

Being a University Student has Extremely Low Leverage

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Leverage

verb

1. *to use (something) to maximum advantage.*

Introduction

I have goals in life so it is extremely important to me to maximize the productive output of all my time.

A good strategy I've found for maximizing productive output is to look for the tasks in which you have the highest leverage, especially compared to other people doing the same tasks. This means finding tasks in which your output per unit time is disproportionately higher compared to other people completing the same tasks. Effectively, look for where your comparative advantage is maximized.

Today I completed the last final of my first year of university. Over the past year I've come to the conclusion that university is an extremely low leverage activity. You complete the same tasks as everyone else and in the same ways. Furthermore, you don't have much of an opportunity to innovate in your process of learning or completing assignments.

The low leverage of university is an issue because the opportunity cost of university is all the other tasks you could be doing. If there exist tasks in which you have high leverage compared to peers, then the opportunity cost of university could be extremely high.

Why being a University Student has Extremely Low Leverage

Being a university student has extremely low leverage because of four reasons:

1. You are doing the same tasks as everyone else.
2. Incentives are misaligned, you are not looking for high-leverage tasks.
3. You are not innovating in your process.

4. There are things you learn that are not needed and there are things you need to learn that are not taught.

First, your output in university is the same as every other student. In each class you all have the same assignments, lectures, textbooks, and exams. The only thing that differs is your grade and how much you take away from the class. On its own, this is not an issue. If you trust your curriculum and professors (who do want you to learn!) then you can be sure the things you are learning are valuable. However, this comes at the expense of not questioning the things you are learning or looking for activities in which you have high leverage.

Second, in university, it is trained into you to do the assignment in front of you and this leads to misaligned incentives. During this finals season the only goal the vast majority of students had was to do well on their finals. This overlaps with understanding the material, but they are not equivalent sets. The incentive is to drill the specific problems that will be on the exam and not to fundamentally understand the material.

The misaligned incentives also mean you are not constantly searching for high-leverage forms of learning. For example, doing projects is a very high-leverage way to have insights into the material you are learning. However, if you take a weekend to do a project instead of studying, your grade will suffer.

Third, because the format of lectures, assignments, and exams is the same for every student, you have no opportunity to innovate in your process of learning or completing assignments. This is an issue because in the real world, you are fundamentally compensated for your output and not your process. So, you could get great gains from simply looking for improvements in your process while keeping the same output. However, in university, the process that every student follows is essentially the same, with some variations like study groups, mind dumping before an exam, or relying on ChatGPT.

This quote I got from a recent [Terraform Industries blog post](https://terraformindustries.wordpress.com/2025/03/25/no-excuses-how-to-build-scale-and-win-in-hard-tech/) (<https://terraformindustries.wordpress.com/2025/03/25/no-excuses-how-to-build-scale-and-win-in-hard-tech/>) shows the importance of process innovation: *“Profits and prices are cyclical, subject to any number of transient forces of the marketplace. Costs, however, can strictly be controlled, and any savings achieved in the cost of goods are permanent.”*

- Andrew Carnegie

Fourth, there are two categories of inefficient learning in university. The first category is the set of things you are taught that are not useful. The opportunity cost of these classes is all of the more useful things you could have been learning. However, this only works if you have a better evaluation mechanism than your university for if the things you are learning are useful. For example, I have a physics class in which I learned how to solve statics and dynamics problems. The

way of thinking may be useful, but I doubt many engineers solve free-body diagrams by hand anymore. A more useful use of the time could have been writing a physics engine.

The second category of inefficient learning is the set of things you need to learn that are not taught. This is essentially the opportunity cost of university (if you can identify the things you need to learn). Casey Handmer's [The Well Rounded Engineer](https://caseyhandmer.wordpress.com/2024/01/30/the-well-rounded-engineer/) (<https://caseyhandmer.wordpress.com/2024/01/30/the-well-rounded-engineer/>) describes innate things engineers should understand but don't, at the detriment of their careers. His points are mainly around how to think about general problems and how to be maximally useful in a technical organization. This can't be taught in a class, but with more projects and working in technical organizations you can have these insights reveal themselves to you. This is the opportunity cost of university, and for a few classes, the opportunity cost may make it worth it to remove them and instead spend the time on a student design team.

Why I Think About Leverage

The reason I've thought so much about university being low leverage is because I know there are high-leverage tasks I could be doing. The purpose of my life is to maximize my net productive output to contribute as much as I can to build an absolutely beautiful future for humanity. This requires chasing the highest-leverage tasks I can find. Feeling fundamentally that I need to increase my productivity is what makes low-leverage and high opportunity cost tasks so unbearable. I know I could build a beautiful future for humanity but I am stuck in low-leverage activities. Hopefully, in the near future, I'll convince myself that dropping out of university has a lower opportunity cost than staying in university.

Not everyone could follow the framework I've described because not everyone has high-leverage tasks. Furthermore, the opportunity cost of university is different for everyone because of the tasks we would have been doing otherwise. Many people need a powerful external forcing function for productivity, and university suits this role well. However, for those of us who have found high-leverage tasks we will do without the external forcing function of university, the opportunity cost of university is extremely high.

The few high leverage tasks I do are writing blog posts doing analysis of Rocket Lab, working on UBC Solar's 5.4kWh 134V battery pack, and writing blog posts about leverage in university. For all of these tasks there is a single digit number of people at UBC that can do them to the level and efficiency I do (well maybe double or triple digit for writing blog posts like this one). However, in studying for a physics exam or completing linear algebra homework, any student is fungible.

A great goal to strive for is finding the tasks for which you are not fungible. Learning physics is a prerequisite for many of these tasks, but having a focus on the end goal of having high leverage is important to maximizing your productivity as quickly as possible. "You have to be careful to maintain a massive chip on your shoulder." - [@btheshoe](https://x.com/btheshoe/status/18075205187044274) (<https://x.com/btheshoe/status/18075205187044274>)

09). Man, how much high-leverage work I could have done in the last two weeks if I didn't have to study for finals.