

The Cooperman Lifetime Guarantee – 2019

Senior Version

Graduations are rites of passage that often evoke strange combinations of emotions. There is so much promise for the future, yet there's a stepping-out into the unknown that can be unsettling. People who have overseen your growth for several years will no longer be part of your daily desktop. *Marymount* has been part of your root-structure, but now you all are becoming like dandelions gone-to-seed; what you learned at *MHS* will be spread around the world, and what you contributed to *MHS* will remain part of our culture and will influence those who have yet to graduate because of what your teachers learned from you. Students will follow you at *MHS*, but they cannot take your place. Your legacy is secure, and you will be greatly missed.

Some of you will follow that dandelion metaphor and drift from here to there, trying many new things before settling on something you especially like. And some will be driven by a "direct current" with very few eddies and will hone in on your future goal almost immediately.

There's nothing wrong with either approach – you must do what suits you – because unhappiness is too prevalent in the world these days, and part of your job is to eliminate that: for yourself and for others. **As the Talmud says, you're not expected to solve all the problems of the world, but neither are you allowed to ignore them.**

This handout is intended to give "life suggestions" that you can either take or leave. You've made life work for you for 17 or more years, and you barely know me. But I've found that many of these ideas have helped former students, so I offer them in the spirit of friendship and fellowship as one terrestrial life form to another on a quest for lifelong learning and understanding.

First, thank you for being my student or friend or acquaintance, club member, or positive role model during my 2nd year at MHS! You persevered through demos, labs, lectures, videos, tests, and puns in what might have been your hardest *Science* course so far, while I continued to learn how to be the sort of *Marymount* teacher you expected among the many master-teachers you've had. Thank you for candid conversations or anonymous evaluations that helped to make me a better teacher for students like you and for letting me be a part of this part of your life. It was a pleasure learning from you. If you have more to add that you couldn't on the evaluation survey, please e-me. Hints for improvement are always welcome, as well as any other kind words of encouragement. Teachers aren't too different from their students that way.

If you liked any part of our class, please consider taking more advanced versions of it in college. Science took time to "dawn on me," and it was only after delving into a subject more than once that its logical interconnections made the most sense. The axioms of Science aren't difficult, but the self-evident truths develop and are maintained only with practice and continued study. Thank you for volunteering for demos and explaining things at the board as often as you did. I hope I instilled in you

some of my curiosity and excitement for *Physics and Chemistry* and some of my deep and abiding love of *Astronomy*: a worthy combination of the two.

On your life's journey, occasionally look at the sky to try and picture what's going on up there. From lunar phases to eclipses to transits to planetary conjunctions or to more ephemeral "shooting stars," we are seeing things that are part of something bigger than we are – the clockwork of the Universe is being revealed. For me, all of this helps to put me in my place and to define that place better. My spirituality has always come from the sky, in particular, and Nature, in general, and that cosmic perspective helps me to figure out who I am at the moment and "how I fit in" at each stage of my life. We somehow *all belong to each other* on this single, tiny world in an unfathomably immense and old Cosmos.

This "COOPERMAN LIFETIME GUARANTEE" is a perpetual Open-Door policy. While I'm "in this world," if you ever have a question about what you've learned or if a new idea strikes you, and you'd like to hear my version of it, or if you'd like me to steer you towards a good source to read about a subject, "e-me." I check my e-mail all the time: skyeman1@gmail.com.

Someday as you apply for a job, you may need a reference, or I may hear of a need for a technical employee at *Griffith Observatory*, *JPL*, or elsewhere, and the fact that I was once your Science teacher could become important. I have always felt a deep-seated obligation towards my students because my teachers always paid me a lot of respect and were my mentors, helping me over the decades. Extending that courtesy to you is one way I feel I can pay my teachers back. Teachers owe this guidance to their students for years after the students graduate because **life and the passion for and love of learning extend beyond the hallowed hallways and sidewalks of Marymount** and are a part of our *MHS* heritage. I also want to hear what you're doing so I can share your knowledge with my classes.

As a graduate, you can follow me on Facebook, Instagram, Twitter, or LinkedIn. However, whether or not we're social media buddies, I'll usually send greetings around your birthday or half-birthday just to see how you're doing! ~8~>

Independent of your grades, please know that I value you as a living, breathing being because YOU are unique. You have special qualities that make you YOU, and I'm convinced that there is no other combination of genes and chromosomes and life experiences in the entire Universe like yours: no matter how many exoplanets we find! I have enjoyed my time at *Marymount* so far NOT merely because of academics but also because each of you brought a certain enthusiasm or perspective to my classes. I like teaching because I like communicating wonders I've seen to others and getting them to think critically about them and make predictions. And I liked teaching YOU because of the many insights YOU gave to me as we reasoned things out.

During your college career and beyond, be true to yourself. Live up to the standards you followed at *MHS*. Strive to maintain your self-confidence and composure, even if you have disagreements with your professors or graduate assistants. Be open to being wrong, but if you have thought out a situation and think you are right, pursue your ideas to the end. Don't complain for the sake of complaining – don't give in to idle gossip – but DO stay a bit rebellious, cynical, and appropriately sarcastic: three of your most endearing traits. These add to your liveliness and bring excitement to your interactions.

Remember that college is likely to be quite different in its tenor than Marymount. You'll like being much more independent, but you'll succeed or not depending more on your day-to-day doings, without teachers writing polite notes to your parents or calling home whenever an assignment is late. College will not mollycoddle you. If you don't have an answer ready for a professor when s/he asks because you were checking your phone or the Internet, it will be much worse than not having an answer when I called your name in class. The pros won't always find different ways to explain things so that you'll understand it YOUR way. You may have to try to understand something THEIR WAY. Even at *Marymount*, we've had discussions about what helps the growth of the student the most. It's certainly not helping you up after every skinned knee.

However, sometimes a fall can be severe, and broken bones don't always mend as quickly as we'd like them to, so **DO ask for help whenever you need it:** if not from your roommates, your family or friends, your dorm advisors or your department head, then certainly from people who you know and value from *MHS*. Never fear getting in touch with anyone from here. You've cultivated great relationships at *MHS*, and someone from here will always be available to help you, or they will know who *can*.

In the same way, there will be many people who need your help; **don't give in to bullying or hazing.** Those practices have NO place in a civilized world OR on a college campus. You must *always* be a source of good acts. You are all cognizant enough and mentally and vocally powerful enough to help others directly or to help them help themselves. Make it so.

Find some time to help the world out, too! Don't stand idly by and watch injustices take place – step in if it's safe, or get help. Always try to make things better, not worse, and that includes environmental issues. I am more convinced each day that human-caused global climate destabilization is already affecting daily weather. I'm not sure that we humans can adapt quickly enough to it. We need to get off our fossil-fuel based diet *now* and seek renewable forms of energy. There is only one planet where humans can easily live because we grew up here. It makes no sense to destroy it, either with extra CO₂ in the air or oil or plastic in the ocean. And extinction is forever. Even *Jurassic Park* was flawed. ☺

The Cooperman Lifetime Guarantee – 2019

Senior Version

And **don't stand idly by and let injustices happen TO YOU!** In work or love, if "the other" in the relationship hardly ever makes you feel good about yourself, the relationship is abusive. You can do better, and you should get out while you can; if it's difficult, trusted friends can help. You should always feel that you're needed, wanted, and appreciated. When that wasn't happening for me at my last school, discussions with my trusted friends helped me to trust my feelings to leave.

If you've always been a "let's make lemonade from lemons" person as I usually am, realize that sometimes you'll just get sick of having lemonade all the time! Eventually, it was emotionally easier to leave my last school than I'd thought, and in the process, I've begun to include new and wonderful people in my life here at MHS I would never have otherwise met. Life is an ebb and flow of new experiences and people, and I cherish all those I've met here.

Stay aware of social and political issues, otherwise people you don't know will decide life-issues for you, sometimes for decades. Don't just "go with the flow." **Be active, especially with primaries and mid-term elections!** You are all brilliant and caring enough to make a significant difference in the positive development of our country and the world. Vote your conscience, and the world will become a better place; I guarantee it.

In a similar way, I also believe that **we can't help whom we fall in love with.** In a world so often seemingly filled with hate, it makes no sense to deny love when it happens, whatever the combination of adult humans the relationship includes. The idea isn't to find someone perfect; the idea is to find someone to love and share with: "someone to be kind to in between the dark and the light." (Eagles, *One of These Nights*). Please help build a world where that is possible.

Each day, mold yourself a little more into becoming the person **YOU want to be.** It's a lifelong quest; do it for YOU, not for others. Help others, but don't *lose yourself in* others. Pursue your dreams. Dare to ask questions and demand answers. Question authority; learn for yourself because you ARE tomorrow's leaders, whether you choose to lead in the outside world or to lead in the home. And even if you feel you didn't learn Science for yourself because "you'll never be a scientist," perhaps you learned it for your future kids to help give them a good background from the start.

In the meanwhile, be sure to have a relaxing and rejuvenating summer! You're about to start a daily routine that likely will be more intense, challenging, and demanding than high school, but if you find a way to **make the learning FUN** for yourself, it'll pass in the blink of an eye.

Take some time to summarize in your journals or thoughts how you've changed during your life in high school. Taking stock of where you've been is the best way I know to chart where you're going. Do it now, before the important feelings about this time of your life begin to fade with

the huge input of different feelings you'll have during summer and at college. **If there are things you'd like to change about yourself for the better, make them a summer project. Only you can or should change you.** For the most part, though, stay the same; you're already super!

My summer plans include learning about what we can do to better utilize and refurbish our Science equipment at MHS, working on gravitational wave data from a workshop last year at CalTech, helping my kid to prepare for his 3rd college year at UC Irvine as well as helping him find an internship or "first job" because he needs to develop that self-confidence. It's easier to find a better job when you've had one. One good thing about having a kid in college is that I get a chance to review old college topics (*Linear Algebra, Organic Chemistry, Quantum Mechanics, Fourier Analysis*, etc.) and to see what applications there might be for them to share with my current students. I also want to teach my students about coding their TI-NSpires with programs, not just functions, that can simplify lab calculations, and I need to catch up on modern programming languages, like *Python*, to see how my PhD might have turned out.

I'll also be lecturing more in the planetarium at Griffith Observatory than I ever can during the school year (maybe I'll see you there sometime?). Two summers ago, the family drove to Idaho Falls to see a total solar eclipse that I had been waiting for for about 40 years. This summer is likely to be much more of a staycation, catching up on movies and binging on *Netflix* shows that I missed during the year, and doing general clean-up and organization around the house. My move from *Campbell Hall* two year ago brought lots of boxes, files, demos, etc., into my garage, and I need to sort through it all to see what still has value to me.

I'll be investigating new technology for my astrophotography, seeing what can be done at MHS about my favorite Science! ☺ Besides my telescope, I also have large binoculars.

I'll also be preparing for my Fall classes, including *AP Physics and General Physics*, since it seems I'll be teaching it with my former 2-time student, Dr. Gonzalez. I'm very excited about that (I hope she is, too!). There is much I can learn from my *Science Department* co-teachers and much I'd like for them to try. The latest WASC report said that we needed to update our *Science* facilities, and this is a good time to start.

And my summer plans would not be complete without catching up on reading, brushing up on or learning five (yes, 5) languages through *Duolingo*, and just spending lots of time with my family before they're too old or I'm too old to appreciate these unique times in our lives. I also used to play guitar a bit, and I'm feeling the need for more self-music, so I hope to pick it up again, along with some piano.

Lots of "stuff" happened over the past couple years at home and at my old school (CH), and my arrival at MHS was part of my making some judgments and plans for my own

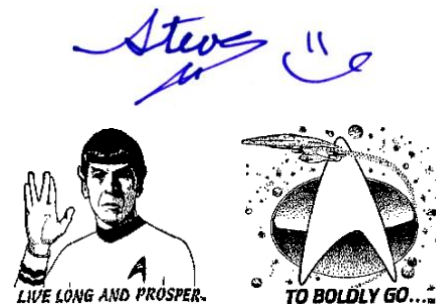
most positive future. My Mom died in January 2016 in a terrible solo car crash that severely injured my Dad. I'm not the only sibling, but one lives in Seattle, so the task fell mainly on one sister and me to provide care and inspiration for Dad – and some walking support at his assisted-care facility -- and for me that's been after school at least every other day. The accident changed almost everything in my life, including my thoughts *about* life and how it can change in a fraction of a second. At first, it even changed my son's wanting to get behind the wheel of a car because of other close-calls from other drivers. I'm glad he's finally driving and learning that, with care, driving can be just as safe as any other adult activity. Part of his independence has been to drive back and forth from home to UC Irvine a couple times per month.

My apologies to you for times you felt I should have been faster at grading or posting grades to *Net Marymount*. There's always a steep learning curve in coming to a new school, and your kind and gracious suggestions for improvement helped me a great deal. If you need my help for any Science/Math-related topic in college, send me a question. That's part of *The Cooperman Lifetime Guarantee*. ☺

If you think we've established a good rapport, then I invite you to stay in touch. Please keep me posted on how you're doing! And if we didn't have a good rapport, then my sincere apologies for any misunderstandings we had that weren't resolved by the time you graduated. Hopefully, in the years to come, we'll find a way to resolve those issues, or maybe, with time, those memories will learn to live in quieter places in our minds.

Best of luck! As characters in *Star Trek's* "Next Generation" show once said: "No good-byes ... just good memories... I envy you these next steps you are taking!"

Have a good life, and MTFBWYA!



where you want to go!