1.1-introduction

**Principles of effective writing**

Welcome to the first week of writing in the sciences. I'm Christin Tsunani from Stanford University. For those of you who have been in a course with me before, welcome back. For those of you who knew, it's great to have you this first week, I'm going to do a small introduction, and then we'll, jump right into some key principles, of effective writing. Some of the goals I have for this course. I'm hoping to get you to rethink your approach to writing, to rethink your writing process, and I'm also help hoping to ease some fears that you may have around writing. So this first module is going to address some of those.

In my course at Stanford, I always like to start by asking the question, what makes good writing? And feel free to discuss this on the discussion for him later. But for now, I'm going to tell you what I think makes good writing. first and foremost, what makes good writing is that good writing needs to communicate an idea clearly and effectively. This is even more important in scientific writing, because the whole point of scientific writing is to get your results across to other scientists, to policy makers, and sometimes even to the late public. It's all about getting your idea across clearly ineffectively. Then there's this other element of good writing, and this is really what everybody associates with good writing. Good writing is beautiful. It's elegant and stylish. And I think what happens when a lot of people sit down to write is that they're worried about this 2nd element. They're worried about sounding a certain way, about sounding smarter, sounding elegant. And they spend so much time focusing on this part that they forget about just trying to get their ideas across clearly and effectively. And this leads to all sorts of problems in the writing. So what I want you to do in this class is to keep your focus on one communicating your idea clearly and effectively. I want you to worry less about that elegant and stylish apart. Clear writing just takes having something to say and clear thinking. As scientists, all of us have something to say. We also have clear thinking. So this part really shouldn't be intimidating. What's more intimidating is this elegant and stylish part. People get really afraid that, oh, am I going to sound the right way? But in fact, this elegant and stylish part doesn't happen on a first draft. Elegant and stylish writing happens in revision, even for professional writers. A lot of professional writing that you see when you read a magazine or a novel that's been through good editing, it didn't sound like that on the first draft. It's been polished up sometimes by multiple editors. So I don't want you to even worry about elegant and stylish when you're writing your first draft. Just worry about getting that idea across in a clear and logical and efficient way.

I also like to ask my students the question, what is it that makes a good writer? I'm going to tell you a few of the things that I think people associate with good writers. A lot of people, for example think that in order to be a good writer, or you've got to have some sort of an inborn talent. And a lot of scientists feel that they weren't born with the writing gene. They were born with a math gene or the science gene, so they don't feel like they have that inborn talent. Or you might think that it takes years of English and Humanities classes to become a good writer, and again, a lot of scientists don't have that. Or maybe you think it takes some kind of artistic nature, or many people think it takes the influence of alcohol and drugs, or maybe some kind of divine inspiration, some kind of muse. All of these things get associated with good writers. A lot of people think you need these to be a good writer, but in fact, I don't think you need any of these.

What I think it takes to be a good writer. He is that one. As I said before, you need to have something to say. You need to have something that you're passionate about that you want to communicate. And that sounds a little bit trivial, but I can can't tell you how many times I've had a student sitting in my office. I'm doing editing with them, and I'll say, I was confused by what you meant in this paragraph. What is it you were trying to say? And they kind of look at me and go, well, I'm not really sure what I was trying to say in that paragraph. They don't know, and that's why it's a confusing paragraph, because they weren't actually sure what they were trying to say. So figure out first, what it is that you're trying to say, then of course, you need logical and clear thinking. You have to be able to present your arguments in a logical way, particularly in scientific writing. But again, I think most scientists feel very comfortable that they have both of these. They have something to say, and they have logical thinking. What you might not have yet is that you may not know a few simple, learnable rules, of style. And these are the tools that I can teach you in this, class. Surprisingly, you may not have ever been taught these before. In fact, in some cases, you may have been taught the opposite. These are fairly simple rules that I can teach you. They're easy to learn, and once you've learned them, it'll be a lot easier for you to write in a clear, effective and efficient way. So, one of the take home messages I have for this course is that good writing can be learned. Good writing is a skill. You don't have to be born with it. You can learn it. And as with any skill, you'll learn it through practice. And we're going to practice a lot in this course.

Besides taking this course, there's a few other things you can do to improve your writing. First of all, you can read a lot. Reading is a really good way to learn to be a better writer. And read sources of professional, good writing, like magazines, novels, nonfiction books, not necessarily the scientific literature. Actually, your first assignment for this course is to go home this week and find time to read something that you wouldn't have had time to read. Otherwise, make some time to read something, even if it's just a magazine, and pay attention to how professional writers write. Pay attention to some of the tricks they use, and try to imitate them. Do as much reading as you can outside of the scientific literature while you're taking this course. If you have time, as I said, writing is a skill, so the more you practice, the better you're going to get. If you have a little time at the beginning or end of each day, try to write in a journal. Can be an old-fashioned journal or an electronic journal. But try to spend a few minutes just practicing some of the techniques that we're gonna talk about in this course. I also want you to let go of some academic writing habits, some bad habits that you may have picked up by being an academia too long. I call this the deprogramming step. I'm going to try to break you of some of those bad habits. I'm going to point them out to you. A really good tip before you sit down to write about your research is try to talk it out with somebody friend who is not necessarily in your discipline. Oftentimes, when we talk about our research, we do it in a more conversational tone. We talk in more simple terms. We actually present our ideas better than when we sit down to write. So talking it out first can really help. Another thing that I'm going to emphasize in this course is that I want you to actively try, when you sit down to write your manuscript, to actively try not to bore your reader. And that might sound funny, but we are all in the same boat here, because we all have to read the scientific literature. You've probably had the experience where you've got this stack of scientific papers that you've got to read, they're sitting on your desk, and you're dreading reading them because you know they're going to be tedious and they're going to be hard to get through in the dull. But the scientific literature doesn't have to be that way. We can write in a more engaging and livelier and interesting way. So I'm going to try to get you to write in that way in this class. Next stop Waiting for inspiration. I have lots of students who tell me, well. I can only write on certain days when I feel inspired, you know, when the moon is in a certain lineman and I had enough sleep. And they, they have all of these excuses why they can't write today. Of course, this is just a procrastination technique. You don't need any special news or inspiration to be able to write. You do need to be prepared to write, and that's something that we're going to talk about in this course. But you don't need some kind of special inspiration. So just get over this notion that you have to be inspired in and get yourself to sit down and write. Another thing that I think is really important to realize is that writing is hard for everyone. You should realize that even for professional writers who do this every day, there's just something inherently difficult about the task of writing. So if you find writing hard, you're in the same boat as everybody else. Writing is hard for everyone, even professional writers. And I think that just knowing that can help to reduce some of the anxiety that you may have around writing. Also, in this course, I'm going to try to give you a lot of tips to help you make your writing easier. I'm also going to emphasize revision in this course. A lot of scientists don't spend enough time on revision. They really worry over the first draft. They try to get it perfect on the first draft, and they don't give enough weight to revision. So I'm going to try to get you to flip that and to go through the first draft quickly. Just get it down on paper, and then put your emphasis on revision, the elegance part that happens on revision, not on the first draft. So just burrow through that first draft and then spend time revising. Another thing I'm going to teach you in this course is how to cut ruthlessly. It's hard to cut your own words, but you have to learn how to not become too attached to your own words. You have to learn how to be a ruthless editor. I'm going to do a lot of ruthless editing examples in this course. If you send me something to to edit, I warn you, I am a ruthless editor. And sometimes people will send me something like an abstract, where they say, oh, it's 250 words. It needs to be less than 200. Can you help me? And I, of course, take that as a challenge, and I'll send it back to them with 150 words. So to learn how to cut, we're going to talk all about this week about how to cut clutter from your If you can find, a good editor, somebody who can edit your work, a spouse, a friend, a significant other, if they're willing, can all be good editors, preferably somebody outside of your discipline, who can look at your work and give some feedback, tell you whether it's written at a level that they can understand, tell you where it's confusing, if it's boring. We're going to do, peer editing in this course, so you'll, have an opportunity to find some good editors. Hopefully in this course, you might find somebody in this course who, uh, you work well with, and you could continue editing each other's work even after the course ends. Finally, the last thing I'm going to emphasize in this course is that I want you to start taking some risks in your writing. Scientific academic writing can feel very confining. You're kind of forced into this little box. You're told there are all these rules that you don't dare break. It really boxes you in. It doesn't let you find your own voice as a writer. So I'm going to encourage you to take some risks, go ahead and put something in your writing that's a little bit funny, but something that's provocative. I want you to take some risks and find your own voice as a writer.

欢迎来到第一周的科学写作课程。我是斯坦福大学的Kristin Sainani。对于曾上过我的课程的学生，欢迎回来对于新来的学生，很高兴有你们的加入。这一周，我将进行一个简单的介绍然后我们将直接进入有效写作核心原则的学习。我开设这门课程有几个目标。希望能让你们从新思考你们写作的方法和流程。同时也希望能减轻一些你们在写作时可能会担心的问题。所以这门课的第一个模块，将主要解决其中的部分问题。我在斯坦福上课时，总是喜欢以这个问题开场，什么因素成就一篇好文章？随后大家可以在论坛上自由的讨论这个问题。但现在，我要告诉你们我认为是什么成就一篇好文章。首先也是最重要的，一篇好的文章，好的文章需要清晰而有效地传达一个观点。这一点在科学写作中尤为重要，因为科学写作的唯一目的就是将你的研究结果传达给其他科学家，政策制定者，有时甚至是没有背景知识的大众。最重要的就是清晰并有效地传达你的想法。接下来，这是一篇好文章的另一个要素。实际上每个人都会把好文章和这一点联系起来。好文章美丽、优雅而时尚。我想，当大多数人坐下来写作时他们通常担心这第二个要素。他们费尽心思使文章读起来有一种特定的感觉，读起来显得作者更聪明或读起来很优美。他们花太多时间专注于这一部分，以至于他们忘记了清晰而有效的传递他们的想法，这导致了写作中各种问题的产生。所以，我想让你在这堂课中做的是，专注于这一点，清楚而有效地传达你的观点。我希望你们不要过分关注使文章优雅独特的那部分。清晰的写作，只需要有话要说和并且思路清晰。作为科学工作者，我们所有人都有话要说，我们也有清晰的思路，那么这部分真的不应该是令人恐惧的。让人更害怕的部分应该是这让作品优雅并有自己的风格人们真正非常担心的是“我是不是用对了表达方式？”但事实上，让作品优雅而独特这件事，往往并不会在初稿上发生。即使对专业作家来说，优雅而独特的作品，也产生在修改中。很多你们杂志上阅读到的专业作品，或是小说，都是通过不断改进和编辑的。它读起来并不像它的初稿，它是被加工润色过的，有时甚至经过多位编辑之手。所以我不希望你们去担心优雅和风格的问题在写初稿的时候只需要关注以清晰、合乎逻辑并有效的方式展示你的观点。我还喜欢问我的学生这个问题，是什么造就一个好作者？我会告诉你们我认为大多数人觉得与之相关的几个方面关于一个好作者。例如，很多人认为，要成为一名优秀的作者，你必须具有某种天赋，而大多数科学工作者认为他们并不是生来就具有写作基因的，他们出生时带有数学基因或科学基因，所以他们不觉得自己有有写作才能。或许你可能认为需要通过多年的英语和人文课程学习才能成为一个好的作家，但是同样的，很多科学家都没有这个条件。或许，你认为写作需要某种艺术特质。或许有的人认为，写作需要酒精和毒品的影帮助。或是来自某些神圣的灵感，某种冥想。又或许，是某种神圣的启发，某种灵感。所有这些都与成为一个好的写作者有关，很多人都认为你需要拥有这些才能成为一名优秀的作者，但事实上，我认为你不需要任何一点。在我看来，认为成为一名优秀的作者需要的是，正如我之前所说，你需要言之有物。你需要有一些热爱的事情，并想要与人交流。这听起来有点微不足道，但我禁不住告诉你，有多少次我和我的学生在我办公室里修改他们的文章。我会说，我对于你这段话想要表达的意思感到困惑，这是你想要表达的吗？他们看着我然后说，我不太确定那段话我想表达什么。他们不知道自己想表达什么，这就是为什么会产生一个令人困惑的段落因为他们实际上并不确定他们想说什么。因此，首先要弄清楚，你想表达什么。然后，当然，你需要有逻辑而清晰的思路。你必须能够以富有逻辑的方式表达你的论点，特别是在科学写作中。但是，我认为绝大多数科学工作者对他们同时具有这两种能力都很有信心。他们有想表达内容，且他们有逻辑思考能力。而你们可能还没有掌握的是是你可能不知道一些简单易学的关于风格的规则。这些写作工具，是我在这个课程里可以交给你们的。感到诧异的是，你以前可能从未被教授过这内容。事实上，有的时候，你们甚至被教授了相反的内容。我要教的这些都是相当简单的规则，它们非常易学，一旦你们学会了这些规则，以清晰、有效的方式写作变得容易多了。所以，本课程的关键信息之一，就是好的写作能力是可以习得的。好的写作能力是一种技能，不需要与生俱来，你可以学会它。而且和任何技能一样，你可以通过练习来掌握它。而在本课程中，我们将进行大量的练习。除了上这门课，你还可以通过其他一些方法来提高你的写作能力。首先，你可以大量的阅读。阅读是学着成为一个更好的作者的一种非常好的方式。阅读一些好的专业作品，如杂志、小说、非小说类的文学作品，不一定要读科学文献事实上，本周你们的第一份作业就是回家后找时间阅读一些平时没时间去读的内容。挤出时间去阅读一些东西，哪怕只是一份杂志。然后主要关注专业作者是如何写作的。找出他们使用的技巧，并试着去模仿。要尽可能的多阅读科学文献以外的作品。来上这门课程。如果你有时间，就像我之前所说的，写作是一项技能，你写得越多，就会更好的掌握这项技能。如果你时间比较少，那么在每天的清晨或夜晚，试着记日记。可以是传统的日记，也可以是电子日记。试着花几分钟时间去练习我们课程里将谈到的技巧。我还希望你们能忘掉过去的学术写作习惯，那些在学术圈呆久了养成的坏习惯。我称之为反洗脑步骤，我将试着去除你们有的一些坏习惯，我会把这些坏习惯指出来。当你坐下来开始写你的研究报告时，一个真正好的技巧是试着和某人谈论这个话题，一个不一定非要是你所在专业领域的朋友。很多时候，当我们谈到我们的研究工作时，我们会用一种对话交流的语气，会用简单的术语来描述。实际上，这能比我们坐下来写的时候更好的表达我们的观点。所以，先和人讨论真得会有所帮助。我在本课程里要强调的另一件事是当你们坐下来开始写作时，我希望你们能够积极尝试，积极地尝试不要让你们的读者觉得很乏味，这听起来是很好笑，可我们确实都在同一条船上，因为，我们也都必须阅读科学文献。你可能经历过，拿着一摞子科学文献需要阅读。它们就在你的桌上，你害怕阅读它们，因为你知道它们读起来很乏味，它们让人很难读下去，它们很无趣。但是科学文献不是必须要这样的，我们可以用一种更吸引人，更有活力和趣味的方式来写。因此，在我们的课程里，我们将让你用这种方式写作。接下来，不要等灵感到来才动笔。有很多的学生告诉我我只有在觉得有灵感的时候才写作。当月亮在特定的位置，当我睡饱了。他们总有各种各样的借口，为什么他们不能在今天开始写。当然，这是一种拖延症。你不需要特殊的灵感或启发才能写作。你确实需要为写作做好准备，我们将会在接下来的课程中讲到，但是你不必有特殊的灵感。因此，再次强调这个观点，你必须鼓动自己，让自己坐下来开始写作。另一件我认为很重要的事情是意识到写作对于任何一个人来说都很难。你应该意识到即使对于每天写作的专业作家，写作这件事本质上就是很难的。所以如果你觉得写作困难，你和大家都是一样的。写作对每个人来说都难，甚至是专业作家。我认为只要知道这一点就能帮助你减轻一些你对写作产生的焦虑同时在这门课程里，我将会教给你们一些技巧，使你们的写作更容易。而且我将会在课程中强调修改的作用。很多科学家没有花足够的时间修改论文他们十分在意初稿，并试图让初稿能完美，而他们并不够重视修改。所以，我将试着转变你们的观念。快速的完成初稿，只是把它写下来，然后将重点放在修改上。文章变得优美这件事产生于修改中，而非初稿，所以快速地完成初稿，然后花时间修改。在这门课程里，我将要教你的另一件事是，如何果断的删减。删减自己写的东西是一件很困难的事情，但是你必须学着不要太执着于自己写的内容，你必须学着做一个无情的编辑。在这门课里我将给你很多无情编辑的例子。如果你发给我需要编辑edit的东西，我警告你，我是一个无情的编辑，有时候，人们发给我类似摘要的内容，他们说，现在有250字，要求要少于200字。你能帮助我吗？而我当然会把这当作一个挑战，然后我会发回给他们150字的摘要。因此，为了学会如何删减，这周我们将讨论如何删减你的文章里杂乱无章的部分，如果你能找到一个好的编辑，某个能够编辑你的文章的人，你的配偶，朋友，一个愿意为你修改文章的重要的人，都能成为一个好的编辑。更理想的人选是，一个在你的专业领域外的人，能够读你的文章提供一些反馈。告诉你，你的文章是否在他们能够理解的范围内，告诉你哪里让人困惑，是否很无趣，我们将在这门课里进行同行编辑，因此，在这门课里，希望你有机会发现一些好的编辑，你可能会在这门课程里找到一些合作得很好的人，你们可以在课程结束后继续互相编辑对方的文章。我想在这门课程中强调的最后一件事是，我希望你们能敢于在写作过程中冒险，科学学术写作让人觉得非常有局限性，你们就像被迫限制在一个小框架里。你们被灌输了所有这些你们不敢去打破的规则。它真的将你限制在里面。它让你无法发现作为一个作者自己的声音。因此，我将鼓励你进行一些冒险。大步向前，在你的文章中写点儿有趣的东西放一些让人兴奋的东西。我希望你作为一名作者能够尝试一些冒险并找到自己的声音。