the information you include is “common knowledge.” But what is common knowledge?

Broadly speaking, common knowledge refers to **information that the average, educated reader would accept as reliable without having to look it up.**

This includes:

**Information that most people know**, such as that water freezes at 32 degrees Fahrenheit or that Barack Obama was the first American of mixed race to be elected president.

**Information shared by a cultural or national group**, such as the names of famous heroes or events in the nation’s history that are remembered and celebrated.

**Knowledge shared by members of a certain field**, such as the fact that the necessary condition for diffraction of radiation of wavelength from a crystalline solid is given by Bragg’s law.

**However, what may be common knowledge in one culture, nation, academic discipline or peer group may not be common knowledge in another.**

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To help you decide whether information can be considered common knowledge, ask yourself:

- Who is my audience?
- What can I assume they already know?
- Will I be asked where I obtained my information?

Some examples:

A description of the symptoms of Asperger’s Syndrome would need to be cited for a composition in a general writing class but probably not need citation for an audience of graduate students in psychology.

A reference to the practice of fair value accounting would be understood by a group of economists, but would need citation to an audience of non-experts.

A statement reporting that 24% of children under the age of 18 live in households headed by single mothers would need to be cited. This is information that would not be known to the average reader, who would want to know where the figure was obtained.

**The best advice is: When in doubt, cite your source.**

# What is Common Knowledge? (continued)

## Common Knowledge: Yes or No?

Consider the following statements. Which would be considered common knowledge? Which would need to be cited?

1. The Big Bang theory posits that the universe began billions of years ago with an enormous explosion.
2. The phrase “Big Bang” was coined by Sir Fred Hoyle, an English astronomer. Hoyle used the term to mock the theory, which he disagreed with.
3. According to the Big Bang model, the initial explosion was produced when an infinitely hot, dense center referred to as a singularity, began to expand, giving rise to the particles that eventually formed into our universe.

Statement #1 is common knowledge; the Big Bang theory is widely accepted among scientists and the term is used regularly in everyday speech.

Statement #2 needs citation; this information is very specific and may even be unknown to some physicists.

Statement #3 would not need citation to an audience of physics students but would need citation in a paper for a non-expert audience.

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## What is not Common Knowledge?

- Datasets generated by you or others.
- Statistics from sources such as the US Census Bureau and the Bureau of Labor Statistics.
- References to studies done by others.
- Reference to specific dates, numbers, or facts the reader would not know unless s/he had done the research.

The following statements are **not** common knowledge and would need citation:

Researchers have found that dispersants utilized to clean up oil spills can lead to lung damage when airborne particles of these dispersants combine with crude oil and are inhaled.

(Source: Wang, H., Shi, YL, Major, D. and Yang, HL (2012, August). Lung epithelial cell death induced by oil-dispersant mixtures. *Toxicology in Vitro*, 26, 5, 746-751. doi: 10.1016/j.tiv.2012.03.011)

A recent study by the Brookings Institute found that the number of people living in poverty in America grew by 12.3 million between 2000 and 2010, so that by the end of 2010, 15% of the population was living under the poverty line.

(Source: Kneebone, E., C. Nadeau and Berube, A. (2011, November 3). The re-emergence of concentrated poverty: metropolitan trends in the 2000s. *Brookings Metropolitan Opportunity Series*. Retrieved from <http://www.brookings.edu/about/programs/metro/metropolitan-opportunity>.)

The energy of mixing per site for a binary polymer blend with differing degrees of polymerization can be described through the Flory-Huggins equation.

(Source: Flory, P.J. (1953). *Principles of Polymer Chemistry*. Ithaca, NY: Cornell University Press.)

# Citing Electronic Sources

Do not assume the information you find on the Internet is common knowledge. Everything on the Internet has been written by someone and may need to be cited. **Simply including a URL is not enough.** Even if there is no visible author, there is other information that should be included in the citation. Consult your citation style guide on how to cite electronic sources, including social media posts.

Different disciplines and published journals use different citation styles. If you are unsure which to use, check with your instructor or research supervisor. The Online Writing Lab (OWL) of Purdue University provides useful examples of citing electronic sources for each style:

- American Psychological Association (APA):  
<http://owl.english.purdue.edu/owl/resource/560/10/>
- Modern Language Association (MLA):  
<http://owl.english.purdue.edu/owl/resource/747/08/>
- Chicago Manual of Style (CMS):  
<http://owl.english.purdue.edu/owl/resource/717/05/>

Citations of electronic sources often require the URL or the name of the database from which you retrieved the information. **Always keep the URL for your own records so you can refer back to it.**

## Cite Creative Commons-licensed Content

When you use content made available under a Creative Commons license, follow the terms of the specific Creative Commons license attached to the content. All Creative Commons licenses require that you cite the creator of the content.

In addition to giving credit to the creator, you should cite the content as any other online source. Provide as much information as possible and adapt the citation entry to the style you are using. Also include the URL to the Creative Commons license at <http://creativecommons.org/>.

## Wikipedia is Not a Reliable Academic Source

Many of us use Wikipedia as a source of information when we want a quick explanation of something. However, **Wikipedia or other wikis, collaborative information sites contributed to by a variety of people, are not considered reliable sources for academic citation, and you should not use them as sources in an academic paper.**

The bibliography published at the end of the Wikipedia entry may point you to potential sources. However, do not assume that these sources are reliable – use the same criteria to judge them as you would any other source. Do not consider the bibliography as a replacement for your own research.

# Citing Electronic Sources

## Is the Information Reliable?

Before you take information from a source you have found on the Internet, assess its reliability. Some sources are easy to evaluate. Articles found in peer-reviewed journals have been scrutinized by experts in the field and are considered reliable. However, anyone can put up a website, create a Facebook page, or post via the multitude of other social media tools.

When the reliability of the source is not clear, consider the following:

### Name of the author:

Is the author a recognized authority? Or is the author a student who has posted his or her paper online?

***If the person is not a qualified expert, you should not use the information.***

### Name of the sponsoring institution:

Is the sponsoring institution a name that you recognize as a reliable, unbiased source of information? For example, the World Health Organization, The United Nations, The American Medical Association.

***If you cannot locate this information or you are not sure of the reliability of the institution, do not use the information.***

### Date of posting:

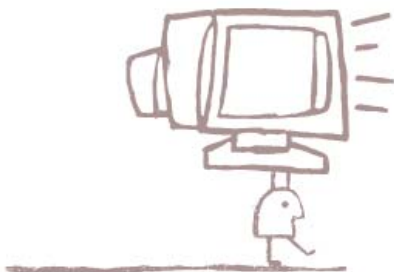
Has the website been recently updated? Is the information current?

***The relevance of the information can be affected by timeliness of the post. Based on your topic, you need to evaluate if timeliness is critical.***

**Note: Some electronic sources have no clear author. This may include:**

- Government websites and social media
- University, institutional or organizational websites and social media

**When using sources without a clear author, always look for the name of the sponsoring institution and investigate its reliability.** If you cannot locate this information or you are not sure of the reliability of the institution, do not use the information.



# Citing Electronic Sources

## Authenticity of Social Media Posts

In evaluating social media posts, first follow the guidelines outlined on the previous page. In addition, the authenticity of the author should also be assessed. Outright imposters, as well as parody accounts, have proliferated within social media networks. To assess the authenticity:

- **Some social media tools, such as Twitter, perform their own verification testing**, which can be helpful in identifying the “true” account of an individual.

A Twitter name is not always indicative of the author’s true identity. Verified Twitter accounts are marked with a blue check badge next to the name. This indicates that Twitter has verified the identity of the individuals of these accounts. For example:

President Obama uses Twitter to keep citizens informed on current issues. “Barack Obama @BarackObama” is President Obama’s verified Twitter account whereas “Barack Obama @theUSpresident” is a parody account.

- **Look at the quality of the previous posts** to see if the content is consistent with who the author says s/he is.  
Read any associated bio to see what is said about the individual’s identity, beyond just the name. Does the bio link to his/her website, book site or blog? Can you verify the author’s credentials on LinkedIn or similar sites?
- **If you are in doubt of the person’s true identity, do not use the source.**

**When you do cite a social media source, cite it by its handle or vanity URL**, not by the name it professes. This ensures you are accurately reflecting your source to the reader.

For example, if you found the Twitter feed @cola78456 listed as Coca Cola Company and your assessment led you to believe it was authentic, you would cite the source as:

“@cola78456 says...” not “Coca Cola Company on Twitter says...”

In some cases, you may want to **quote social media posts by “everyday people”** to help exemplify a viewpoint or trend. In this case, the challenge is not assessing the authenticity of the author, but **determining if the person is real and not an automated web “bot.”** To assess if the author is real:

- Check the quality of previous posts. Bots tend to post spam and re-post content of others.
- Consider the tone of the posts. Bots typically post a statement and a link. Opinions and sentiments usually come from a real person, not a bot.
- If the social media account is being curated, it is more likely a legitimate person.
- **If you are in doubt whether a social media post is from a person or bot, do not use the source.**

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The MIT libraries provide excellent guidance on finding and evaluating internet sources.

- For advice on finding quality websites and other information:  
<http://libguides.mit.edu/findinfo>
- For a subject specialist who has expertise in finding web resources:  
<http://libraries.mit.edu/experts>

# Academic Writing at MIT

One of the challenges of good scholarship is to take what has already been done, said, or argued, and incorporating it into your work in an original way. To some students, this task may seem unnecessarily redundant: a student writing a paper on the benefits of stem cell research may ask, “If the positive aspects of this research have already been argued, why do I need to do it again?” The answer is that:

- by doing research on your subject, you become more familiar with existing scholarly work, which in turn can provide models for your own writing
- your way of presenting the information and arguing it will be different from that of others and is therefore valuable; and
- as more recent information on your subject becomes available, you have the opportunity to bring this information into your report or argument, adding new dimensions to the discussion.

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**Sometimes the goals of academic writing may seem contradictory.**

<p>On the one hand, we ask you to</p> <ul style="list-style-type: none"><li>• Find what is written on a topic and report it, demonstrating you have done your research,</li><li>• Bring in opinions of experts and authorities,</li><li>• Notice articulate phrasing and learn from it, especially if you are trying to enhance your capability in English,</li></ul>	<p><b>BUT</b></p>	<p>write about the topic in an original way.</p>
	<p><b>BUT</b></p>	<p>do more than simply report them; comment on these opinions, add to them, agree or disagree with them.</p>
	<p><b>BUT</b></p>	<p>use your own words to paraphrase accurately or quote directly when you incorporate this into a paper.</p>

Academic writing is a challenge. It demands that you build on work done by others but create something original from it. By acknowledging where you have used the ideas, work, or words of others, you maintain your academic integrity and uphold the standards of the Institute and of the discipline in which you work.

(Adapted from: Overview and Contradictions. Purdue University OWL Online Writing Lab. Retrieved July 5, 2012 from [http://owl.english.purdue.edu/owl/resource/589/01/.](http://owl.english.purdue.edu/owl/resource/589/01/))

# Incorporating the Words and Ideas of Others

**Plagiarism is sometimes unintentional.** It can occur when you try to put information from a source into your own words, but fail to do so completely. Often plagiarism occurs not because a student is trying to cheat, but because he or she has not been taught how to incorporate the words and ideas of others in the proper way.

Several options exist for incorporating the words and ideas of others into your own work:

- **Quote directly:** put quotation marks around the words and identify the source.
  - **Paraphrase:** put the information into your own words and identify the source.
  - **Summarize:** take the key ideas and paraphrase them and identify the source.
- 

The form you use to do this depends on the Citation Style you are using:

APA – American Psychological Association Style is often used by history, economics, psychology and political science.

MLA – Modern Language Association Style is often used in the arts and humanities.

CMS - Chicago Manual of Style is often used in architecture and urban planning.

CSE – Council of Science Editors is often used in biology and other sciences

Other citation styles exist. Some academic journals, for example, have their own styles. Use the one your instructor or supervisor asks you to use.

***In this handbook, all examples are in the APA style.***

The MIT Libraries provides links to all these style guides:

<http://libguides.mit.edu/citestyle>

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The MIT Writing and Communications Center provides free individual consultation about any writing difficulty, from questions about grammar to matters of style:

<http://cmsw.mit.edu/writing-and-communication-center/>



# Avoiding Plagiarism: Quoting

When the words of an expert, authority, or relevant individual are particularly clear or expressive, you may want to quote them. Do not quote all the time: save quotes for instances where the wording is especially powerful.

## When should I quote?

- When language is particularly vivid or expressive.
- When exact wording is needed for technical accuracy.
- When the words of an important authority lend weight to an argument.

## How do I show I am quoting?

- Name the source in an introductory phrase.
- Use quotation marks or indent long quotations.
- Cite the source appropriately.

If you fail to do this, it is **plagiarism**.

Original source	Accurate quoting	Plagiarism
<p>Because of their unique perspective, Americans fear globalization less than anyone else, and as a consequence they think about it less than anyone else. When Americans do think about globalization, they think of the global economy as an enlarged version of the American economy.</p> <p>(Source: Thurow, L. (1993). <i>Fortune Favors the Bold</i> (p. 6). New York: Harper Collins.)</p>	<p>Economist Lester Thurow (1993) has asserted that the American reaction to globalization is different from that of the rest of the world in that “American’s fear globalization less than anyone else, and as a consequence . . . think about it less than anyone else” (p. 6).</p> <p><b>Why is this accurate?</b></p> <ul style="list-style-type: none"> <li>• The writer has introduced the quotation with his/her own words.</li> <li>• S/he has named the source in an introductory phrase.</li> <li>• S/he has indicated where the exact words of the source begin and end by using quotation marks.</li> </ul> <p>(Complete Thurow reference appears in bibliography)</p>	<p>The American view of globalization is unlike that of the rest of the world. <b>Because of their unique perspective, Americans fear globalization less than anyone else, and therefore think about it less than anyone else</b> (Thurow, 1993).</p> <p><b>Why is this plagiarism?</b></p> <ul style="list-style-type: none"> <li>• The writer has identified the source but has <b>not</b> put quotation marks around the words.</li> <li>• Lack of quotation marks allows the reader to think the words are the writer’s, not Thurow’s.</li> </ul>

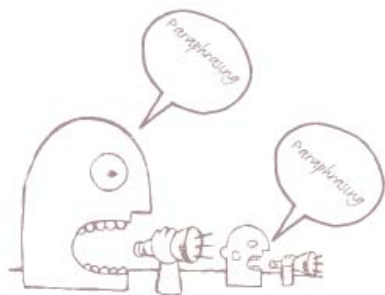
# Avoiding Plagiarism: Paraphrasing

**In writing papers, you will paraphrase more than you will quote.** For a report or research paper, you may need to gather background information that is important to the paper but not worthy of direct quotation. Indeed, in technical writing direct quotation is rarely used.

**Exactly what does “paraphrase” mean?**

**It means taking the words of another source and restating them, using your own vocabulary.** In this way, you keep the meaning of the original text, but do not copy its exact wording.

Original	Plagiarism	Paraphrasing
<p>Because of their unique perspective, Americans fear globalization less than anyone else, and as a consequence they think about it less than anyone else. When Americans do think about globalization, they think of the global economy as an enlarged version of the American economy.</p> <p>(Source: Thurow, L. (1993). <i>Fortune Favors the Bold</i> (p. 6). New York: Harper Collins.)</p>	<p>According to Lester Thurow (1993), Americans <b>fear globalization less</b> than people from other countries and <b>as a consequence</b> spend less time <b>thinking about it</b>. Indeed, Americans see globalization <b>as an enlarged version</b> of their own economy.</p> <p><b>Why is this plagiarism?</b></p> <p>The writer has used Thurow’s exact words without enclosing them in quotation marks. S/he has only substituted synonyms here and there. Even though Thurow is credited with a citations, this would be considered plagiarism.</p> <p>(Complete Thurow reference appears in bibliography)</p>	<p>Lester Thurow (1993) maintains that because Americans see globalization simply as a bigger form of their own economy, they are less concerned about it than is the rest of the world.</p> <p><b>Why is this acceptable?</b></p> <p>The writer has kept the meaning of the original passage without copying words or structure. Words like <i>globalization</i> and <i>Americans</i> are generic terms (i.e., terms that are commonly used for the concept they illustrate - it is difficult to find synonyms for them). Thus you may use these words without placing them in quotation marks.</p>



# Avoiding Plagiarism: Paraphrasing Strategies and Examples

## What strategies can I use to paraphrase?

- **Use synonyms** for all words that are not generic. Words like world, food, or science are so basic to our vocabulary that is difficult to find a synonym.
- **Change the structure** of the sentence.
- **Change the voice** from active to passive and vice versa.
- **Change clauses to phrases** and vice versa.
- **Change parts of speech.**

## Example 1:

Original	Acceptable Paraphrase #1: Used Synonyms	Acceptable Paraphrase #2: Changed Sentence Structure
<p>Like drought, excess rainfall and flooding can also contribute to epidemics of waterborne infectious diseases, in this case due to poor sanitation resulting from runoff from overwhelmed sewage lines or the contamination of water by livestock.</p> <p>(Source: Shuman, E., M.D. (2010, March 25). Global climate change and infectious diseases. <i>New England Journal of Medicine</i>; 362, 12, 1061-1063. Retrieved from <a href="http://nejm.org">nejm.org</a> at MIT Libraries.)</p>	<p><b>An overabundance of</b> rainfall can also <b>be a factor in spreading</b> infectious diseases carried by water, usually as a result of <b>overflowing sewers and pollution from farm animals</b> (Shuman, 2010).</p>	<p><b>When</b> there is an overabundance of rainfall, <b>two situations can occur:</b> sewers can overflow and water can become polluted by the presence of livestock, <b>both of which can lead to</b> outbreaks of waterborne diseases (Shuman, 2010).</p>

# Avoiding Plagiarism: Paraphrasing Strategies and Examples (continued)

## Example 2:

Original	Acceptable Paraphrase: Changed Voice and Changed Parts of Speech
<p>Current political and economic incentives favor industry and other interest groups at the expense of health: consider the subsidies paid for corn-based agriculture and mass-produced processed foods, the tobacco revenue generated in countries with a government-owned tobacco industry, industrial growth in the face of environmental pollution, and the spread of the sedentary automobile-and-television culture.</p> <p>(Source: Venkat Narayan, K.M., Ali, M.K., and Koplan, J. (2010, September 23). Global noncommunicable diseases – where worlds meet. <i>The New England Journal of Medicine</i>, 363; 13. 1196-1198. Retrieved from <a href="http://nejm.org">nejm.org</a> at MIT Libraries.)</p>	<p>Researchers point out that in attempting to implement economic growth, industry <b>is often favored</b> over health: government may <b>subsidize</b> certain forms of agriculture and food production, contribute to tobacco consumption in nations <b>where it owns the industry</b> and otherwise promote growth of <b>industries that pollute</b>. (Venkat Narayan et. al, 2011).</p>

## Example 3:

Original	Acceptable Paraphrase: Changed Clause to Phrase
<p>The prevalence and impact of non-communicable diseases continue to grow. Chronic diseases account for 60% of all deaths worldwide, and 80% of these deaths occur in low-or middle-income countries, where the toll is disproportionate during the prime productive years of youth and middle age.</p> <p>(Source: Venkat Narayan, K.M., , Ali, M.K., and Koplan, J. (2010, September 23). Global noncommunicable diseases – where worlds meet. <i>The New England Journal of Medicine</i>, 363; 13. 1196-1198. Retrieved from <a href="http://nejm.org">nejm.org</a> at MIT Libraries.)</p>	<p><b>The increasing spread of non-communicable diseases</b> can be seen in figures that show these diseases are responsible for 60% of all deaths on the planet, and that in countries where the population is primarily of low or middle income, the impact is greatest, often focusing on those who are young or middle-aged (Venkat Narayan et. al, 2011).</p>

**A good paraphrase combines a number of strategies: the goal is to rephrase the information so that it appears in *your words*, not those of the author.**

**Example 4 - using multiple strategies to paraphrase:**

Original	Acceptable Paraphrase #1	Acceptable Paraphrase #2
<p>We do not yet understand all the ways in which brain chemicals are related to emotions and thoughts, but the salient point is that our state of mind has an immediate and direct effect on our state of body.</p> <p>(Source: Siegel, B. (1986). <i>Love, Medicine and Miracles</i> (p. 69). New York: Harper and Row.)</p>	<p>Siegel (1986) writes that although the relationship between brain chemistry and thoughts and feelings is not fully understood, we do know that our psychological state affects our physical state.</p> <p><b>What did the writer do?</b></p> <ul style="list-style-type: none"> <li>• Used synonyms</li> <li>• Changed sentence structure</li> <li>• Changed voice</li> <li>• Cited source</li> </ul> <p>Words like <i>brain</i> are generic and do not need to be changed.</p>	<p>Siegel (1986) writes that the relationship between the chemicals in the brain and our thoughts and feelings remains only partially understood. He goes on to say, however, that one thing is clear: our mental state affects our bodily state.</p> <p><b>What did the writer do?</b></p> <ul style="list-style-type: none"> <li>• Used synonyms</li> <li>• Changed the sentence structure (use two sentences instead of one)</li> <li>• Changed voice</li> <li>• Changed parts of speech</li> <li>• Cited source</li> </ul> <p>Words like <i>brain</i> and <i>chemicals</i> are generic and do not need to be changed.</p>

**Example 5 - unacceptable paraphrase:**

Original	Unacceptable Paraphrase #1	Unacceptable Paraphrase #2
<p>We do not yet understand all the ways in which brain chemicals are related to emotions and thoughts, but the salient point is that our state of mind has an immediate and direct effect on our state of body.</p> <p>(Source: Siegel, B. (1986). <i>Love, Medicine and Miracles</i> (p. 69). New York: Harper and Row.)</p>	<p>Siegel (1986) writes that <b>we still do not know all the ways</b> in which brain chemistry is <b>related to emotions and thoughts, but the important point is that</b> our mental state <b>has an immediate and direct effect</b> on our physical state.</p> <p><b>Why is this unacceptable?</b></p> <ul style="list-style-type: none"> <li>• The writer has kept the same exact sentence structure.</li> <li>• The writer had only substituted synonyms in certain places; in others the wording is exactly the same as that of the original.</li> </ul> <p>Even though the writer mentions the original source in the introductory phrase, the result is plagiarism.</p>	<p>According to Siegel (1986), our mind affects our body quickly and directly, although <b>we do not yet understand every aspect of how brain chemicals relate to emotions and thoughts.</b></p> <p><b>Why is this unacceptable?</b></p> <ul style="list-style-type: none"> <li>• Although the writer has changed the structure of the sentence, key phrases have been taken directly from the original.</li> </ul>

# Choosing Whether to Quote or to Paraphrase

Sometimes students are not sure when to quote directly and when to paraphrase. As we said before, quote only if the language is particularly expressive and/or adds weight to your argument.

---

Example of a good use of quotation:

After the Challenger disaster of 1986, it was learned that NASA was so anxious to launch the shuttle that it had overlooked certain safety measures. Nobel physicist Richard Feynman later observed that “for a successful technology, reality must take precedence over public relations, for nature cannot be fooled” (cited in Katz, 1999).

**Feynman’s credentials and the fine wording of his comment deserve quotation here.**

(Source: Katz, J. (1999, May 13). Retrieved July 6, 2005 from <http://wuphys.wustl.edu/~katz/naturefooled.html>)

---

Example of unnecessary quotation, a paraphrase would be better:

In January 2012, the World Health Organization published a set of recommendations for policy-makers regarding marketing food and beverages to children. The report noted that “In Norway, the Broadcasting Act bans advertising directed at children and advertising in connection with children’s programming on television and radio. The ban applies to the advertising of any products, including food and beverages.” (p. 22)

**The wording of this information is not particularly noteworthy. In this case, it would be better to paraphrase:**

In January 2012, the World Health Organization published a set of recommendations for policy-makers regarding marketing food and beverages to children. The report noted that the country of Norway has enacted a law that prohibits all advertising to children, including advertisements for drinks or food. (p. 22)

(Source: World Health Organization (2012). A framework for implementing the set of recommendations on the marketing of foods and non-alcoholic beverages to children. *Marketing Framework 2012*. PDF file. Retrieved from [www.who.int](http://www.who.int).)

# Avoiding Plagiarism: Taking Careful Notes

In recent years, several famous scholars have been accused of plagiarism. Some have mentioned **bad note-taking practices as the cause of their mistakes**: in taking information from another source, these scholars had copied several sentences without putting them in quotation marks. When they transformed the notes into their own text, they believed the sentences to be their own and presented them as such. The result was plagiarism.

**Such inadvertent plagiarism can be avoided by following these guidelines:**

- Use a program like RefWorks or EndNote to keep track of your citations.
- Write down the author, title, and page number of each source every time you quote directly, paraphrase, or jot down useful facts and figures.
- Paraphrase accurately. (see p. 16)
- Keep a running list of all sources: articles, books, online sources and their URLs.

By following these steps, you can avoid the unpleasant scenario of spending hours trying to retrace your steps in order to locate the source from which you obtained your information.

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The MIT Libraries provide support for several citation management products including EndNote, RefWorks, Zotero, and Mendeley. View details and a comparison:

<http://libguides.mit.edu/references>



# Avoiding Plagiarism: Summarizing

A summary is a synthesis of the key ideas of a piece of writing, restated in your own words – i.e., paraphrased. You may write a summary as a stand-alone assignment or as part of a longer paper. Whenever you summarize, you must be careful not to copy the exact wording of the original source.

## How do I summarize?

A good summary:

- Identifies the writer of the original text.
- Synthesizes the writer's key ideas.
- Presents the information neutrally.

Summaries can vary in length. Follow the directions given by your instructor for how long the summary should be.

---

## An example of summarizing:

### Original text:

America has changed dramatically during recent years. Not only has the number of graduates in traditional engineering disciplines such as mechanical, civil, electrical, chemical, and aeronautical engineering declined, but in most of the premier American universities engineering curricula now concentrate on and encourage largely the study of engineering science. As a result, there are declining offerings in engineering subjects dealing with infrastructure, the environment, and related issues, and greater concentration on high technology subjects, largely supporting increasingly complex scientific developments. While the latter is important, it should not be at the expense of more traditional engineering.

Rapidly developing economies such as China and India, as well as other industrial countries in Europe and Asia, continue to encourage and advance the teaching of engineering. Both China and India, respectively, graduate six and eight times as many traditional engineers as does the United States. Other industrial countries at minimum maintain their output, while America suffers an increasingly serious decline in the number of engineering graduates and a lack of well-educated engineers. (169 words)

(Source: Excerpted from Frankel, E.G. (2008, May/June) Change in education: The cost of sacrificing fundamentals. *MIT Faculty Newsletter*, XX, 5, 13.)



# Avoiding Plagiarism: Summarizing (continued)

## One-paragraph Summary:

In a 2008 Faculty Newsletter article, “Change in Education: The cost of sacrificing fundamentals,” MIT Professor Emeritus Ernst G. Frankel expresses his concerns regarding the current state of American engineering education. He notes that the number of students focusing on traditional areas of engineering has decreased while the number interested in the high-technology end of the field has increased. Frankel points out that other industrial nations produce far more traditionally-trained engineers than we do, and believes we have fallen seriously behind. (81 words)

### Why is this a good summary?

The summary identifies the writer, the date of publication, and the source, and restates the key ideas using original wording. The summary reports on the author’s point of view, but reports this neutrally.

---

## One-line summary:

MIT Professor Emeritus Ernst G. Frankel (2008) has called for a return to a course of study that emphasizes the traditional skills of engineering, noting that the number of American engineering graduates with these skills has fallen sharply when compared to the number coming from other countries. (47 words)

### Why is this a good summary?

This one-line summary identifies the writer and synthesizes the key ideas. A short summary like this might appear in the literature review of research paper in which the student gathers together the findings or opinions of scholars on a given subject.

## What is the difference between paraphrasing and summarizing?

Summarizing and paraphrasing are somewhat different. A paraphrase is about the same length as the original source, while a summary is much shorter. Nevertheless, when you summarize, you must be careful not to copy the exact wording of the original source. Follow the same rules as you would for paraphrase.

# Writing Code

Writing code is similar to academic writing in that **when you use or adapt code developed by someone else as part of your project, you must cite your source**. However, instead of quoting or paraphrasing a source, you include an inline comment in the code. These comments not only ensure you are giving proper credit, but help with code understanding and debugging.

## When should I cite a source in my code?

- When you copy code from an external source. Whether you are copying a snippet of code or an entire module, you should credit the source.
- When you copy the code and adapt it, you should still credit the source. You were not the original developer of the code.

## How should I cite the code?

- Generally, the URL and the date of retrieval are sufficient. Add more details if it will help the reader get a clearer understanding of the source.
- If you adapted the code, you should indicate “Adapted from:” or “Based on” so it is understood that you modified the code.
- Your instructor may have specific instructions on how you should or should not cite your sources. If you are not clear on what is acceptable, ask your instructor.

---

## Use of Open Source Software

When you use code from an open source project, you need both to attribute the source and **follow the terms of any open source license that applies to the code you are using**. Keep in mind:

- When you download the source, the license is typically part of the download.
- Also, the source code itself will typically contain the copyright and terms of use.
- **When you incorporate open-source-licensed code into a program, it is good practice to duplicate the copyright in your code, and/or store the license in a file with the code.**
- If you don't obtain the license with the download, you should be able to find it on the site of the open source project, such as Apache HTTP Server site, or on the Open Software Initiative (OSI) site <http://opensource.org/>.

# Writing Code (continued)

**Instructors determine the specific expectations around re-use of code in each class.** Often, the requirements are described in the collaboration policy for the class. If policy is not clearly described in the course materials and you are not sure what is acceptable, ask your instructor.

**Collaboration policy from Spring 2012 6.005 Elements of Software Construction:**

*(used with permission of Professors Saman Amarasinghe and Armando Solar Lezama, Dept of Electrical Engineering & Computer Science)*

For the team projects, you are encouraged to collaborate with your partners on all aspects of the work, and each of you is expected to contribute a roughly equal share to design and implementation. You may reuse designs, ideas and code from your own work earlier in the semester (even if it was done in a team project with a different partner). **You may also use material from external sources, so long as: (1) the material is available to all students in the class; (2) you give proper attribution; and (3) the assignment itself allows it. In particular, if the assignment says “implement X,” then you must create your own X, not reuse someone else’s.**

Problem sets are intended to be primarily individual efforts. You are encouraged to discuss approaches with other students but your write-up must be your own. You should not make use of any written solutions or partial solutions produced by others. Material from external sources can also be used with proper attribution, but only if the assignment allows it. **You may not use materials produced as course work by other students in the course, whether in this term or previous terms, nor may you provide work for other students to use.** During code review, you will see classmates’ solutions to a pset. While it is fine to take inspiration from their approach, do not copy their work.

**Copying work, or knowingly making work available for copying, in contravention of this policy is a serious offense that may incur reduced grades, failing the course and disciplinary action.**

**Although it is common practice to adapt code examples found on the web,**

- **You should never copy code from other students.** Your peers are not considered an authorized source.
- **You should not simply re-use code as the solution to an assignment.** Like academic writing, your code can incorporate the ideas of others but should reflect your original approach to the problem.

# Writing Code

## Examples of Citing Code Sources

### Example 1:

In describing the method *SwizzleMethods* in the Mozilla Firefox *nsToolkit* source code, the developer notes the method is “Based on the ideas and code” from the CocoaDev wiki and includes a URL:

```
420 // An alternative to [NSObject poseAsClass:] that isn't deprecated on OS X
421 // Leopard and is available to 64-bit binaries on Leopard and above. Based on
422 // ideas and code from http://www.cocoa-dev.com/index.pl?MethodSwizzling.
423 // Since the Method type becomes an opaque type as of Objective-C 2.0, we'll
424 // have to switch to using accessor methods like method_exchangeImplementations()
425 // when we build 64-bit binaries that use Objective-C 2.0 (on and for Leopard
426 // and above) ...//
```

(Source: Mozilla Firefox source code <http://lxr.mozilla.org/firefox/source/widget/src/cocoa/nsToolkit.mm#422> retrieved on Aug 12, 2012.)

### Example 2:

In describing the class *PluginProxyUtil* in the Apache Project source code, the developer cites the source as a post in a forum and includes the URL, author and date:

```
/**
 * A utility class that gives applets the ability to detect proxy host settings.
 * This was adapted from a post from Chris Forster on 20030227 to a Sun Java
 * forum here:
 * http://forum.java.sun.com/thread.jspa?threadID=364342&tstart=120
 * [...]
 */
```

(Source: Apache Project source code <http://svn.apache.org/repos/asf/httpcomponents/oac.hc3x/trunk/src/contrib/org/apache/commons/httpclient/contrib/proxy/PluginProxyUtil.java> retrieved on August 12, 2012.)

### Example 3:

In the function *OutputTraceToStream* in the Google Chrome *stack\_trace\_win* source code, the developer cites the source code as the Microsoft Developer Network and includes a URL:

```
// Code adapted from MSDN example:
// http://msdn.microsoft.com/en-us/library/ms680578\(VS.85\).aspx
```

(Source: Google Chrome source code [http://src.chromium.org/svn/trunk/src/base/debug/stack\\_trace\\_win.cc](http://src.chromium.org/svn/trunk/src/base/debug/stack_trace_win.cc) retrieved on, August 12, 2012.)

# Writing Code

## Example of Open-Source-Licensed Code

At the top of the Google Chrome `stack_trace_win` source file, note the copyright and reference to the open source license:

```
// Copyright (c) 2012 The Chromium Authors. All rights reserved.  
// Use of this source code is governed by a BSD-style license that can be  
// found in the LICENSE file.
```

If you incorporate this code into a program, you should follow the terms outlined in The Chromium Authors' open source license file, which is shown below. While this license only requires that you duplicate the copyright and license if you are redistributing the code, **it is good practice to always duplicate the copyright in your code, and/or store the license in a file with the code.** This way, if you want to redistribute the code later, intellectual property reviewing becomes much easier.

```
// Copyright (c) 2012 The Chromium Authors. All rights reserved.  
//  
// Redistribution and use in source and binary forms, with or without  
// modification, are permitted provided that the following conditions are  
// met:  
//  
// * Redistributions of source code must retain the above copyright  
// notice, this list of conditions and the following disclaimer.  
// * Redistributions in binary form must reproduce the above  
// copyright notice, this list of conditions and the following disclaimer  
// in the documentation and/or other materials provided with the  
// distribution.  
// * Neither the name of Google Inc. nor the names of its  
// contributors may be used to endorse or promote products derived from  
// this software without specific prior written permission.  
//  
//  
// THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS  
// "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT  
// LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR  
// A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT  
// OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,  
// SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT  
// LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,  
// DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY  
// THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT  
// (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE  
// OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.  
//
```

(Source: The Chromium Authors license file <http://src.chromium.org/svn/trunk/src/LICENSE> retrieved on, August 12, 2012.)

# Collaboration

Collaboration is a key component of your MIT education because:

- peer-to-peer learning helps you understand the subject better.
- working in teams trains you for collaborative work you will do in your profession.
- crediting others for their contribution to your work promotes ethical practice.

By working with other students on projects, labs and papers, you carry on a long tradition of contributing to the knowledge that will shape the future of our world.

**Be sure you understand the collaboration policy for each of your classes.**

The accepted level of collaboration, as well as the specific requirements for documenting your collaborative efforts, varies greatly from class to class, even within the same department. **Instructors determine the collaboration policy for each class.**

Do not assume you know the collaboration policy. **If the policy is not clearly described in the online course materials or in a class handout, ask your instructor how much collaboration is permitted.** Make sure you know where to draw the line between collaboration and what could be considered cheating.

## Math Department Collaboration Policy Examples

*Note that within the same department, the specifics of the collaboration policy can vary.*

**Example 1: From Spring 2012 18.03 Differential Equations Course Info document:**

*(used with permission of Professor Haynes Miller, Dept of Mathematics)*

**Collaboration is encouraged in this course, but you must follow the rules.** If you do your homework in a group, be sure it works to your advantage rather than against you. Good grades for homework you have not thought through will translate to poor grades on exams. **You must turn in your own write ups of all problems, and, if you do collaborate, you must write on your solution sheet the names of the students you worked with.** Failure to do so constitutes plagiarism.

**Example 2: From Spring 2012 18.02 Calculus Course Info document:**

*(used with permission of Professor Gigliola Staffilani, Dept of Mathematics)*

**Cooperation policy:**

**You should not expect to be able to solve every single problem on your own; instead, you are encouraged to discuss questions with each other** or to come to office hours. If you meet with a study group, you may find it helpful to do as many problems as you can on your own beforehand. **But write-ups must be done independently.** (In practice, this means that it is OK for other people to explain their solutions to you, but you must not be looking at other people's solutions as you write your own.)...

**Problem Sets: At the top of each assignment should appear...**

**Either the text "Sources consulted: none" or a list of all sources consulted** other than the main textbook, supplementary notes, and your own notes from lecture and recitation. This is required. (Examples of things that should be listed if used: office hours, names of study group partners, OCW archive, Wikipedia, Piazza, etc.)

# Collaboration (continued)

**Example 3: From Spring 2012 18.440 Probability and Random Variables in Course Info document:**  
(used with permission of Professor Jonathan A. Kelner, Dept of Mathematics)

- **Collaboration on homework is encouraged.** However, you should think about the problems yourself before discussing them with others. Furthermore, **you must write up your solutions by yourself and understand anything that you hand in.** If you do collaborate, you must acknowledge your collaborators in your write-up.
- Use of outside sources is strongly discouraged. If, however, you do use an outside source, you must reference it in your solution. Use of course bibles or materials from previous semesters is absolutely not allowed.
- **For each question on the problem set, please write a list of everyone with whom you collaborated on that problem. If you did not collaborate with anyone, please explicitly write, “No collaborators.”**

## Communication-Intensive Class Collaboration Policy

**From Spring 2012 21W.011 Writing and Rhetoric: Rhetoric and Social Issues Syllabus:**  
(used with permission of Andrea Walsh, Program in Writing and Humanistic Studies)

Using someone else’s language and/or ideas without proper attribution is academically dishonest. As members of this class and the larger scholarly community, you are expected to abide by the norms of academic honesty. **While a good deal of collaboration between students is encouraged in and out of class, failing to acknowledge sources or willfully misrepresenting the work of others as your own will not be tolerated.** Everything you submit must be your own work, written specifically for this class. Plagiarism can result in withdrawal from the course with a grade of F, suspension or expulsion from the Institute.

## Laboratory Class Collaboration Policy

**From Spring 2012 5.35 Introduction to Experimental Chemistry in General Information and Rules document:** (used with permission from Mariusz Twardowski, Dept of Chemistry)

Note that the “collaboration policy” may not always be labeled as such. In describing the requirement for the written lab report, the instructor of this laboratory class notes:

(7) Analysis of Data and Errors. **ALL ANALYSIS OF DATA MUST BE DONE INDIVIDUALLY.** The reproducibility and precision of data should be examined and the major sources of errors identified. Although detailed statistical analyses of error are rarely called for, you should at least attempt to distinguish between systematic and random error.

In describing “What to bring to the oral report,” the instructor further clarifies:

C. Notes, books, and pretty much anything (inanimate) which will help you in your discussion. You are, of course, expected **to do your own data analysis and calculations. You may use any sources of help, including other students,** written reports from previous years, textbooks, journal articles, etc. to aid your understanding the analysis as well as other aspects of the experiment. All such sources **must be appropriately acknowledged in your report.**

# Copying and Other Forms of Cheating

While guidelines on the acceptable level collaboration vary from class to class, all MIT instructors agree on one principle: **copying** from other students, from old course “bibles,” or from solutions on OCW sites is considered cheating and is **never permitted**.

**Collaboration works for you; copying works against you.**

**If you copy, you are less prepared.**

MIT Professor David E. Pritchard, the Cecil and Ida Green Professor of Physics, has said, “Doing the work trumps native ability.” Those who invest the time working through the problem sets are better prepared to answer exam questions that call for conceptual thinking.

**If you copy, you aren’t learning.**

Research done in 2010 by Professor Pritchard and others showed that those who copied more than 30% of the answers on problem sets were more than three times as likely to fail the subject than those who did not copy.

(Source: Pritchard, D.E. What are students learning and from what activity? Plenary speech presented at Fifth Conference of Learning International Networks Consortium 2010. Retrieved from <http://linc.mit.edu/linc2010/speakers.html>)

**If you copy, you violate the principles of academic integrity.**

Copying is cheating. When you fail to uphold the principles of academic integrity, you compromise yourself and the Institute.

**BUT**

**If you collaborate, you learn from your peers.**

Every student brings a unique perspective, experience, and level of knowledge to a collaborative effort. Through discussion and joint problem solving, you are exposed to new approaches and new perspectives that contribute to your learning.

**If you collaborate, you learn to work on a team.**

Gaining the skills to be an effective team member is fundamental to your success as a student, researcher and professional. As you collaborate with your peers, you will face the challenges and rewards of the collegial process.



# Copying and Other Forms of Cheating (continued)

## Beyond Copying

Whether because of high demands on your time or uncertainty about your academic capabilities, you may be tempted to cheat in your academic work. While copying is the most prevalent form of cheating, dishonest behavior includes, but is not limited to, the following:

- **Changing the answers** on an exam for re-grade.
- **Misrepresenting** a family or personal situation to get an extension.
- **Using prohibited resources** during a test or other academic work.
- **Forging** a faculty member's signature on a permission form or add/drop form.
- **Falsifying** data or claiming to have done research you did not do.
- **Claiming work of others** as your own by deliberately not citing them.
- **Assisting** another student in doing any of the above.

(Adapted from: Jordan, David K. (1996). "Academic Integrity and Cheating." Retrieved from <http://weber.ucsd.edu/~dkjordan/resources/cheat.html>, on July 31, 2012.)

If you are tempted to cheat, think twice. Do not use the excuse that "everybody does it." Think through the consequences for yourself and others. Those who cheat diminish themselves and the Institute. Cheating can also negatively impact other students who do their work honestly.

If you observe another student cheating, you are encouraged to report this to your instructor or supervisor, contact the Office of Student Citizenship ([citizenship@mit.edu](mailto:citizenship@mit.edu)), or reach out to the Ombuds Office for advice at <http://ombud.mit.edu>.



# Working Under Pressure

Academic work at MIT is rigorous. Much will be asked of you, and many demands will be made on your time. **Anticipate pressure.** You will have a great deal of work at MIT, and assignments can mount up at midterm and right before the end of the semester.

Occasionally you may feel overwhelmed by the amount of work you need to accomplish and may be tempted to cut corners, risking violations of academic integrity that could compromise your academic career. Instead, **use the resources that can help you manage your workload and succeed.**

## > Ask for help from your instructor, supervisor or TA

- Make an appointment to talk to your instructor or supervisor or use office hours. Let him or her know you are having trouble and ask for help.
- Talk to your TA or contact him/her via email. TAs expect to be contacted; it is part of their job to help you.
- Ask your instructor for an extension. Instructors would much rather give you an extension or accommodate you in some other way than see you violate academic integrity.

## > Get academic support

- Take advantage of the variety of tutoring resources available at MIT.
- Work with the MIT Writing and Communication Center when you need help on a writing assignment.
- Get help from the MIT Libraries subject experts, who can help you start your research or answer questions at any stage in the research process.

## > Ask for advice

- Undergraduates can talk to one of the deans in Student Support Services (S<sup>3</sup>), who can provide advice on both academic and personal challenges as well as advocacy and consultation with faculty.
- Graduate students can talk to the deans in the Office of the Dean for Graduate Education (ODGE), who can provide advice and support on a variety of issues including faculty/student relationships, academic progress, interpersonal concerns, and a student's rights and responsibilities.
- Talk to your academic advisor, who can provide insight and guidance and potentially advocate with your instructor or supervisor on your behalf.
- Graduate students can talk to another student through the REFS (Resources For Easing Friction and Stress) peer support programs, which are department-based and run by graduate students.

# Working Under Pressure (continued)

## > Manage your time

- Use the time management guidelines on MIT's Center for Academic Excellence (ACADEX) site to help you plan a schedule, balance your priorities, and get tips on ways to save time. Good time management will help you stay productive, on track, and reduce stress.

## > Give your mind a break

- Students often put pressure on themselves to succeed. Even if you're used to getting A's, that might not happen at MIT, and that's okay. When you are feeling overwhelmed, it is important to take a break from your academic focus.
- Stress reduction, mindfulness, and relaxation information and techniques are provided through Community Wellness.
- The Department of Athletics, Physical Education, and Recreation (DAPER) provides numerous options for fitness and recreation.
- Each day at MIT, the MIT Events Calendar lists seminars, concerts, exhibits, and all types of student group gatherings that provide an opportunity for a short break from your work.



# Helping You Succeed - Resources



## Learning Strategies and Academic Support

### Center for Academic Excellence Website

Online tools and resources to enhance student success.  
<http://acadex.mit.edu>

### Tutoring at MIT

Free tutoring options range from departmental-level tutoring to peer-to-peer tutoring.  
<http://web.mit.edu/uaap/learning/tutoring/index.html>

### Undergraduate Advising and Academic Programming (UAAP)

Services and programs to support academic success and personal development of undergraduates.  
<http://web.mit.edu/uaap/programs>



## Writing and Research

### Writing and Communication Center

Trained writing tutors who can help you with papers and provide practice and feedback on oral presentations. Many tutors are knowledgeable about the particular needs of non-native English speakers. There is no charge to use the Center.  
<http://cmsw.mit.edu/writing-and-communication-center/>

### MIT Libraries

Search tools and resources to help you with your research. Subject experts can save you time by recommending the best places to start your search or answer questions at any stage of the research process. They can offer help about a particular citation style.

Library Subject Experts

<http://libraries.mit.edu/experts>

Guide on Citing Sources

<http://libguides.mit.edu/citing>

Citation Style Guides

<http://libguides.mit.edu/citestyle>

Citation Software at MIT

<http://libguides.mit.edu/references>

Don't Know Where to Start?

<http://libraries.mit.edu/ask-us/>

# Helping You Succeed - Resources (continued)



## Advice and Advocacy

### **MIT Mental Health and Counseling**

Counseling for students facing personal issues.

[http://medweb.mit.edu/directory/services/mental\\_health.html](http://medweb.mit.edu/directory/services/mental_health.html)

### **Office of the Dean for Graduate Education (ODGE)**

Advice and advocacy for graduate students facing personal or academic challenges.

<http://odge.mit.edu/development/advising/>

### **Ombuds Office**

Serves as an independent, confidential, neutral and informal resource where you can express concerns about any aspect of your experience at MIT.

<http://ombud.mit.edu>

### **Student Disabilities Services (SDS)**

Support and advocacy for students with disabilities to ensure all students receive equal access to the Institute's programs, activities, and services.

<http://mit.edu/uaap/sds>

### **Student Support Services (S<sup>3</sup>)**

Advice and advocacy for undergraduate students facing personal or academic challenges.

<http://web.mit.edu/uaap/s3/>



## Mentoring and Peer to Peer Support

### **First Generation Program at MIT**

Network of students, faculty and alumni focused on enhancing the academic, professional and personal development of first generation students.

<http://fgp.mit.edu>

### **Office of Minority Education**

Programs that empower students to thrive academically, and encourage strong mentoring relationships with faculty and staff.

<http://ome.mit.edu>

### **REFS Programs (Resources For Easing Friction and Stress)**

Graduate students in some academic departments have organized themselves into free, confidential groups offering informed listening, mediation, referrals, and advice. If such a group does not exist in your department, you can get help to set one up.

<http://studentlife.mit.edu/conflictmanagement/refs>



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ITS APPLICATION

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Academic Integrity at the  
Massachusetts Institute  
of Technology:  
**A Handbook for Students**

