Research Management and Leadership Curriculum

This curriculum was developed by IREX for the University Administrator Support Program (UASP), kindly supported by the Carnegie Corporation of New York. As such, it is built around a 4-week work placement opportunity, but IREX believes the curriculum is highly adaptable and could be applied effectively across different contexts. It consists of six key program components: (1) Pre-arrival activities (2) Opening Workshop (3) Fellowship (work placement) at a host institution aligned to the participant's research interests (4) Remote learning activities during the placement (5) Closing Workshop. In the context of the UASP, participants also have access to funding to support follow-on activities that put learning into action. Upon completion of the course, participants of the UASP received 6 Continuing Education Units from George Mason University.

LEARNING OBJECTIVES	*Upon successful completion of this program, participants will be able to:* 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.
TIME COMMITMENT	• *Pre-Arrival Activities:* 7 hours of guided activity • *Opening Workshop:* 23 hours of contact over 5 days • *Remote Learning:* 6 hours of guided activity, coaching calls, and online support • *Closing Workshop:* 24 hours of contact over 5 days *Total: 60 hours*
WORKSHOP SESSIONS	**Opening Workshop** • The Role of the 21st Century Research University • Research Governance and Organization • Enhancing Reputation and Visibility • Research Ethics and Integrity • Researcher Development and Career Support • Finding, Winning, and Managing Sponsored Research • Crowdfunding • Research Impact and Knowledge Transfer • Institutional Data, Reporting, and Audit • Intellectual Property • Personal Development and Leadership • Strategic Management for Research Managers **Closing Workshop** • Feedback and Facilitated Discussion on Placements • Human Centered Design • Project Initiation and Implementation: Putting Ideas into Action
EVALUATION STRATEGY	*Participants will be deemed to have successfully completed the course on meeting the following requirements:* 1. Completion of all pre-arrival activities 2. Attendance and participation in all sessions during the Opening and Closing Workshops 3. Completion of two online activities scheduled between the Opening and Closing Workshops 4. Delivery of presentation during Closing Workshop 5. Submission of a completed Implementation Plan.

IREX

Pre-Arrival Session Topics

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. **Work Planning**
   Participants each meet virtually with their host mentor and complete a draft work plan for their work-based placement (e.g. identifying key meetings, observations, and documents to review). A work plan template is provided.

3. **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 Opening Workshop.

4. **HEICAT (Research Management and Knowledge Transfer)**
   Participants are provided with the IREX Higher Education Institutional Capacity Assessment Tool (HEICAT) and are expected 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.

Opening Workshop Session Topics

1. **Program Introduction**
   Participants receive a welcome from course facilitators and an overview of course sessions, activities, learning outcomes, and requirements. Participants also receive a brief tutorial to the course's virtual learning environment platform. This session introduces the rationale for creating this program, the professionalization of research management, the important role of universities in development, and the need to diversify the global body of research. In addition, participants are introduced to the US Higher Education System.

2. **The Role of the 21st Century Research University**
   During guided discussion (break-out groups, feedback, and round table discussion), participants share HEICAT findings and reflect on their institution's preparedness to deal with the following global trends: internationalization, increasing competition, professionalization of research management, third stream activities, and open science and open access. Participants discuss challenges and opportunities for university research (e.g. Can research be a revenue generator?) and how governments support university research in different countries.

3. **Research Governance**
   During guided discussion (break-out groups, feedback, and round table discussion), participants design a Governance Framework which maps out an organizational structure, systems, and processes to support research. Participants consider: objectives, social norms, systems and processes, interactions, and actors for research management at their institutions. How can one ensure alignment? What about autonomy, accountability, and control? How do different units fit together?

4. **Research Enhancement: What does good research management look like and how do you achieve it?**
   This session is a panel discussion led by experts in the field of research management. Participants are encouraged to ask questions of the panelists.

5. **Enhancing Reputation and Visibility**
   During guided discussion, participants reflect on the question, "how do institutions improve their international reputation?" Participants develop a publication and promotion strategy, which may include developing researcher profiles, social media, networking, and publication. Additional topics to discuss include traditional and alt-metrics as well as strategy, policies, procedures, and training.

6. **Research Ethics and Integrity**

    Using a Research Integrity case study, participants discuss topics of research ethics and integrity (FFP, QRP); reputational, financial, and institutional risk; factors that contribute to poor practice and how to overcome them; establishing a Research Ethics Code of Conduct; and establishing a committee review and approval process for research.

7. **Researcher Development and Career Support**

    Participants discuss strategies to increase researcher success by tapping into international networks, mentoring, partnering, workshops and training, annual performance and development reviews, social media, developing research skills, and developing publication skills. Participants discuss how to incentivize research via competitions, conferences, celebrating success, recognition, internal magazines, working paper series, career path/tenure, internal research initiation, and development grants. Participants also discuss researcher pipelines (how universities identify and develop their faculty). Discussion is supplemented with exercises on researcher training and support and incentivizing research.

8. **Finding, Winning and Managing Sponsored Research**

    Participants review the proposal/grant life-cycle; the higher education research funding environment and current drivers in US, Europe, Africa, and globally; international funding opportunities for international researchers such as the National Institutes of Health (NIH), National Science Foundation (NSF), and Department of Defense (DoD); and crowdfunding. Participants discuss what components need to be in place to support the development of a funding proposal, how to negotiate and manage multi-partner contracts, and governance structures to ensure compliance. Discussion is supplemented with sample Sponsored Research Support websites, a crowdfunding case study, and examples of university contracting guides.

9. **Research Impact and Knowledge Transfer**

    In a facilitated small group discussion, participants share technology transfer experiences and review topics of international drivers, enhancing research relevance and impact, promoting and supporting university innovation and entrepreneurship, promoting and supporting business, government and community engagement, and research communication.

10. **Intellectual Property (IP)**

    Participants receive an overview of IP (e.g. types of IP, why it is an important issue, what needs to be managed, how much revenue can you really generate?) and discuss IP laws in the US, Europe and participant countries; issues of intellectual property management; identifying IP ownership; tips for avoiding common pitfalls during industry-university collaborations; and how to evaluate Confidentiality Agreements, Materials Transfer Agreements, and Data Use Agreements. The discussion is supplemented by IP litigation case studies.

11. **Intellectual Property and Research Commercialization Panel Discussion**

    This session is a panel discussion led by experts in the field of research management, knowledge and technology transfer, and university IP. Participants are encouraged to ask questions of the panelists.

12. **Institutional Data, Reporting and Audit**

    Participants are introduced to the importance of institutional data collection, storage and use for decision making, strategy development, and access to global research funding pots. Participants review measuring and driving individual and organizational research effectiveness, supporting reporting and audit, and example research metrics (e.g. publications, citations, impact, patents, industry income, funding).

13. **Personal Development and Leadership**

    In order to support participants to implement change in their own institutions, this session reviews recognizing personal leadership style and strengths, personal development and leadership, emotional Intelligence, and change management. Participants share personal leadership styles with their peers and complete an exercise on emotionally intelligent change management.

14. **Strategic Management for Research Managers**

    Participants learn about developing and managing an institutional research strategy, including external analysis (PESTLE Analysis), internal analysis (SWOT Analysis), and stakeholder analysis (interest and impact).

15. **Developing an Implementation Plan and Maximizing the Impact of Learning**

    Course facilitators introduce the Implementation Plan template. Participants in break-out groups discuss what reforms they are seeking to make at their home institution.

Remote Learning Assignments

1. **Reflective Blogs**

   Participants post two reflective blog posts on the virtual learning environment platform and are encouraged to engage with others' posts. This is a guided reflection. Participants each receive written instructions and are supported by four coaching calls with course facilitators.

2. **Preparation of Implementation Plan**

   Participants complete opening sections of the Implementation Plan Template. Written instructions are provided and participants receive a weekly coaching call from course facilitators. Participants are encouraged to engage with their peers about their implementation plans via the virtual learning environment platform.

3. **Preparation of Presentation**

   Participants prepare a 20-minute presentation on the key observations and lessons from their host institutions and the elements they plan to transfer to their home institution, to share during the Closing Workshop. Written instructions and a presentation template are provided. Participants receive feedback on their progress during weekly coaching calls with course facilitators.

Closing Workshop Session Topics

1. **Feedback on Placements**

   Over three days, participants give their presentations of the highlights, challenges, and lessons of their course experience. Following the conclusion of each group of presentations, participants process the information and are guided through an ideation process using Human Centered Design (HCD) methodology (finding themes, how might we…, storyboarding, journey maps). Participants are guided through a three-step HCD approach to intervention development.

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

   This session focuses on developing a business case and action plan and making a case for change, value, viability, affordability, and achievability. Participants develop objectives, outputs, and outcomes, identify resources, consider sustainability, and work through risk management and Gantt chart exercises. The session allots time for small group discussion and individual work on the Implementation Plan.

3. **Close-out**

   Participants reflect on and debrief their fellowship experience and next steps through a combination of individual consultations with course facilitators, Q&A, and round table discussion with peers.

Note: In the context of the University Administrator Support Program, course participants also have access to follow-on coaching calls, a webinar series, and small grant funding opportunities to maximize the impact of learning.