

English Academic Writing

Unit 1: Introduction

Course Information

Instructor: Dr. Peng Li

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Research interests:

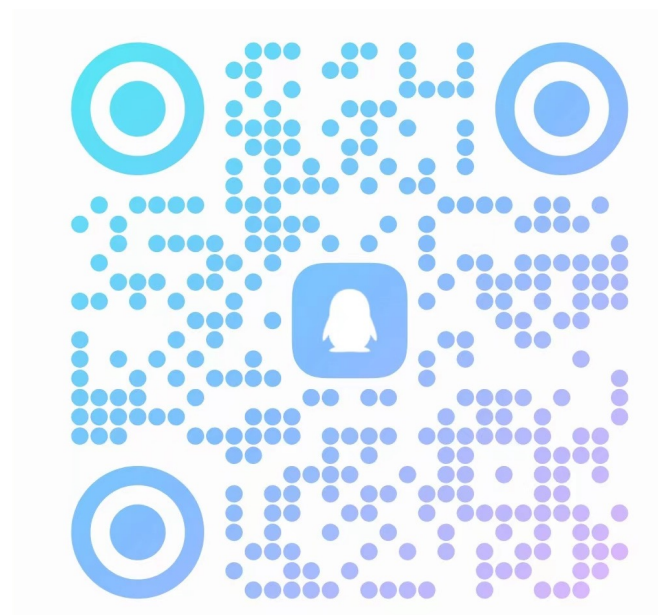
System identification, estimation and their applications
in microgrids control and robotics

Week 5 – 8

Monday & Wednesday

Sessions 5 - 6 or 7 - 8

QQ Group
782017598



Course Information

Outline

Unit 1 : Introduction

Course information, principles of effective writing, cut the clutter

Unit 2 : Language

Grammar, vocabulary, register and style, passive and active tones, write with verbs, punctuation, tips and common problems

Unit 3 : Writing in academic genre

Process of writing, structure, revision, plagiarism and reference, submission, presentation

Unit 4 : Writing for administrative purposes

Review articles, emails, personal statements...

Course Information

Assessment

1. Attendance & Participation (10%)

- In-class Q&A, discussion and quiz

2. Assignment (20%):

- 10%: Homework: essay writing & peer reviewing
- 10%: Presentation (group work)

3. Final exam (70%)

- An absent student must provide **a written notice** with **valid reasons**.

English Academic Writing

General features

- **Communicative**

- A sender transmits the message to the receiver

- **Identify your audience**

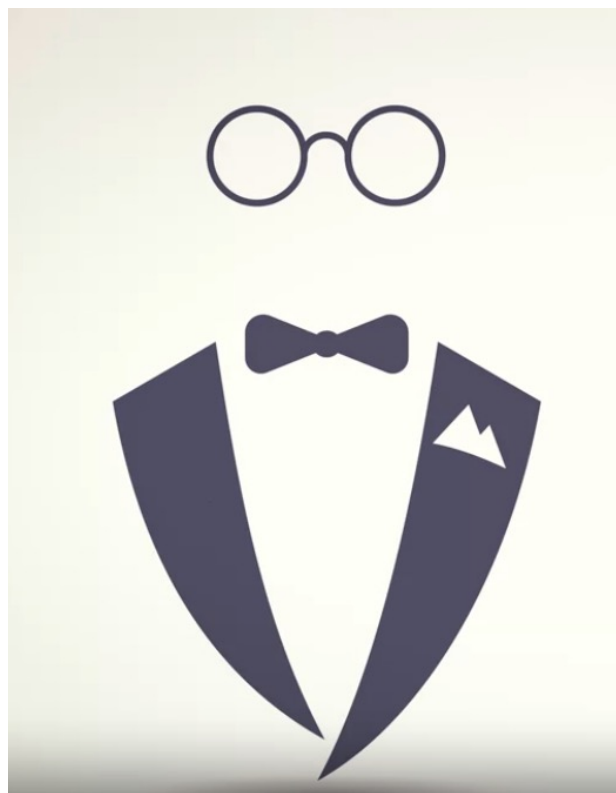
- Who are you writing for?
- What you can expect your audience to know?

- **Objective**

- Avoid biased language (contains words or phrases that are offensive, prejudiced, excluding, or hurtful)
- Do not bring in personal opinions
- Present an argument for the actual topic
- Should not be a subjective statement on the part of the writer
- E.g. “*This essay attempts to...*” vs “*In my essay I will attempt to...*”

English Academic Writing

Formal genre:
Strict register and format



general features -- more
academically oriented
and less formal

not a polarised picture!

Academic writing	Non-academic writing
Full forms	Short forms
There is The test <u>did not</u> show	There's The test <u>didn't</u> show
Connectors	Connectors
The experimental design was weak. <u>Moreover</u> , the methodology was faulty.	Because of work, I can't go to London this weekend. <u>Anyway</u> , I don't have enough money.
Use of the passive voice	Use of the active voice
In recent years, several analyses of survey data <u>have been published</u> .	In recent years, researchers <u>have published</u> several analyses of survey data.
Point of view	Point of view
Using qualifying language , e.g. One <u>possible</u> reason <u>may be</u> ...	Asking rhetorical questions , e.g. How can this be so?

Writing practices vary from one academic discipline to another.

what is expected of you [for the particular text?](#)

English Academic Writing



Writing in the Sciences

Goals: Rethink your writing approach
Rethink your writing process
Ease possible fears around writing

1.1 Introduction

■ What makes good writing?

Takes

- having something to say
 - clear thinking
- e.g. the causality, the logic



■ 1. **Good writing communicates an idea **clearly** and **effectively**.**

scientific writing : get your ideas/results across to the audiences

2. **Good writing is elegant and stylish.**

Excessive attention:

- sounding a certain way, sounding smarter or sounding elegant
- cause all sorts of problems in writing.

Takes time,
revision and
good editing

1.1 Introduction

- What makes a good writer?
 - Inborn talent?
 - the writing gene? The math gene?
The science gene?
 - Years of English and humanities classes?
 - Need inspiration?

None of these!

1.1 Introduction

What makes a good writer:

- Having something to say
 - things that you are passionate about
 - otherwise, highly likely to write a confusing paragraph
- Logical thinking.
 - present your arguments in a logical way
- A few simple, learnable rules in English writing (the tools you'll learn in this class).

Take-home message: Good writing can be learned!

By practicing

Steps to becoming a better writer:

- In addition to taking this class, other things you can do to become a better writer:
 - Read, pay attention, and imitate.
 - not necessarily the scientific literature(magazines and novels)
 - pay attention to how professional writers write – imitate the tricks
 - Write short articles or essay.
 - writing is a skill -- Practice makes perfect
 - Talk about your research before trying to write about it.
 - a friend who is not necessarily in your discipline
 - conversational ton helps clear thinking
 - Write to engage your readers — try not to bore them!
 - the scientific literature does not have to be tedious and dull
 - we can write in a more engaging and lively and interesting way.

Steps to becoming a better writer:

- In addition to taking this class, other things you can do to become a better writer:
 - Stop waiting for “inspiration.”
 - DON'T find excuses – procrastination
 - get prepared to write – have something to say
 - Revise. Nobody gets it perfect on the first try.
 - go through the first draft quickly and put your emphasis on revision
 - the elegance part happens on revision
 - Learn how to cut ruthlessly.
 - help to make your work simple and clear
 - Find a good editor!
 - a classmate, a friend, a significant other if they're willing
 - feedback is important

English Academic Writing

Module 1.2: Examples of what not to do

Disclaimer

- I omit exact citations from many of the examples.
- I am not critiquing any particular author.
- They are used as typical examples in the scientific literature.

Example 1

- This was a sentence of an article in an IEEE Trans. (Abstract):
- "According to different areas or electrical equipment, the SG is divided into several nodes, and each node can estimate the entire state of the SG through local sensor measurement information and neighbor state estimation information. Although malicious attackers can use the different information between local sensor data and neighbor state estimation communication data to attack grid nodes, it will inevitably cause the attack detectors of other nodes to trigger alarms due to the consistency of grid state estimation."
- Ask Yourself:
 - Is this sentence easy to understand?
 - Is this sentence enjoyable and interesting to read?

Another amusing example

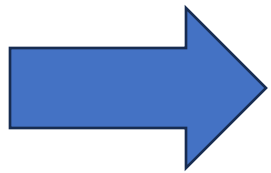
- “These findings imply that the rates of ascorbate radical production and its recycling via dehydroascorbate reductase to replenish the ascorbate pool are equivalent at the lower irradiance, but not equivalent at higher irradiance with the rate of ascorbate radical production exceeding its recycling back to ascorbate.” (from Photochemistry and Photobiology...)
- Is this sentence readable?
- Is it written to **inform** or to obscure?

A classic hallmark of “academic writing”:
spunky verbs become clunky nouns...

- “According to different areas or electrical equipment, the SG is divided into several nodes, and each node can estimate the entire state of the SG through local sensor **measurement** information and neighbor state **estimation** information. Although malicious attackers can use the different information between local sensor data and neighbor state **estimation communication** data to attack grid nodes, it will inevitably cause the attack detectors of other nodes to trigger alarms due to the consistency of grid state **estimation**.”

Verbs drive the sentences along
Nouns slow the sentence down

- “These findings imply that the rates of ascorbate radical **production** and its **recycling** via dehydroascorbate reductase to replenish the ascorbate pool are equivalent at the lower irradiance, but not equivalent at higher irradiance with the rate of ascorbate radical **production** exceeding its **recycling** back to ascorbate.”



- “These findings imply that, at low irradiation, ascorbate radicals are produced and recycled at the same rate, but at high irradiation, they are produced faster than they can be recycled back to ascorbate.”

Themes of this course:

- Complex ideas don't require complex language.
- Scientific writing should be easy and even enjoyable to read!

Make sure:

Your reader understands your writing
Your reader cares about your writing.

Readers:

- Pick up on your ideas
- Cite your work

English Academic Writing

Module 1.3: Overview: principles of effective writing

Example

Dysregulation of physiologic microRNA (miR) activity has been shown to play an important role in tumor initiation and progression, including gliomagenesis. Therefore, molecular species that can regulate miR activity on their target RNAs without affecting the expression of relevant mature miRs may play equally relevant roles in cancer.

What makes it so difficult to read?

From an article in *Cell* (a top biology journal, IF 64.5)

Usage of nouns

- Dysregulation of physiologic microRNA (miR) activity has been shown to play an important role in tumor initiation and progression, including gliomagenesis.
- Therefore, molecular species that can regulate miR activity on their target RNAs without affecting the expression of relevant mature miRs may play equally relevant roles in cancer.

Verbs move sentences along
Nouns slow the reader down

Vague words

very broad

- Dysregulation of physiologic microRNA (miR) activity has been shown to play an important role in tumor initiation and progression, including gliomagenesis.

could be a lot of things

- Therefore, molecular species that can regulate miR activity on their target RNAs without affecting the expression of relevant mature miRs may play equally relevant roles in cancer.

Unnecessary jargon and acronyms

Jargon: specialised technical terminology of a particular subject

Acronym: words composed of the first letters of the words in a phrase

- Dysregulation of physiologic microRNA (miR) activity has been shown to play an important role in tumor initiation and progression, including gliomagenesis. **glioma**

e.g. exam & examination, concept & conceptualisation

- Therefore, molecular species that can regulate miR activity on their target RNAs without affecting the expression of relevant mature miRs may play equally relevant roles in cancer.

Saves a few letters but slows the reader

Use acronyms that are standard terms that everybody is familiar with, e.g.

- SLAM (Simultaneous localization and mapping)
- SMC (Sliding mode control)
- MPC (Model predictive control)

Passive voice

- Dysregulation of physiologic microRNA (miR) activity has been shown to play an important role in tumor initiation and progression, including gliomagenesis.

Active voice :She throws the ball Passive voice: The ball is thrown by her.

- Therefore, molecular species that can regulate miR activity on their target RNAs without affecting the expression of relevant mature miRs may play equally relevant roles in cancer.

Distance between the subject and the predicate

- Dysregulation of physiologic microRNA (miR) activity has been shown to play an important role in tumor initiation and progression, including gliomagenesis.

subject

descriptive clause

- Therefore, molecular species that can regulate miR activity on their target RNAs without affecting the expression of relevant mature miRs may play equally relevant roles in cancer.

predicate

Until you give the reader the predicate,
the reader does not know where you are going with the sentence.

Possible rewrite...

- Changes in microRNA expression play a role in cancer, including glioma. Therefore, events that disrupt microRNAs from binding to their target RNAs may also promote cancer.

Overview: Principles of effective writing

- 1. Cut unnecessary words and phrases; learn to part with your words!
- 2. Be brave to use the active voice (subject + verb + object)
- 3. Write with verbs: use strong verbs, avoid turning verbs into nouns, and do not bury the main verb!

English Academic Writing

Module 1.4: Cut the clutter

Principles of Effective Writing

- "The secret of good writing is to strip every sentence to its cleanest components. Every word that serves no function, every long word that could be a short word, every adverb that carries the same meaning that's already in the verb, every passive construction that leaves the reader unsure of who is doing what - these are the thousand and one adulterants that weaken the strength of a sentence. And they usually occur in proportion to the education and rank."
- -- William Zinsser in "On Writing Well", 1976

Cut the clutter

Enhance
conciseness

- Achieve conciseness by removing unnecessary words, phrases, sentences, and paragraphs.
- The removals should not sacrifice clarity, coherence, or unity.

Example 1

“This paper provides a review of the basic tenets of cancer biology study design, using as examples studies that illustrate the methodologic challenges or that demonstrate successful solutions to the difficulties inherent in biological research.”

Example 1



"This paper provides a review of ~~the basic tenets of~~ cancer biology study design, using as examples ~~studies that illustrate~~ the ~~methodologic~~ challenges or ~~that demonstrate successful~~ solutions to the ~~difficulties~~ inherent in biological research."

This paper reviews cancer biology study design, using examples that illustrate specific challenges and solutions.

Example 2

“As it is well known, increased athletic activity has been related to a profile of lower cardiovascular risk, lower blood pressure levels, and improved muscular and cardio-respiratory performance.”

Example 2

to indicate that something is well-known -- use citations

“is associated with”

~~“As it is well known,”~~ increased athletic activity ~~has been related to a profile of~~ lower cardiovascular risk, lower blood pressure ~~levels,~~ and improved ~~muscular and cardio-respiratory performance.”~~

“fitness”



Increased athletic activity is associated with lower cardiovascular risk, lower blood pressure, and improved fitness.

Example 3

- “The experimental demonstration is the first of its kind and is a proof of principle for the concept of laser driven particle acceleration in a structure loaded vacuum.”

Example 3

➡ Provides the first
proof of principle

➡ experiment

- “The **experimental demonstration** is the first of its kind and is a **proof of principle** ~~for the concept~~ of laser driven particle acceleration in a structure loaded vacuum.”

→

The experiment provides the first proof of principle of laser-driven particle acceleration in a structure-loaded vacuum.

Cut unnecessary words

- Be alert and ruthless
- We often find it hard to part with them
 - You've invested all the effort to put your words on the page
 - You may feel like you are negating your effort

But fight their seductive pull...

- Try the sentence without the extra words and see how it's better - conveys the same idea with more power

undo key! (ctrl+Z)

Cutting extra words

Example:

“Brain injury incidence shows two peak periods in almost all reports: rates are the highest in young people and the elderly.”

More punch

“Brain injury incidence peaks in the young and the elderly.”

Common clutter:

- 1. Dead weight words and phrases
 - As it is well known
 - As it has been shown
 - It can be regarded that
 - It should be emphasized that
- 2. Empty words and phrases so vague that add nothing
 - basic tenets of
 - A profile of
 - for the concept of
- 3. Long words or phrases that could be short
 - "muscular and cardiorespiratory performance" & "fitness"

Common clutter, continued:

- 4. Unnecessary jargon and acronyms
 - Gliomagenesis
 - miR
- 5. Repetitive words or phrases
 - studies/examples
 - illustrate/demonstrate
 - challenges/difficulties
 - successful solutions
- 6. Adverbs
 - very, really, quite, basically, generally, etc.

extra weight in your sentence, losing power

Long words and phrases that could be short...

Wordy version

- A majority of
- A number of
- Are of the same opinion
- Less frequently occurring
- All three of the
- Give rise to
- Due to the fact that
- Have an effect on

Crisp version

most
many
agree
rare
the three
cause
because
affect

Changing long phrases to single words

Long phrases	One word
In the event that	If
At this point in time	Now
With regard to	Regarding
In the first place	First
Is of the opinion that	Thinks
Make revisions	Revise
Take into consideration	Consider
With the exception of	Except
Make an adjustment of	Adjust

Long words or phrases that could be short...

- The expected prevalence of mental retardation, based on the assumption that intelligence is normally distributed, is about 2.5%.
- → The expected prevalence of mental retardation, if intelligence is normally distributed, is 2.5%.

Repetitive words or clauses

- A robust cell-mediated immune response is necessary, and deficiency in this response predisposes an individual towards active TB.
- → Deficiency in T- cell-mediated immune response predisposes an individual to active TB.

Don't
duplicate
nouns of the
same
meaning

INCORRECT	CORRECT	ACCEPTABLE
Arrangement plan	Arrangement	Plan
Research work	Research	Work
Application results	Results	Application
Calculation results	Results	Calculation
Simulation results	Results	Simulation
Knowledge memory	Knowledge	Memory
Output performance	Output	Performance
Sketch drawing	Sketch	Drawing

Blaise Pascal on the elegance in brevity:

“I have only made this letter rather long because I have not had time to make it shorter.” (“Je n'ai fait celle-ci plus longue que parceque je n'ai pas eu le loisir de la faire plus courte.”)

— Lettres provinciales, 16, Dec.14, 1656

Important step in writing:

Go back and make it shorter

- Refine it
- get down to the essence of your main idea

Tasks courses in high school: fill some minimum number of pages

- You may learned to pad your writing with a lot of extra words

a bad habit!



- Learn to strip your writing of everything that is not necessary
- Get down to your key ideas

Convey your ideas with the fewest words possible,

--- your writing is more readable, engaging and powerful.

Quiz: Identify the two-word phrase that contains unnecessary repetition in this sentence:

Steve Jobs inspired new innovations in technology and revolutionized global markets.

A few other small tricks...

- Eliminate negatives
- Eliminate superfluous uses of “there are/there is”
- Omit needless prepositions

Eliminate negatives

- The overall tone can be positive or negative, or neutral
- Like verbal communication, written communication also shows your tone
- A positive tone enhances your image.
- Your tone of communication reveals your personality, as well as your general attitude
- Avoid negative words in formal writing
 - Unfortunately, sadly, absurd, ridiculous, *etc.*

Eliminate negatives

- **She was not often right.**
 - **She was usually wrong.** Sentences are clearer under a positive construction
- **She did not want to perform the experiment incorrectly.** Double negative : confusing
 - **She wanted to perform the experiment correctly.**
- **They did not believe the drug was harmful.** Devious!
 - **They believed the drug was safe.**

Practice: Revise this sentence

Awkward: It is noted that the performance of Sample A is **not as good as** that of state-of-the-art MEAs reported by Gas.

Revised: It is noted that MEAs (reported by Gas) **performed better** than Sample A did.

- **Such a revision improves conciseness and positiveness.**

Transform a negative into a neutral tone

This sentence is true but the tone is not preferable

Negative: Personal point of view is not normally used in academic writing for engineering publication.

Neutral: Impersonal point of view is normally used in academic writing for engineering publication.

Eliminate negatives

■ Not honest	dishonest
■ Not harmful	safe
■ Not important	unimportant
■ Does not have	lacks
■ Did not remember	forgot
■ Did not pay attention to	ignored
■ Did not succeed	failed

Eliminate there are/there is

There are many ways in which we can arrange the pulleys.

→ We can arrange the pulleys in many ways.

There was a long line of bacteria on the plate.

→ Bacteria **lined** the plate.

Eliminate there are/there is

There are many physicists who like to write.

→ Many physicists like to write.

The data confirm that there is an association between vegetables and cancer.

→ The data confirm an association between vegetables and cancer.

Omit needless prepositions

For example, “that” , “of” , “at” are sometimes superfluous:

- Where are the plates **at**?
- Where are the plates?
- She jumped **off of** the balance beam.
- She jumped **off** the balance beam
- They agreed **that** it was true.
- They agreed it was true.

English Academic Writing

Module 1.6: Practice cutting clutter

“Practice makes perfect”

Practice: cut the clutter!

protect against

Anti-inflammatory drugs may be protective for
~~the occurrence of~~ Alzheimer's Disease.

Anti-inflammatory drugs may protect against
Alzheimer's Disease.

Feel free to let us know if you've got a better rewrite!

Practice

too direct?

~~Clinical seizures have been estimated to~~
~~occur in 0.5% to 2.3% of the neonatal~~
~~population.~~
newborns the statistics: a range of possible different values
+ a reference

Clinical seizures occur in 0.5% to 2.3%
of newborns.

Practice

~~An IQ test measures an individual's abilities to perform functions that usually fall in the domains of verbal communication, reasoning, and performance on tasks that represent motor and spatial capabilities.~~

or

An IQ test measures an individual's verbal, reasoning, or motor and spatial abilities.

Practice

Figure 2 shows

a

~~[As we can see from Figure 2, if the return kinetic energy is less than $3.2 U_p$, there]~~

yields

~~[will be] two electron trajectories associated with this kinetic energy.~~

Figure 2 shows that a return kinetic energy less than $3.2 U_p$ yields two electron trajectories.