

Research Management and Leadership Curriculum

This curriculum was developed by IREX for the University Administrator Support Program (UASP), kindly funded by the Carnegie Corporation of New York since 2002. The program currently supports mid- and senior- level university faculty and administrators with an interest in improving their university's research performance.

<p>LEARNING OBJECTIVES</p>	<p><i>Upon successful completion of this program, participants will be able to:</i></p> <ol style="list-style-type: none"> 1. Understand the changing role of university research in the global knowledge economy 2. Analyze their own institutional research management capacity 3. Apply tools and techniques to improve the development, management, and impact of university research 4. Understand their own personal leadership style and strengths as relates to research management 5. Create an implementation plan for research management reform at their own institution. 	
<p>TIME COMMITMENT</p>	<ul style="list-style-type: none"> • Semester 1: 36 online course hours • Semester 2: 34 online course hours <p>Total: 70 hours</p>	
<p>WORKSHOP SESSIONS</p>	<p>Semester 1: Core principles and practice</p> <p><u>The Foundations</u></p> <ul style="list-style-type: none"> • The Role of the 21st Century Research University • Research Governance and Organization • Research Ethics and Integrity <p><u>Fostering Research Success</u></p> <ul style="list-style-type: none"> • Researcher Development and Career Support • Enhancing Reputation and Visibility • Finding, Winning, and Managing Sponsored Research • Crowdfunding • Research and Research Management Data <p><u>Partnerships for Research Impact</u></p> <ul style="list-style-type: none"> • Co-production and Transfer of Knowledge • Intellectual Property 	<p>Semester 2: Driving change</p> <p><u>Reflection, Understanding, Driving Change</u></p> <ul style="list-style-type: none"> • Downloading and Applying Learning • Emotionally Intelligent Change Management • Understanding the Audience • Understanding the Environment <p><u>Design and Implementation</u></p> <ul style="list-style-type: none"> • Designing Change • Storyboard and Journey Map • Building an Implementation Plan
<p>EVALUATION STRATEGY</p>	<p><i>Participants will be deemed to have successfully completed the course on meeting the following requirements:</i></p> <ol style="list-style-type: none"> 1. Completion of all preparation activities 2. Attendance and participation in all online sessions 3. Completion of all online activities and assignments. 4. Submission of a completed Implementation Plan. 	

Semester 1 Preparation Activities

1. Identifying Vision, Goals, and Objectives

Participants develop a vision for research management at their own institution and goals and objectives for making institutional improvements.

2. Research Management 360

Participants are provided with the IREX Research Management Institutional Capacity Assessment Tool and are expected to work in teams to review their own institution's research and knowledge transfer capabilities (with input from others in their institutions). Results are subsequently discussed during the Opening Workshop.

Semester 1 Session Topics

1. Program Introduction

Participants receive a welcome from course facilitators and an overview of course sessions, activities, learning outcomes, and requirements; and a tutorial to the course's virtual learning environment (Canvas). This session introduces the rationale for creating the program, including the professionalization of research management, the important role of universities in development, and the need to diversify the global body of research.

2. The Role of the 21st Century Research University

Participants are introduced to the following global research trends: the increasingly collaborative and international nature of world class research (partnerships and globalization); the rise of competitive project funding aligned to strategic themes (funding trends); and the growing importance of co-production and transfer of knowledge (impact). Participants discuss challenges and opportunities for university research. Through break-out groups and forum discussion, participants share their Research Management 360 findings and reflect on their institutions' preparedness to deal with the identified trends.

3. Research Governance

Participants are introduced to "governance" as a lens to reflect on research management effectiveness in their institutions: is practice guided by clearly stated objectives and standards? Do organizational structures and resources support the objectives? Do policies and procedures support the attainment of stated objectives and standards? Is there an enabling environment that supports and motivates actors (researchers, administrators) to comply with objectives, policies and procedures? Are there strong monitoring and accountability mechanisms that enable corrective action? Is there a proactive approach to learning and adaptation, that enables the system to be improved over time? During guided activities and forum discussion participants reflect on the governance structure of their chosen focus area, identifying strengths and opportunities for improvement.

4. Research Ethics and Integrity

Participants discuss topics of research ethics and integrity including falsification, fabrication and plagiarism (FFP) and questionable research practices (QRP) and consider whether their institution has sufficient support and safeguards in place to maintain high quality practice and manage reputational, financial, and institutional risk. They explore factors that contribute to poor practice and how to overcome them; including rigorous research ethics review and approval procedures, establishing Responsible Conduct of Research guidance and/or codes; and proactively developing capacity through professional development and mentoring. Participants consider a selection of research integrity case studies to explore the issues.

5. Researcher Development and Career Support

Participants discuss strategies to intentionally develop researchers' 'professional' skills, with a focus on grant writing and publication, engagement and partnership, impact, research governance and organization, and personal effectiveness. Training, networks, mentoring, and annual performance and development reviews are all considered. Participants also reflect on how to incentivize research via competitions, recognition and celebration of success, alongside institutional "stepping stones" such as internal conferences, magazines and working paper series, and "seed" or development grants. Working in break-out groups and on the course discussion forum, participants reflect on and share their own institution's approach to researcher development and career support, identifying strengths and opportunities for improvement.

6. Enhancing Reputation and Visibility

During guided discussion, participants reflect on the question, "how do institutions improve their international reputation and visibility to get a seat at the table?" Participants develop a visibility strategy considering a range of different techniques including strategic publication taking into account traditional and alt-metrics, institutional repositories, networking, developing researcher profiles, and developing the university/researchers' social media competency.

7. Finding, Winning and Managing Sponsored Research

In this extended session, participants apply a "governance" lens to the grant life cycle including opportunity scouting and pre- and post-award management. Using example guidelines from funders such as the National Science Foundation (US) and Horizon 2020 (EU) participants explore institutional steps that can help to ensure compliance and create an enabling environment to support researchers in a highly competitive and highly regulated research environment. Participants review a range of universities' "Sponsored Research Support" services and reflect on the strengths and opportunities for improvement of their own institutions.

8. Crowdfunding

Using case studies from Australian and South African universities and drawing on the experience of UASP alumni, participants will consider whether crowdfunding might present opportunities for diversifying university funding sources in low resource environments, especially for students and young researchers, and especially when framed as an opportunity to develop research communication, dissemination, and promotion skills.

9. Research and Research Management Data

Participants explore how data on research performance and research *management* performance can enable them to demonstrate their value to critical audiences, both internal and external, benchmark against peers, and make informed, strategic decisions about how best to support research activities across the university. Participants reflect on the benefits and pitfalls of different types of data to measure research output and impact and consider issues and implications of data *use*: drawing meaningful conclusions from data by interpreting it accurately; communicating data-informed decisions effectively and empathetically; balancing data insights with other priorities, political economies, and pressures.

10. Co-production and Transfer of Knowledge

Participants explore institutional approaches, mechanisms and supports to increase the impact of research through partnership development with business, government and community, through promoting university innovation and entrepreneurship, and through developing capacity for effective research communication. In break-out groups, participants reflect on the range of mechanisms used in their institutions to co-produce and transfer knowledge and the challenges and successes they have experienced, before considering whether the university's approach is supported by an adequate governance structure.

11. Intellectual Property (IP)

Participants consider IP laws in the US, Europe, and participant countries to explore issues of intellectual property management, particularly in the context of collaborative and donor funded research and private sector partnerships. Using an IP litigation case study as an entry point, participants explore institutional risk, common pitfalls during industry-university collaboration; and administrative steps that impact how researcher must behave, including Confidentiality Agreements, Materials Transfer Agreements, and Data Use Agreements. A “governance” lens is applied to identify strengths and opportunities for improvement in participants’ universities.

Semester 2 Preparation Activities

1. Leadership Styles

Guided by a Leadership Styles Questionnaire, participants reflect on their own leadership style. Discussion of leadership styles among peers will occur during the program.

2. Preparation of Presentation

Participants prepare a 15-minute presentation on the key observations and lessons from the program and their virtual interaction with US-university mentors, reflections on their university’s current practice in their chosen focus area, and proposals for initiating improvements in institutional practice. Written instructions and a presentation template are provided.

Semester 2 Session Topics

1. Downloading Learning and Finding Themes

Participants share and discuss observations from their experience and peers’ presentations, identifying patterns and relationships and categorizing into clusters that provide useful categories for thinking about design solutions for research management. Fellows are guided to apply and contextualize their learning to their home institutions, identifying what adaptations are needed.

2. Emotionally Intelligent Change Management

To support participants to implement change in their own institutions, this session explores emotional Intelligence, and change management. Participants share personal change experiences with their peers and complete an exercise on emotionally intelligent change management.

3. Understanding Your Audience

Participants use several tools to thoroughly understand their stakeholders and how they might respond to their research management proposals. Empathy Maps are created to explore how they might behave and what they think and feel, hear from those around them, and see in others. A Stakeholder Analysis is used to establish the level of interest and influence that each of the stakeholders might have and to develop appropriate engagement strategies for each.

4. Understanding Your Environment

Participants use PESTLE and a SWOT Analysis to understand their environment and to contextualize the lessons they have learned while engaged in the program.



5. **Project Initiation and Implementation: Putting Ideas into Action**

Using a HCD methodology, participants create Story Boards and Journey Maps to build out their research management reform idea. Course facilitators subsequently work with participants on the development of Implementation Plans to develop objectives, outputs, and outcomes, identify resources, consider sustainability, and work through risk management and Gantt chart exercises related to their proposed research management reforms. Particular focus is placed on integrating lessons from the reflection and understanding exercises. The session allots time for small group discussion and individual work on the Implementation Plan.