

On Learning, Responsibility, and Standards

An Open Letter from Your Instructor

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Dear students,

I would like to share a few thoughts that go beyond schedules, deadlines, and logistics.

Over the years, I've noticed that **many misunderstandings — about assessments, expectations, and even frustration after tests — do not come from a lack of effort or good intent.** More often, they come from a **mismatch** between how students approach learning and how foundational and advanced computing courses are designed.

This letter is not meant to discourage you or warn you. It is meant to be transparent about why I make certain teaching and assessment choices, what I value in learning, and how you can best position yourself to succeed — not just in one course, but in the longer path of your studies and professional life. I'm sharing it early so that expectations are clear and misunderstandings are minimized.

I use this letter across several courses that differ in level, content, and assessment structure. **Your course syllabus and assessment guides always control the exact weights, deadlines, permitted tools, and course-specific rules.** What follows is the common learning philosophy behind those course-specific details.

Teaching, learning, and shared responsibility

Let me begin with something essential and non-negotiable:

High-quality teaching is necessary, but it is not sufficient.

More precisely, the following common line of reasoning

good teaching $\Rightarrow$ good performance

whose contrapositive is

$\neg$ good performance $\Rightarrow$ $\neg$ good teaching

is **not accurate**. Instead, this alternative line

good teaching $\wedge X \Rightarrow$ good performance

is **more accurate** because

$\neg$ good performance $\Rightarrow$ $\neg$ good teaching $\vee \neg X$

where X denotes **active engagement, steady preparation, honest self-assessment, and willingness to build mastery rather than merely complete tasks** — these are all factors over which you have substantial control, and I will discuss them in this letter.

This distinction matters because **performance** is an outcome of multiple interacting factors, not a simple reflection of **teaching quality** alone. **I see teaching and learning as a partnership.** I take full responsibility for designing and delivering a rigorous and well-structured course. At the same time, meaningful learning requires your active engagement, discipline, and honesty with yourself. **Learning is not something that can be delivered to you; it is something you must actively construct.**

Learning with support: formative freedom, summative responsibility

In all my courses, assignments or labs are intentionally designed as **lower-stakes or formative spaces for learning**. Their exact weight varies by course, but their purpose is similar: to give you room to try, make mistakes, seek help, reflect, and improve **before you are asked to demonstrate mastery independently**.

You can always feel welcome to ask me for help within the course's stated support and academic-integrity boundaries. Where the syllabus permits it, you may also collaborate, consult (online) resources, and use generative AI as a **supplementary learning resource**. The important distinction is that **support should strengthen your thinking, not substitute for it**. Particularly, if you use AI, try to move **one small step forward at a time**: clarify an error, ask for another explanation, have it question your reasoning, identify a gap, or generate extra practice, **rather than asking it to produce a complete artifact that bypasses the practice you need**.

A finished assignment, program, proof, or report is **not** the same thing as finished learning. Assistance may help you complete the work, but you remain responsible for understanding and practising the underlying ideas. In programming work, for example, you should still be able to **read, trace, test, debug, and modify** what you are working on by yourself.

When an activity is low-weight, that does **not** mean it is low in importance. It may not be **where mastery is measured**, but it may be **where mastery is built**. That is: *Use support to learn; make sure when you are asked to demonstrate your own learning, you can do so without that support.*

Foundations and judgment in the age of AI

Generative AI is powerful, and it can be an excellent learning and productivity tool. It can explain examples, generate practice questions, suggest alternative approaches, help diagnose mistakes, and sometimes produce impressive solutions to difficult problems.

But **AI is not a substitute for understanding**. AI tools can still:

- produce plausible but false explanations;
- fabricate facts and details;
- misinterpret requirements or hidden assumptions;
- overlook edge cases; and
- produce code or reasoning that looks convincing but breaks under closer examination.

The important point is **not** that AI can handle only easy or routine work. Rather, **without solid foundations, your ability to reliably judge, repair, adapt, and responsibly own AI-assisted work becomes fragile**. When requirements change or a generated answer fails subtly, you need enough understanding to decide what to trust and what to do next.

This is why **rigorous programming, mathematical, design, and reasoning skills are more, not less, important in the age of AI**. They help you examine requirements and assumptions, judge whether a result is trustworthy, and decide what to do when something fails or changes.

If AI repeatedly supplies finished answers before you have built these capabilities, it can accumulate a kind of “**cognitive debt**”: **short-term productivity can hide understanding gaps that become costly later** when debugging, maintenance, extensions, or unfamiliar problems demand independent judgment.

In other words, AI may help you move faster, but **your foundations determine whether you can recognize when something has gone wrong and take responsibility for the result**.

A progression across courses: what we are trying to build

The courses in which I use this letter do not all serve the same purpose. Some are primarily about **building foundational fluency**; later courses increasingly ask you to **synthesize** those foundations in larger design, analysis, implementation, and integration problems. The language, notation, or tool may change, but the **transferable habits** matter more over time: **reason precisely, construct and check solutions, and judge the quality of evidence**.

This is also why there is no single assessment format appropriate for every learning outcome. **Supervised individual work** can provide evidence of independent fluency, reasoning, and judgment. **Projects and collaborative work** can be valuable for design, integration, communication, teamwork, and larger-scale synthesis. A sound course uses the form of assessment that best matches what students are supposed to learn and demonstrate.

The common objective is not to train you for one narrow kind of school task, but to **build capabilities that remain relevant and useful when the tool or problem changes**.

Why some learning must be demonstrated independently

Supported work is often an excellent way to **build** learning. It is not always strong evidence of what one person can reliably do without that support. This distinction has become even more important when powerful online resources and generative AI can contribute substantially to take-home work.

When **independent** reasoning, implementation, or problem solving is itself a learning outcome, it is reasonable to ask you to demonstrate it in a **controlled individual setting**. The purpose is not difficulty for its own sake. It is to obtain *credible evidence* of **what you have actually internalized** and to give you an honest checkpoint on your own readiness.

This does not mean professional work is solitary. Real computing and engineering work values collaboration, communication, tools, documentation, and teamwork. But collaboration is most useful when each person brings enough independent capability to contribute, evaluate others' work, notice problems, and take responsibility for decisions. **Independent assessment and collaborative professional work therefore measure different, complementary things**.

The final exam: cumulative, substantial, and intentional

In the courses in which I use this letter, the final examination is **cumulative and substantial**. It is **not an assessment you can prepare for effectively in just a short, intense period of time**. Its purpose is to assess whether you can:

- synthesize the taught material across the term;
- connect ideas across topics; and
- reason coherently rather than relying on isolated examples or rehearsed procedures.

Yes, some memorization is unavoidable. But **memorization alone is insufficient**. The best preparation is **steady, consistent engagement and ongoing review throughout the term**, not last-minute cramming.

Effort, mastery, and diagnostic feedback

I understand that receiving a lower-than-expected assessment result can be discouraging — especially when you worked hard and believed you understood the material. **This experience is common**, even among strong and motivated students. In particular, many students, quite understandably, reason along the following lines:

“I attended lectures, completed assignments, spent a lot of time studying, and struggled honestly — so the grade I received feels disproportionate.”

The important distinction to understand is this: **active engagement and effort are necessary conditions for learning, but they are not sufficient conditions for earning a particular grade.**

Academic grades reflect demonstrated mastery — what you can reliably recall, reason about, construct, explain, and apply under the conditions of the assessment — not exposure to material, time spent, or the fact that all required components were submitted.

At the same time, **time and effort are not always directly correlated with mastery or performance. Hard work is necessary, but hard work must be well-directed.** No serious success is possible without effort, but effort alone is not the goal. What matters more is **how your effort is directed**:

- *core ideas* rather than surface procedures;
- *reasoning* rather than memorization;
- *understanding why something works or does not work*, not just how to reproduce it;
- *mastering the ground-level fundamentals*, not merely surviving the next deadline; and
- *staying on top* of what is currently being taught, instead of postponing understanding until assessments approach.

Some of the most valuable learning may come from work that is **not** directly attached to marks: trying additional examples, tracing variants you create yourself, reading a reference explanation, asking why a solution works, or exploring practice problems beyond what was assigned. That kind of **curiosity** is not wasted time; it is often where **real proficiency** begins.

When you feel that “*the assessment result does not reflect my true understanding*”, I would **not** characterize this as a personal failing or lack of ability. More often, the result is useful diagnostic evidence: there may still be **gaps in fluency, precision, transfer, or independent reasoning**. The productive question is not simply whether you worked hard, but **what the evidence is telling you to strengthen next**.

If a result surprises you, bring it to me. We can go through it together and work out what specifically to strengthen — that conversation is often worth more than the mark itself.

If you are deciding around the drop deadline whether continuing in a course is right for you, do not rely on a single percentage alone. Look at the pace of the course, the feedback you have already received, **how independently you can perform the expected work**, and **whether you are keeping up with the foundations**. Early assessments are genuine checkpoints, not disposable warm-ups; later work may become more cumulative, but the underlying academic standard does not suddenly change.

Examples, practice, and transfer

Many examples I use in lectures are deliberately **foundational**. Their purpose is often to make an important **reasoning pattern** visible enough that we can inspect every step and understand why it works. Making every first example maximally difficult can hide the principle we are trying to learn.

Practice questions, assignments, and practice tests are examples, not promises, templates, or shortcuts. They help you become familiar with format and workflow, practise representative skills, and identify gaps. They do not promise that a later assessment will reproduce the same surface form, examples, combinations of ideas, or difficulty question by question.

An assessment is designed to check whether you can **use the intended knowledge and skills at an appropriate standard**, not whether you can recognize a close copy of a rehearsal question. If success depended mainly on recognizing a close copy and reproducing a memorized solution, the assessment would tell us relatively little about whether you can **transfer** the underlying ideas.

Real technical work is similar: problems rarely arrive with a label telling you which familiar template to use. You must identify the relevant principles, adapt them to the constraints, and construct and validate a solution.

Correctness, testing, and trust

In programming and other technical work, a solution is useful only if it satisfies the **requirements** that matter. If code contains syntax errors or cannot run as intended, it cannot yet provide the intended behaviour. If a *valid required test* fails, then at least one tested expectation has not been met and the failure needs to be understood.

At the same time, passing a finite set of tests is **evidence** of correctness, not a proof that a program is correct under every possible condition. Good technical judgment therefore asks what was tested, which assumptions remain, and what other evidence may be needed.

This is why it matters to **understand the requirements, follow what the system is actually doing, and investigate failures rather than merely patching symptoms**. Exact grading mechanisms are set out in the test guides. The broader professional habit is the same: **do not trust an artifact merely because it was produced quickly, looks plausible, or worked once**.

Short-term shortcuts and long-term capability

I cannot make every learning decision for you. And I do not think efficiency itself is a problem: professionals use powerful tools, libraries, automation, documentation, search, and AI precisely because good tools can save time.

The danger is a **shortcut that hides missing understanding**. You may successfully complete the immediate task while **failing to build the capability** that the task was meant to develop. That can work for a while — especially when problems are structured and support is abundant — but the gap tends to become visible later when a problem is less familiar, a requirement changes, something fails unexpectedly, or other people depend on your judgment.

University is one of the few environments where you are allowed to **struggle safely**. I would much rather see you struggle honestly (and help you) now than see you struggle later because a **short-term shortcut allowed an important weakness to remain hidden**.

In-person learning: value beyond content delivery

When explanations, recordings, online resources, and AI are increasingly available, what should make being in the classroom together genuinely worth your time? Within EECS, we have been actively examining this question through a new **Teaching Enhancement** initiative focused on what students should genuinely gain from shared in-person learning.

I do not equate attendance with learning. A student can be physically present and mentally disengaged; another student may sometimes learn effectively through other modes. Marks can encourage presence, but **marks cannot by themselves create educational value.**

The value I try to create **in person** is the **live demonstration of how reasoning is built from scratch**: working through a problem step by step, making assumptions explicit, trying approaches, encountering difficulties, correcting mistakes, and refining the reasoning as it develops. **Labs and hands-on sessions** add the experience of trying, getting stuck, debugging, and receiving targeted guidance while the work is still developing.

Class recordings remain valuable for review, accessibility, and catching up; they complement rather than erase that real-time opportunity. **My responsibility is to make shared class time worth your attention. Your responsibility is to make informed choices about how you use that opportunity.**

How to study actively

A **common mistake** is to treat studying as re-reading slides, watching recordings, or recognizing examples. Those activities may be useful, but by themselves they are often **too passive**.

For these courses, **active studying** means:

- treating **regular class attendance** as a serious **commitment**, with **focus** and taking short *summative notes*, not merely copying everything written;
- after each lecture, reviewing the relevant materials and **reflecting** on the main ideas;
- **re-doing** examples without looking at the solution;
- **explaining** definitions, assumptions, properties, and design choices in your own words;
- **reading, tracing, testing, debugging, and modifying** code where appropriate;
- using textbooks, online resources, and generative AI to **reaffirm and extend understanding**, **not to replace it**;
- when using AI, asking for hints, questions, counterexamples, error explanations, or another explanation **rather than immediately requesting a complete solution**;
- seeking your own extra practice when you notice a weakness; and
- keeping up progressively, because **cumulative understanding is difficult to rebuild in a short, intense period of time** before an assessment.

A good test of understanding is not “*Have I seen this before?*” but rather: “*Can I reconstruct the relevant ideas, apply them to a new example, explain why the solution works, and diagnose what to do if it fails?*”

Questions that deepen learning

Questions about assessment expectations are reasonable, and I want those expectations to be clear. But if your studying is guided mainly by

- “Will this exact thing be on the test?”
- “Does this count for marks?”

your attention can become too narrow. Questions that usually **deepen learning** are:

- “What is the underlying idea?”
- “What assumptions matter?”
- “How would I test or check it?”
- “What changes if a condition changes?”
- “Can I explain or reconstruct it without assistance?”

I encourage you to speak with me in person beyond classes, not only when something goes wrong, but as part of your **intellectual growth**.

On stress, grades, and my role

I recognize and understand the many pressures you may be under: OSAP requirements, scholarships, GPA targets, degree progress, and graduation plans. **Although these pressures are real, I cannot use them as a basis for adjusting or calculating grades**, because grades must reflect demonstrated academic performance under the course’s stated requirements and standards.

What I care most about is facilitating your **intellectual growth**. That is different from designing a course where good grades are guaranteed. My responsibility is to uphold **academic and professional standards** and apply them consistently. Your responsibility is to meet them. Where I can support you is in helping you learn effectively, plan early, and understand the materials and expectations clearly — before these pressures escalate into crises.

Closing words

The expectations outlined in this letter are not meant to discourage you. They exist because **I believe you are capable of more than surface learning and short-term strategies** — and because **foundational skills, once built well, stay with you beyond a single course**.

The tools will change. What travels with you is your ability to **understand unfamiliar problems, reason independently, learn what you do not yet know, and take responsibility for the result**.

If you choose **depth** over convenience, **honesty** over shortcuts, and **understanding** over short-term optimization, this term will be demanding, yes — but it will also be genuinely rewarding. I hope you leave increasingly capable of producing or accepting work that you can explain, test, adapt, and stand behind — especially when **other people may eventually rely on it**.

Jackie ☺
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