ESSENTIAL SKILLS FOR SCIENTISTS PROGRAM

Scientists are provided the technical skills to excel in their field but are often not formally taught skills in research-specific project management, end-user engagement and communications.

The Essential Skills for Scientists Program is helping scientists do better research, that is more impactful and accessible, while simultaneously building access to opportunities that enhance their career.

The Essential Skills for Scientists Program provides valuable skills for those that are involved in the conduct, communication and management of research and science investments. Developing these skills creates positive changes:

- Financial benefits through improved risk, time, budget and staff management, and enhanced opportunities (including funding)
- Increased impact of research through adoption and commercialisation
- Increased opportunities through better collaboration, cooperation, and industry networking
- Lightened workload and reduced stressors that come from improved efficiencies
- Increased space for scientists to be innovative and generate insights, which are needed for creating the next big idea.

The Essential Skills for Scientists Program has been created by scientists for scientists, with the input and direction of a diverse professionals to create a practical program with usable outcomes.

The Essential Skills for Scientists Program covers over 60 topics, from how to prepare grants or proposals, final reports, presentations and data visualisations, building collaborations, networking and managing stakeholder relationships, to project management tasks, like preparing and implementing risk and communications plans and budgets. The platform is used as the basis for targeted, structured learning programs that are tailored to the needs of the scientist depending on their career stage and need.

The Essential Skills for Scientists Courses align to the Australian Qualifications Framework and the Australian Department of Education, Skills, and Employment standards.

Contact

Dr Kylie Hewson
B.App.Sci (Hons) PhD; Cert IV Proj Man; Cert IV Small Bus Man
kylie@sativus.com.au
0422 760 736

Dr Bridie Schultz
Masters of Education,
B.App.Sci (Hons) PhD
bridie@sativus.com.au
0423 494 983

Free Online Example

https://bit.ly/Sativus

The Five Professional Development Courses

The Essential Skills for Scientists Professional Development Program offers five Courses that cover over 60 topics for those who conduct, manage, and invest in research. The Courses provide the essential skills required to manage projects appropriately and communicate research for impact, beyond the technical skills of research. Each Course uses individualised approaches to education and assessment and utilise peer-to-peer approaches to maximise learning outcomes for participants.

SCIENCE PROJECT MANAGEMENT	This Course covers effective scientific project management and provides tools and templates for the development of project plans that improve risk, time and quality management. These are essential skills for successful projects.
SCIENCE COMMUNICATION – VISUAL AND VERBAL	This Course explains what effective scientific communication is and provides tools to help develop effective verbal and visual communications for scientific research.
SCIENCE COMMUNICATION – WRITTEN	This Course provides tools to develop effective scientific written communication pieces, including summaries, abstracts, reports, journal articles and how to tailor messages to the audience.
SCIENCE ADOPTION AND IMPACT	This Course covers the importance of creating practice change by incorporating extension, adoption, and commercialisation pathways into the conduct of research projects.
SCIENCE PROPOSALS AND PITCHES	This Course covers effective development of a research tender response or science pitch and provides tools and templates for the development of ideas for scientific projects.

Each Course includes

- 5 hrs of mandatory online Course material, including assessment items
- One 2 hr online group bootcamp where participants draft material with support from industry professionals
- 8 hrs of additional online professional development learning material
- Unlimited access to the Sativus Resource Library.

Program Content

Science Project Management

Failed research vs failed project management	Identifying whether your project failed because of issues with project management is an important skill to have. This lesson will help you understand the difference between failed project management and failed research.
Project management triple constraints	How you conduct your project will have constraints – things that just cannot be compromised on. This lesson outlines how the 'time', 'cost' and 'quality' components of a project are the key constraints.
Resource management	It is important to know what resources you need before you start a project to ensure they're available. This lesson will give an overview of resources you might need, and how to best utilise them to make sure your project stays on track.
Staying on track	Unexpected things can happen at any time during your project. This lesson will help you work through how to effectively change the course of your project if something unexpected happens.
Scope management	The 'scope' of your project is what is expected will be done with the time and funding provided. When the scope starts to expand or change during a project this is called 'scope creep'. This lesson will help you define a project scope and complete a Scope Management Plan.
Understanding risk	People generally don't like to talk about risk. This lesson will provide information on different types of risk and what they mean.
Risk identification and appetite	Identifying the potential positive and negative risks to your project is the first step in risk planning and management. This lesson will help you identify potential project risks by undertaking risk identification.
Consequences vs likelihood of risk	You can give risks a ranking to determine which should be mitigated and which can be left to deal with later. This lesson will guide you through 'consequence vs likelihood'.
Quality plans	'Quality assurance (QA)' and 'Quality Control (QC)' are extremely important in your science projects. This lesson provides an overview of these two concepts and describes how to complete and maintain a quality plan.
Communications plan	A communications plan helps mitigate risks that involve internal and external stakeholders. This lesson provides an overview of the importance of a project communications plan, and how to create an effective one.
Risk register	There are tools available to help you manage risks during your project. This lesson will help you start thinking through project risks and completing a Risk Register.
Issues register	Risk management is what you do when a risk actually occurs and becomes an 'issue'. This lesson outlines how to maintain an Issues Register and its importance for capturing changes that occur during a project.
Budget planning	Planning and active project management is important for keeping your budget on track. This lesson outlines how to prepare and manage a budget plan so you can identify sooner rather than later if you need to adjust project spending.
Time management	Managing time well is an important skill to ensure projects are conducted efficiently and successfully completed, however, most people are terrible at estimating time. This lesson outlines the reasons for project delays and provides options for how to manage time more effectively.

Program Content

Science Communication – Visual and Verbal

Importance of communication	There is no point doing science unless it's going to be contributed to solving a problem. This lesson highlights the importance of communicating your science.
Communication channels	You need to be able to communicate your information in different ways so that your ideas and science can reach several different audiences through various platforms. This lesson will take you through the possible options for communication.
Scientific data/visual visualisations	There is truth behind the saying, "a picture tells a thousand words" because humans interpret images better than written words. This lesson outlines the basic considerations for visualisations in science.
Scientific presentations	Evidence indicates that most people will only remember about 10-20% of what is presented. This lesson provides a process to follow when preparing a verbal scientific presentation to help the audience remember what it is you want them to.
Tailoring messages for audiences	There will likely be more than one audience interested by your project and its outcomes. This lesson will help you identify different people that will be directly, and indirectly affected by your science, and how you can effectively communicate with them.
Verbal communication	The ability to translate your research into a speech that people can easily understand is an important skill that is imperative to successfully engaging with others.

Program Content

Science Communication - Written

Effective communication	Communication is a skill that must be learned, but the tricky thing with being a scientist is that we need to learn to communicate in lots of different ways – we need to communicate using highly technical and specialised language as well as easy language and everything in between. This lesson outlines opportunities and strategies for effective science communication.
Using language that is easy to understand	For your science to have impact, it needs to be accessible to as many people as possible. This lesson provides guidance on how to communicate in a way that most people will understand.
Key messages	Effectively communicating can make or break your science. In this lesson you will learn an effective method of creating key messages to improve the communication and extension of your research.
Communication risks	The chances of a breakdown in communications during a project are really high. This lesson focuses on communications risks to your projects.
Writing abstracts	Most people won't read much more than the title and maybe the abstract of your papers, which means the abstract is very important in engaging people in your science. This lesson will guide you on how to prepare an effective scientific summary/abstract.
Communicating methodology	Your scientific experiments need to be replicable to ensure that your work remains credible. This lesson provides tips to help you write comprehensive, replicable scientific methodology.
Preparing journal articles	Most scientists at one stage or another are involved in the preparation and submission of an article to a scientific journal. This lesson outlines a process that will help you prepare journal articles, once you've decided some part of your science is publishable.
Research reports	Research reports are important advertisements of yourself, so you need to make sure you do a good job and create a quality output. This lesson provides tips on preparing a great research milestone or final report.

Program Content

Science Adoption and Impact

How to create, accept and facilitate practice change	Scientists want to create positive changes, which means someone, somewhere will likely be faced with changing what they currently do because of the findings from your science. This lesson outlines how change occurs and why this is important to how you conduct your science.
Communication for impact	'Accessibility' means how easy it is for people to find, understand and use information, when they need to. This lesson will help you better understand how to improve the accessibility of your science.
Extension and adoption in science	In science, extension and adoption go hand in hand but are two different things. This lesson will go through the differences between the two and highlight the role that each play in creating impactful science.
Engaging with industry	"Engaging with industry", "working with industry", "collaborating with industry" – what does this actually mean? This lesson explains the difference and importance of industry in the context of science.
Building extension and adoption pathways	For science to have impact, researchers must be clear on what practice change their project is trying to achieve, and who will have to change practice as a result. This lesson will guide you through the development of pathways to make real impact from your science.
Building commercialisation pathways	A commercial outcome is when your research produces something that can generate income, jobs, businesses, or any combination of these. This lesson will help you understand how to "get to market" with your science outcomes.
Intellectual property and science	It is important to have a basic understanding of what your responsibilities and rights are regarding intellectual property (IP). This lesson will introduce you to the concept of IP in science.
Science and policy development	Having your science used to inform policy is a great way to improve its impact. This lesson outlines how policy is developed and opportunities for scientists to engage and improve the impact of their science.

Program Content

Creating Science Proposals and Pitches

Pitching ideas	A pitch, either formal or informal, is something you prepare when you want or need something from someone. This lesson provides tips for preparing an effective pitch, which forms the basis for numerous applications including proposals and job applications.
Feasibility and limitations of ideas	Not every idea is the best idea for a given situation. This lesson will provide tools on how to review and determine the best ideas and execute them in a way that will create the most effective outcome.
Writing proposals	It is common for the rejection rate for applications to be greater than 75%, which means that 3 out of every 4 proposals will be rejected. This lesson provides guidance on how to prepare a funding proposal and avoid common reasons they might be rejected.
Project outcomes	At the beginning of your project, it should be clear what the project is planning to achieve as the primary outcome. This lesson will help you understand that there may be other plausible and possible outcomes to your project.
Timing of communications	Timing of science communications can make or break a project. This lesson provides information to help you determine the best time to tell other people about your science.
The curse of knowledge	Not everyone is a subject matter expert, which means things that seem “common knowledge” to you, are probably not common knowledge to them. This lesson provides guidance on how to avoid the “curse of knowledge” in your communications.

Program Content

Key Concepts - Complimentary with each Course

Scientific insights	Insights are also referred to as “aha” or “Eureka” moments – in this lesson, you will learn the value of insight for progressing science.
Ethical conduct of research	As a researcher in Australia, you are bound to adhere to government requirements and principles of ethical research. This lesson gives an overview of the Australian Code for the Responsible Conduct of Research.
Cooperation vs collaboration	There is a difference between cooperation and collaboration in scientific research. In this lesson you will learn the difference, and the importance, of each.
Human ethics in research	If you plan to use human participants in your science, it’s important to know and understand your responsibilities. This lesson gives an overview on the National Statement on Ethical Conduct in Human Research.
Animal ethics in research	In Australia, the use of animals for scientific purposes is governed by the ‘Australian Code for the Care and Use of Animals for Scientific Purposes’. This lesson provides an overview of this Code and the ethics considerations required when conducting research that involves animals.
Dealing with rejection	Rejection is a common aspect of scientific research – this lesson will help guide you through how to accept and react to rejection throughout your research.
Criticism in science	In science, you have to accept that you will always have critics. This lesson will help you recognise, and prepare for, constructive and unconstructive criticism of your work.
Networking	Networking is the process of building a ‘network’ and is an essential part of progressing science and your career. This lesson takes you through a few preliminary ideas to help develop your own networking strategy.
Career opportunities	You are so much more than (just) ‘a scientist’. The skills you have can be applied to an incredibly varied range of jobs. This lesson describes career options and encourages you to start considering your career plan.
Science awards	The old adage, ‘you’ve got to be in it to win it’ applies to awards in science just as much as it does in any other context. This lesson outlines the benefits of applying for awards, even if you don’t win.
Scientific wonder	Curiosity is critical for making us aware of the limits of our understanding – this lesson will explain the value of ‘wonder’ for science.