

CI Skunk Works: A laboratory for concepts in education

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Skunk works is a term used in engineering and technical fields to describe a group within an organization given a high degree of autonomy and unhampered by bureaucracy, tasked with working on advanced or secret projects. The Lockheed Martin Skunk Works was a team of the most capable engineers and scientists that put together some of the most complicated and useful airplanes ever during the cold war. They did so effectively and efficiently requiring significantly less money and time for development. Small teams of engineers and scientists took on very large problems by cutting out unnecessary steps in the process of creating.

I propose we take this model and repurpose it for the classroom by removing the unnecessary steps, systems, and the linearization that strips the joy and creative freedom from learning.

The CI Skunk Works will consist of a few dedicated professors in a number of fields to assist some of the most talented and motivated students in achieving their educational goals. The CI Skunk Works would be specifically designed to facilitate students in solving some of the hardest problems of today. The education will be an intrinsic part of discovery and will be inherently interdisciplinary. There will not be a need or purpose for classrooms, tests, or formal requirements. The education provided at the CI Skunk Works and how it is delivered will serve as a conceptual model for the rest of the school to follow if it chooses. The CI Skunk Works will provide very relevant information on what types of things the student of tomorrow will need—and want—to know.

A vital part of the CI Skunk Works is that it be financed by the students and for the students. This is important because the CI Skunk Works needs to be a distinctly separate financial entity on campus. It cannot be limited by costly and time consuming bureaucratic oversight. A student fee will cover the costs of projects and equipment while the university pays for staffing and building space. Teachers and students will work closely together to allocate and budget funds for projects and equipment. No student in the CI Skunk Works will be sheltered from fiscal realities.

Another distinct part of the program will be how it is staffed. The CI Skunk Works will be the training ground for ambitious lecturers while also acting as the premiere place for tenured professors to work with the best and brightest of students. There will be a small group of full time tenured professors who staff the Skunk Works offering guidance and day to day practical advice on how to approach and solve problems. A list of “on call” faculty members, people who are willing to represent their discipline or area of interest, will be compiled to help facilitate the educational needs of the students in the CI Skunk Works Program. The CI Skunk Works requires the complete symbiosis between teachers and students. Teachers who have a strong desire to teach highly motivated students and students who have a strong desire to pursue what they want to learn will both be rewarded by working together in a completely collaborative environment. The traditional stoic “student teacher relationship” will not apply in this environment. A more Socratic method of teaching and learning will be required.

The CI Skunk Works program will recruit students based on their level of drive and ambition. Teachers who see students who pursue topics in great in depth or spend a lot of time working on their own educational goals outside of the classroom can and should nominate those students for the Skunk Works program. A comprehensive screening process would need to take place to ensure proper placement of candidates in the field they want to explore more. A very important part of the CI Skunk Works is that each student must create their own learning outcomes in the topic or area they want to explore. There will be no grades given in the CI Skunk Works program but there will be a comprehensive portfolio and resume building process which will ensure the future success of its graduates. The education received in the CI Skunk Works program will prepare students to immediately enter the workplace or pursue higher education with a well rounded and identifiable set of skills. With time the CI Skunk Works will be revered for the work that takes place there and graduates there will be recognized for it.

The most important feature of the CI Skunk Works is that it will bring to life the promises of the CSUCI mission statement by utilizing interdisciplinary and experiential learning in every endeavor that its students partake in. The effect of the CI Skunk Works will be felt across the campus in every discipline as the accomplishments of its students will highlight the advantages of interdisciplinary and experiential learning.

The CI Skunk Works program is something that I have been nurturing in my mind and in my actions for the last three years here at CSUCI. I am a student with the undeniable and insatiable urge to learn both across disciplines and experientially. The work on the Balloon Project, a balloon based air sampling and data collection system, is very similar to the work that would be done in the CI Skunk Works program.

The Balloon Project took 1st and 2nd place in Engineering at the CSU Undergraduate Research Competition. The project beat out Cal Poly, the prestigious engineering school. CSUCI doesn't have engineering facilities nor does it have an engineering program. That alone should speak of the capabilities of students who have been allowed to dream. Given the appropriate resources and the power to guide themselves many students can rise to the occasion to create truly fantastic things.

I dream of a place where the most talented students come to work and play, a small building filled with equipment, classrooms, labs, and the brightest minds. The first thing that a person would see upon entering this building would be a spectacularly lit wall with a great deal of text on it. The text would be a list of all sorts of things:

Fusion, supersonic flight, curing AIDS, curing cancer, The Goldbach Conjecture, The Riemann hypothesis, what is reality?, will we ever have a unified theory of everything?, modeling chemistry in the computer, where the hell is Godot? ...

The list would pose the deepest questions and problems that have plagued humanity to this day. The job of the students in the CI Skunk Works program: to solve them and add our own questions, one by one; a place of infinite possibilities