

JANUARY 1, 2021  
ROYAL ROADS UNIVERSITY

# MACAL/GDCAL PORTFOLIOS

A GUIDE FOR STUDENTS



## Overview

As part of the MACAL/GDCAL program, we are encouraging a *portfolio* approach to learning. A learning portfolio consists of a collection of work samples, reflections and artifacts from courses and professional documentation that extends and demonstrates competencies gained during a program of studies and a career. Portfolios can help you reflect on, make sense of, and connect various learning activities, and support the transdisciplinary thinking that is a hallmark of this program. They also help you reflect on and document your learning and gather the learning artifacts (e.g., papers and blog posts, assignment outputs) you produce to develop a powerful story and evidence of your achievements, competencies, and growth as a reflective leader. The guide includes an outline for the various possible uses of the portfolio that you may utilize to shape your reflections and your learning pathway throughout the program and, if you choose the course-based track, the Practitioner Portfolio course (CAL 691).

### Rationale for Portfolios in MACAL

The MACAL program uses portfolios both for enhanced learning activities in the required courses, and for achieving alternative forms of credit in the second year of the program for students who take the course-based track. The portfolio approach is designed to enhance student learning and a reflective learning approach throughout the program by encouraging active reflection on the learning, and an active apprehension of how and what learning outcomes are achieved in the courses. It links directly to the use of blogs to reflect and share learning, insights, and outputs. In this way, the portfolio approach combines reflections and artifacts from formal, structured learning (required courses) and a variety of non-traditional learning experiences.

This guide describes how portfolios may be used as part of the reflective learning practice that is woven throughout the program and made explicit in student blogs. It also describes the role the portfolio can play in the development of a professional identity in the climate action field, and the tangible outputs that can be gathered in the portfolio that demonstrate competency-related achievements.

This guide provides an overview of the **Practitioner Portfolio** that will be developed in the second year (during CALS 691) and that can be used, repurposed, and remixed by you as you tell your story, present your accomplishments, and frame your competencies to various audiences. The Practitioner Portfolio will be designed as a tool to help you develop life-long learning and professional pathways, and, importantly, to frame out your individualized learning pathway for the equivalent of 9 credits of graduate learning in the second year of the program. Your Wordpress site (blog) provides the online platform to ‘house’ this portfolio, and at the end of the program if you choose to, you can easily copy and migrate this portfolio to your own non-RRU hosted Wordpress site. This 9-credit portfolio-learning *window* has been created to provide you a way of customizing your learning through traditional and alternative forms of credit in ways that enable a variety of non-traditional learning experiences. Whether or not students opt for the Scholar-Practitioner track, the portfolio approach is encouraged as a means of documenting your learning and achievements in the program, including your research and related outputs.

## PORTFOLIOS TO DOCUMENT AND DEEPEN STUDENT LEARNING

Portfolios come to the fore in several aspects of the Master of Arts in Climate Action Leadership (MACAL) program setting at Royal Roads University, in both first and second years of the program.

The RRU Learning, Teaching and Research Model (LTRM) places a focus on transformational learning, where education in an applied and socially responsible learning environment includes transformation of self as part of becoming equipped to transform society. Reflection plays a key part in transformative learning, involving “reinterpretation of experiences in light of new insights and understanding, as well as an enduring change in attitude and behaviour” (LRTM, p. 19).

As noted by Penny Light et al. (2012), the use of portfolios to document, integrate and interpret students’ learning is a key component of reflection, also known as folio thinking, in a learning environment. The MACAL program places a strong emphasis on reflective leadership throughout the courses, with learning outcomes that include integration of worldviews, perspectives and experiences and conducting critical analyses. Among the course learning outcomes, you are asked to “recognize [your] own multiple identities, experiences, and biases and how these affect your ability to lead” (MACAL Learning Outcome 4.2).

The program-level learning outcomes that guide the learning activities and assignments in the program courses, reflect core competencies associated with climate action (adaptation and mitigation). All the program level learning outcomes are amenable to the use of portfolio-supported learning to implement reflective learning activities. In many traditional university programs, students take courses individually and are never formally asked to connect your learning across courses. Some of that can happen in thesis research, but in this program, there is an intentional focus on integrating and synthesizing your learning and developing a transdisciplinary orientation to climate action leadership. This is not only consistent with RRU’s learning, teaching, and research model (LTRM) but also with the field of climate action. The complexity of climate change requires systems thinking, and a transdisciplinary (e.g., openness to diverse disciplinary perspectives and worldviews, bridging sectors and concepts) and reflexive orientation.

In MACAL/GDCAL, students are expected to build knowledge and experience in climate action leadership, while also engaging in an active praxis of reflection that supports transdisciplinary thinking and the integration of learning as part of your professional transformation. Opportunities to promote this type of reflection are woven throughout the program and are made more concrete in the CALS 501 seminars and learning activities. This guide provides suggestions for how to adopt a learning portfolio stance to your progression through the program and offers guidance on how to start thinking about the Practitioner Portfolio you will develop in CALS 691 if you choose the Practitioner-Scholar (course based) stream. These suggestions frame a way of incorporating your reflections on your development as climate action leaders; identifies specific learning outcomes and times in a

course where this documentation may be particularly relevant; and offer a rubric for assessing your progress not only in terms of course content but also in terms of your growth in reflection and portfolio skills.

## PORTFOLIO TOOLS AND OPEN PEDAGOGY

While some portfolios, or some parts of portfolios, may be set up as personal and private to the author, the general concept is to open and share learning with others. Blogs are used for maintaining learner portfolios in many RRU courses. The most common tool and the one used in MACAL, is WordPress, an open-source blogging tool that makes it easy to write and upload content (e.g., outputs from relevant assignments) to share. WordPress is highly customizable and supports multiple media such as graphics, videos, links and other tools and widgets. WordPress users may select from a wide array of themes and templates that determine the look and feel of the portfolios, whether magazine style, highly artistic, cleaner, and more functional or almost any other style. Over time the author develops an online narrative history of their learning and experiences to share with others. In addition, others can comment on blogs and link externally to other blogs or resources. The portfolios can be used for both reflective blogging throughout the program and beyond, if desired, as well as for portfolio submissions to accompany non-traditional credit applications.

Along with the usual text and graphic images of blogs or portfolios, authors can create videos, podcasts, presentations, and other multimedia to communicate and enhance their stories and offer these through their blogs. The Center for Teaching and Educational Technologies (CTET) unit at RRU can set up blogs and related technologies as needed for students and faculty and as a student in MACAL you will have your own WordPress instance to use for blogging and portfolio development. Open pedagogy activities can integrate very well with portfolios, WordPress, and other media as they can be used to help create peer and community engagement in multiple ways, as well as inviting discussions and input from others. As previously stated, at the end of the program, you can migrate the content from your RRU site to another WordPress site hosted by WordPress for free, or by a hosting service.

## PRACTITIONER PORTFOLIO: PORTFOLIOS FOR NON-TRADITIONAL LEARNING ASSESSMENT AND RECOGNITION

In addition to the use of portfolios for enhanced learning throughout the program, if you are taking the course-based track in the second year of the program, you will create a Practitioners Portfolio within the CALS 691 course. This Practitioner Portfolio can include all the work you have done to date while using a portfolio approach to learning in the program, and will build on that work in multiple ways:

1. Framing out the learning you will do to complete a 9-credit window in the program and evidence of that learning (Practitioner-Scholar stream - these 9 credits allow you to customize your learning to support a deeper dive into a specific area or areas of focus relevant to your learning and professional goals as a climate action leader);
2. Creating an updatable career plan; and
3. Considering how to showcase your work in ways that make your ongoing learning tangible and easy to use to support your career progression.

## CALS 691: Practitioner Portfolio Course

CALS 691 introduces students to epistemologies, methods, and pathways for ongoing competency and capacity development from a life-long learning and career management perspective that reflects the reality of an evolving field and the 21st century work environment. The portfolio that is formalized in this course will not only frame the 9 credits of learning you will engage in during the 9-credit portfolio learning window in MACAL, but also can serve as a career-long tool for making tangible, credible, and as needed something assessable, the claims that are reflected in your CV or resume. As the OECD suggests, in the 21st century employment landscape, “Success will go to those individuals and countries that are swift to adapt, slow to resist, and open to change” and a career portfolio can situate you and *credential [your]* orientation to that reality.

There are a range of options available to you for completing the 9-credit window in the MACAL degree, and this requires you to be an active agent in designing your own learning. This 9-credit window can be filled by a unique, student driven (and faculty approved) combination of formal and informal learning opportunities. Credits can include a unique-to-students combination of both previously acquired relevant learning and experience, new courses (electives), a 6-credit internship course, and unique experiential learning (CALS 692) that can include professional development and training (i.e., not for credit courses), and informal learning opportunities (e.g., project based learning with a mentor, self-driven learning through MOOCs, and other learning options) . The portfolio choices you make to complete the 9-credits worth of graduate learning will be guided by faculty input and will require Program Head approval.

In preparation for this 9-credit learning window, you will research, plan and document how you will achieve these 9 credits and demonstrate evidence of your learning by formally generating a practitioners portfolio in CALS 691 Designing a Practitioner Portfolio. Although this course does not occur until the 2nd year of the program, it is recommended that you start your thinking early to allow for time not only to think about what and how you want to focus your learning, but also to ensure that you are tracking when specific learning opportunities (e.g., courses, workshops, training opportunities) occur, and building your portfolio based on learning over the course of the program. Table 1 gives a breakdown of the different types of credit that you may access.

The practitioner learning portfolio can combine different types of learning opportunities and these are outlined below, but you may also identify other opportunities and present these for review and approval.

**Elective courses.** One way to achieve these credits in full or part is by identifying and taking relevant elective, for-credit, graduate courses from RRU or another institution. To have the credits awarded based on electives (internal and external credit bearing courses taken during or before the program start), you will also use portfolios to represent, contextualize and explain how specific program learning outcomes and competencies have been achieved with these electives (with a focus on the graduate-level learning outcomes of the program and the

competencies associated with climate action leadership). Once approved by the Program Head (or designate), internal and external credit-bearing courses can be assessed with the usual course-transfer mechanisms and do not require further assessment. One exception may be specialized higher level undergraduate courses, usually in relevant technical specializations, that meet or exceed the technical levels of courses at the MACAL graduate level. Such courses will be assessed by the program head or faculty designate for awarding of credit, using 1-credit increments, and will require additional portfolio work for possible recognition. Following are more details.

**Graduate elective courses can include both courses that students plan to take during the program (either in the 9-credit window, or overlapping with other required courses), and those you may have already completed elsewhere in the two years prior to entry into the program.** If you plan to complete your electives at RRU, the credits will be internally transferred into the program after review and approval by the Program Head or designate. Such transfers require a transfer form, program head approval, and there is no fee.

Students planning to complete graduate elective courses at another recognized post-secondary institution will require a Letter of Permission before beginning, to ensure the credit will be allowed. Such transfers require an external transfer form and a transfer fee. **You may obtain the full 9 credits through electives, or fewer,** again with Program Head (or designate) review (for relevance and graduate standards) and approval.

In the case of all electives, whether taken at RRU or at other recognized post-secondary institutions, you will be required to identify how the learning outcomes of these electives meet the learning outcomes of the program. For relevant courses that may not fully meet the requirements of the program (e.g., relevant topics but not focused/contextualized in the climate action space; no evidence of transdisciplinary focus), the program head or designate may (1) require additional work to round out the credits assigned. This may include additional scholarly writing/blogging, project work, or the generation of other knowledge outputs to ensure the credits meet the program learning outcomes. The program head or designate will assess your documentation to determine the level to which any course achieves program outcomes and award transfer credits in no smaller than 1 credit increments.

**CALS 694 Climate Action Internship** (6 credits). As part of the 9 credits, you may also choose to do a six-credit internship course. Those choosing to do an internship will be required to take a Career Preparation Course (HUMSIP; not for credit) and CALS 602: Conducting Climate Action Research. As the latter overlaps with CALS 603: Translating and Assessing Climate Risk and Resilience for Practitioners, if you take the Internship track you will have to decide whether you wish to take CALS 602 and 603 simultaneously, or take CALS 602 and use the remaining 3 credits of your portfolio for other learning activities, electives etc.

CALS 694 provides you with a work-integrated learning opportunity that brings classroom learning (theoretical concepts and academic literature) together with practical learning, insights from the field of practice and

application of skills. The MACAL internship is an academic work term that allows you to engage in applied research with an organization and is based on the principle that an academic program connected with industry experience provides the most successful foundation for graduates to become future leaders in the workforce. The mutually beneficial experience introduces you to challenging opportunities, while employers gain high-quality employees with fresh perspectives and knowledge, and the outputs of the applied research. Internships require a minimum of 420 contact hours in a supervised, professional, domestic, or international context relevant to climate action and are normally completed over a period of 3 to 5 months.

Undertaking an internship also requires completing HUMSIP, the non-credit internship preparation/career management course prior to the internship beginning. This interactive, workshop-style course is designed to prepare you for the internship experience and for a life-long learning and self-directed approach to career management. During the course you will complete key activities and participate in discussions related to everything from understanding core strengths and preferences to researching a specific industry or sector, preparing resumes, cover letters and a digital presence, networking, interviewing, and negotiating skills. By the end of these workshops, you will have the skills to find and complete a successful internship, as well as successfully manage a career in an emerging field.

**PLAR** (Prior learning assessment and recognition). PLAR provides opportunities to gain credit for previous learning that does not fall under internal or external transfer credit. PLAR can be given for such learning events as non-credit courses (e.g., through Continuing Studies departments at universities, colleges), MOOCs, webinars, workshops, professional development workshops, and other such learning opportunities where you can demonstrate that the learning outcomes align with the program learning outcomes. PLAR can also be applied to relevant professional experience where you have worked in and/or been involved with sectors, organizations, or projects where, again, there is alignment with the learning outcomes of the program.

PLAR credit involves both providing the necessary evidence (e.g., evidence of registration and completion, course outline, documentation of learning outcomes and their relevance to MACAL program learning outcomes, and time involved), and documentation of learning based on agreed upon elements of your portfolio. In addition, with PLAR, you will likely need to do additional work to round out the credit(s) being requested, such as additional scholarly writing/blogging, project work, multimedia knowledge products, or research which is then also incorporated into the portfolio. This additional portfolio work will demonstrate the learning that has occurred and how it aligns with program learning outcomes and climate action leadership competencies. Credit for PLAR in this program can be assigned in 1 credit increments for a maximum total of 6 graduate credits.

**Climate Action Experiential learning (CAL S 692).** Experiential learning is the process of learning through doing. It involves direct experience and focused reflection, critical analysis, and synthesis. The CAL S 692 course provides opportunities for you to structure and engage in experiential learning opportunities that meet and align with learning program learning outcomes and activities. These opportunities can be structured based on **1 to 3 credit**

**increments for up to nine credits.** A range of learning opportunities can contribute to experiential learning, including applied directed studies (e.g., mentorship by an elder/SME), community project-based work integrated learning, professional development workshops etc. As with PLAR, experiential learning is also documented in the portfolio through additional scholarly outputs such as scholarly writing/blogging, project work, multimedia knowledge products, or research, the outputs of which are then also incorporated into the portfolio. The open learning activities in this program offer many possible examples of professional and community-based activities that can help to meet the requirements.

In all cases the Program Head must approve credit arrangements for CALS 692.

### EXAMPLES OF CREDIT FOR VARIOUS PORTFOLIO OPTIONS

Options	Process	Credit examples
<b>Elective courses</b>		
For-credit graduate elective courses to be taken at RRU	Obtain approval, take courses, complete & submit transfer form	3
For-credit graduate elective courses to be taken from another institution	Obtain approval (PH & registrar), take courses, complete & submit transfer form and pay transfer fee	3
For-credit graduate elective courses taken previously	Obtain approval (PH/Registrar), complete and submit transfer form and pay previous learning transfer credit fee.	3
<b>PLAR (Prior learning assessment and recognition)</b>		
Credit course from another institution (level may vary)	Complete PLAR form(s) & fees, obtain approval (50% tuition for credit it replaces); Complete portfolio assignment and provide credentials as necessary	1-3



Not-for-credit course (level may vary)	Complete PLAR form(s) & fees, obtain approval (50% tuition for credit it replaces); Complete portfolio assignment and provide credentials as necessary	1-3
Informal courses, workshops, seminars, PD, MOOCs, etc.	Complete PLAR form(s) & fees, obtain approval (50% tuition for credit it replaces); Complete portfolio assignment and provide credentials as necessary	1+
Professional learning	Complete PLAR form(s) & fees, obtain approval (50% tuition for credit it replaces); Complete portfolio assignment and provide credentials as necessary	

### **Experiential learning**

Taken through CALS 692 Climate Action Experiential Learning course	Complete portfolio assignment and provide credentials as necessary	1-9
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## **EXAMPLES OF PORTFOLIO LEARNING PATHWAYS**

Below are some examples of pathways that might be crafted for the 9-credits of customized learning in the learning portfolios. These are examples only and you are encouraged to think deeply about how you want to frame your customized learning, reflecting on learning and professional goals, areas of expertise you wish to cultivate in relationship to climate action (building on existing expertise/experience or branching into new areas), and your personal learning styles and preferences.

### **NEW COURSES pathway**

Darima wants to build on their background in business and focus their portfolio learning at the intersection of international business and nature-based solutions. Darima decides to do this through existing courses and finds a graduate certificate at RRU to complement and build on a previous degree in business. They enrol in two of the

courses, (EXMN 601, 602) and successfully challenge the third which is a repeat of an undergraduate course in business they have already taken. They add this graduate certificate to their portfolio and decide to focus the remainder of their portfolio learning on natural assets management and nature-based solutions to climate change. They find continuing studies opportunities at RRU (i.e., Introduction to Natural Asset Management), Simon Fraser University (i.e., Green Infrastructure for Urban Solutions) and the SDGAcademy (i.e., Nature-based Solutions for Disaster and Climate Resilience course) which they combine with two scholarly blogs and a briefing note (outlining the benefits and business opportunities for integrating nature based solutions in business) to account for the remaining three graduate credits in their portfolio.

### ELECTIVES pathway

Autumn works with a first nation government and is interested in developing her knowledge and skills in policy work. Autumn decides to take RRU's 9-credit [Graduate Certificate in the Science and Policy of Climate Change](#). Having successfully completed CALS 500: Climate Science, Impacts and Services, Autumn needs only to take SPCC 615: Climate Policy and Governance and SPCC 616: Climate Solutions to complete the certificate, and adds this certificate and the 6 credits of learning to their portfolio. The remaining 3-credits of learning is completed by taking PCOM 530: Strategic Digital Communication course, the first course in a second graduate certificate offered at RRU that Autumn intends to complete on her own following the successful completion of the MACAL degree.

### PLAR - INFORMAL COURSES AND PREVIOUS COURSES pathway

Ahmed has worked for several years in a technical role in managing waste systems for a mid-sized municipality. As part of that work, they have been involved with designing new systems for waste reduction that reduce emissions and that will be adaptive to changing contexts and system demands in the future. They have attended several industry seminars and presented at conferences on how to reduce or repurpose waste, green energy options for waste management, and a short not-for-credit course on climate adaptation. They assemble a record of their seminars and other informal learning activities throughout this work, includes several reports and presentations they have produced as part of this work, and integrates this information into their portfolio where they describe their growth in awareness and leadership in the industry and demonstrates the competencies they have developed during this work. They then write a scholarly blog describing their learning, the ongoing contributions they would like their work to make, contextualizing this discussion in the scholarly literature on waste management, green solutions for waste management, and future considerations for waste management in the context of climate change. Based on the documented hours of learning, and the scholarly outputs, Ahmed receives three graduate credits for this work. They also transfer in two relevant, previous graduate courses that focused on environmental research and data analytics. To contextualize these courses further, they write a portfolio segment that connects the previous courses to their studies in MACAL and the learning outcomes of the program. They receive six additional credits for these courses, completing the nine-credits of flexible portfolio learning.

### INFORMAL/EXPERIENTIAL LEARNING pathway

Deven is a part-time paid organizer for a volunteer community organization that is working with local and provincial emergency officials to plan for emergency response, evacuation, and reception centres for victims of adverse weather events such as floods and extreme snow. In the context of climate change, these challenges are

worsening and Deven wants to develop a communication and engagement strategy to better inform and engage the public. Deven wants to consult with a wide variety of municipal, Indigenous, and provincial agencies, develop a public information program which includes social media campaigns, school visits and cooperation with local businesses. As part of this work, they will develop an informational video to share with the community on YouTube. They decide to add this learning as part of their portfolio under the INFORMAL/EXPERIENTIAL options. After obtaining ethical research approval, Deven conducts and documents their interviews and consultations with agency officials and gathers artifacts from the public information campaign including presentation materials and the video he developed.

For their portfolio, Deven includes and describes the process undertaken, incorporating materials and feedback received from the community, and other project artifacts. In addition, they write an academic literature review paper on conducting community consultations and campaigns for social action and change. Based on this work Deven receives six credits. In framing out this work, Deven has also framed a parallel learning opportunity that reflects their preference for experiential, hands-on learning. This latter involves a course of self-study focused on youth engagement in climate action and involving podcasts, reading, direct engagement with youth-led climate action groups, and working with a mentor from one a youth-climate-action organization. To ensure this engagement involves mutual benefit, Deven also contributes some volunteer hours to that organization by co-designing and facilitating a discussion forum. The outputs of this experiential learning include some reflective writing in a series of scholarly blogs, a self-assessment of the competencies developed through the learning, and a short voice-over recorded presentation that introduces core ideas for engaging youth in climate action in youth-centered, equitable, and ethical ways. This learning rounds out the MACAL requirements with another 3-credits.

### INTERNSHIP/EXPERIENTIAL LEARNING pathway

Marie has an undergraduate degree in environmental studies, with a focus on water management. For the past three years, Marie has been working with a start-up that supports businesses, communities, and other organizations with coaching, training, and development focused on a range of issues related to sustainability, health, climate change and resilience. As part of this work, Marie has developed a working relationship with a local First Nation who is interested in having support to co-design a regional conversation about water-use and management in their territory. Marie takes the CALS 602 research methods course and designs a research project focused on understanding local water needs, cultural practices related to water, and local and Western science-based information about water management and projected climate impacts on water in the region. The outputs of the research include the design for a broader regional dialogue on water, and recommendations for a climate-informed approach to sustainable water use.

Following the Internship, Marie uses the remaining 3 credits of her portfolio learning to continue to work with and learn from elders in the Nation framing this work through the CALS 692: Experiential learning course. The six-credit internship and the experiential learning (CALS 692) complete Marie's portfolio learning with contributions to her portfolio including the dialogue strategy, a scholarly blog on a two-eyed seeing approach to water management, and a reflective blog on her personal journey of learning from/with the elders.

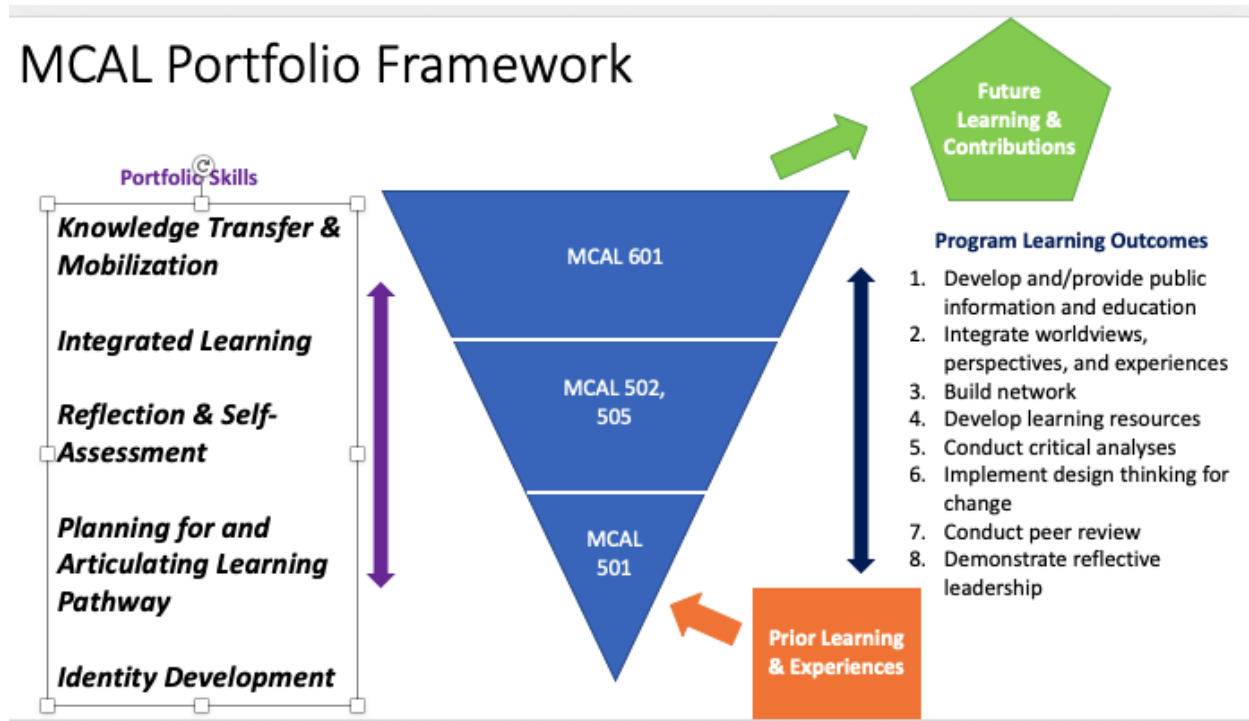
## EXAMPLES OF NON-TRADITIONAL LEARNING OPTIONS FOR PORTFOLIO

- 1) By Jan 2022, the Adaptation Learning Network ([ResilienceByDesign](#) Lab) will have crafted a Climate Adaptation Micro credential strategy and several climate adaptation micro-credentials. These will focus on core aspects of adaptation such as financial impacts of climate adaptation, climate risk management, and natural asset management.
- 2) The [Mastering En-Roads training program](#) is a free, 8-week training (approximately 30 hours) designed to support climate action leaders to identify and explain the drivers of climate and energy systems, facilitate meaningful conversations and workshops on the topic of climate informed decisions about GHG emissions reduction options. Students are introduced to the En-ROADS Simulator, designed by MIT and other partners as a tool that supports informed conversations and decision making about interdisciplinary climate solutions, and equity and justice focused choices. Those who complete the program can also apply to become an En-Roads Climate Ambassador and receive a certificate of course completion.
- 3) The [Infrastructure Resilience Professionals credentialing program](#) is designed to enhance the knowledge and competencies required to advance climate-resilient approaches for planning, design, and management of infrastructure. Although the program is designed primarily for Engineers, all or some of the courses are relevant to anyone interested in or involved in the planning, procurement, design, operation, maintenance, management, and regulation of infrastructure in the context of climate change. The program involves 6 courses, each involving approximately 10-15 hours of learning time. At this point, only licensed professional engineers can get the IRP credential.
- 4) The [Climate Vulnerability and Adaptation](#) (CVA) is a micro-certificate offered through the Faculty of Forestry at the University of British Columbia. It consists of three required courses and one elective course, in a structured but flexible 10-week online program. The CVA provides forest professionals with an understanding of climate science, vulnerability assessments, adaptation and how this is applied to management and business case adaptation in the forestry sector. Students must apply to take the micro-certificate and demonstrate a background as a natural resource professional (private or public sector), and an interest in extending your understanding of how to assess the vulnerability of the land base and management systems, adaptation development, planning and implementation. The CVA represents approximately 60 hours of learning time.
- 5) There is an emerging constellation of graduate/advanced level micro-credentials at universities and colleges across the country and internationally. Other examples that may give you some ideas include: a) RRU's [Science and Policy of Climate Change](#) Graduate Certificate (CAL 500 counts as 3 credits towards the certificate); b) the University of [Glasgow's Climate Change and Carbon Literacy microcredential](#); c) U of Waterloo's Graduate [Diploma in Climate Risk Management](#); d) UBC's [Climate Vulnerability and Adaptation](#) micro-certificate; and e) Bishop University's [micro-program in climate change](#)

## About Portfolios

### MAKING CONNECTIONS: PORTFOLIOS TO WEAVE AN INTEGRATED LEARNING PATHWAY

A hallmark of the MACAL program is the way that the CALS 501 and 601 courses weave a coherent thread through the life of the program optimizing the transdisciplinary learning of the cohort. The structure of the program also includes a portfolio to enable you to document the ways that you are personalizing the learning threads of the program (climate action leadership; understanding and consideration of multiple worldviews with particular attention on Indigenous knowledge and ways of being/knowing; transdisciplinary thinking). At the same time, documenting your learning will also enable you to build a set of portfolio skills and artifacts to support your ongoing professional learning and development.



### PORTFOLIO SKILLS: DEVELOPING ABILITIES TO SERVE YOU AS A PROFESSIONAL

Throughout the MACAL program you will have the opportunity to develop abilities that will enable your ongoing professional development as you reflect on your learning within and beyond the program. Beginning at the bottom of the framework, the following abilities are developed throughout the program:

## Identity Development

Knowing who you are as a learner and professional is essential to being effective at making change. Throughout your time in the program, you will have the opportunity to document the development of your personal and academic identities as you undertake complex projects.

## Planning for and Articulating Learning

Learning is not a passive process so you will be engaged throughout the program to chart your own pathway to learn in ways that align with your personal and professional goals.

## Reflection and Self-Assessment

You will have many opportunities to explore new ideas and approaches to climate action and will need to reflect on how new learning relates to previous experiences. What connections exist for you? How will you transform challenges into opportunities and how will you know if you are successful? Your portfolio will provide you with a space to reflect on your learning.

## Integrated Learning

The MACAL program is designed to be integrative but what that integration looks like is up to you. In your portfolio you will be able to connect relevant experiences and academic knowledge to yourself and your professional goals across courses and time.

## Knowledge Transfer and Mobilization

Sharing your knowledge with others in service of climate action is what this program was designed to do. The portfolio is an opportunity for you to adapt and apply the skills, abilities, theories, or methodologies gained in one situation to new situations and to identify ways to mobilize your knowledge to enable change.

# CREATING YOUR PORTFOLIO

There are key milestones in the program design in which you will develop your portfolio although you are welcome and encouraged to regularly reflect on your learning and update your portfolio with artifacts that showcase the connections you are making as you develop your knowledge, skills, and abilities related to your professional goals. Some prompts to help you with your thinking throughout the program are:

- WHAT are you learning/have you learned?
- WHAT is the story of learning you want to tell?
- HOW can you document your learning and competencies in your portfolio?

- HOW can you make change now and in the future?

See Appendix 4 for Program Outcome related prompts

## PORTFOLIO LEARNING ACTIVITIES IN MACAL

### YEAR ONE

#### CALS 501

During the first intensive, you will be introduced to the core learning threads of the program in CALS 501. In this year-long course you will consider the focus on both Western and Traditional Indigenous Knowledges, theories, and perspectives on leadership, climate change and climate action. Through this course you will reflect on the ways that your own personal goals can be integrated with what you are learning. You will complete a scholarly blog at the end of the first intensive, and one each seminar that reflects a synthesis of your learning and an expression of your transdisciplinary thinking.

#### CALS 502

In this course, you will explore the strengths, opportunities and challenges of digital learning environments, networks, and communities as tools to support mutual learning and collaboration for climate action. You will add one artifact to your portfolio that highlights one of the PLO's related to Your own future professional goals.

#### CALS 503

This course explores leadership considerations and how to support communities and organizations enacting changes related to climate action goals. You will have opportunities to identify and develop your own leadership style and plan, and to consider how leadership can support increased collaboration in organizations and communities to support initiatives in climate adaptation, climate mitigation and climate resilience. Portfolio artifacts may include scholarly blogs and all or part of an individualized leadership and resilience plan.

#### CALS 504

This course introduces the principles and practices of building a business case for climate action, with a specific emphasis on climate adaptation. As part of this course, you will produce reflective blogs and a business case for a *live* client, both (with permission from client) may be useful artifacts for the portfolio.

### CALS 505

This course focuses on reflective practice, professional conduct, and leadership skills for the adaptation management practitioner. You will add a scholarly blog and upload one artifact to your portfolio that highlights your change leadership capacities and reflect on how it will effectively enable your climate adaptation efforts.

## YEAR TWO

### CALS 601

This course continues the learning from CALS 501. You will complete two reflections, one at the beginning and one at the end of this course that highlights the ways you are meeting the program learning outcomes and honing your transdisciplinary thinking.

### CALS 602

This course focuses on the research process with particular emphasis on creating effective action research questions, analyzing, and synthesizing literature, developing evidence-based arguments, selecting systematic methodological approaches and methods to collect and analyze primary data, and developing research proposals. Although students in the scholar-practitioner (thesis) stream are not required to develop a practitioner portfolio, they are encouraged to consider doing so, for the career benefits that accrue from portfolios. Although the thesis itself would be too long for most people to consider a useful artifact for these purposes, an executive summary or even the abstract may serve this purpose.

### CALS 691

This course focuses on building a practitioner portfolio. Using the knowledge, skills, and abilities developed in the program, you will formalize your portfolio, working with a faculty supervisor to design your 9-credit customized learning opportunities and demonstrate the acquisition and integration of relevant program learning outcomes and competencies.

### CALS 603 (Elective)

In CALS 603 you are introduced to conceptual and applied frameworks and tools that support optimal assessment and action to minimize the exposure of people or entire populations to climate and disaster impacts and foster adaptation and resilience for individuals, organizations, and communities. You will include a scholarly blog post and one artifact that showcases your ability to translate and communicate data and select and use risk and resilience assessment tools.



<b>Portfolios in MACAL</b> <b>examples of learning artifacts</b>	
<b>Year 1</b>	Portfolio Deliverables
CALS 501	2+ Scholarly Blogs, reflections
CALS 502	1 Scholarly Blog; artifact (e.g., assignment output)
CALS 503	Artifact (e.g., team-based risk assessment document)
CALS 504	Scholarly Blog, Business case
CALS 505	2+ Scholarly blogs; individualized climate action & resilience leadership plan
<b>Year 2</b>	
CALS 601	Scholarly blogs, design thinking outputs
CALS 602	Research Artifact (e.g., thesis; possibly scholarly paper)
CALS 603	Scholarly blog -review of assessment tool
CALS 692	Portfolio of Credits and learning outputs

## Appendix 1

### MACAL ePortfolio Development Rubric

This rubric can be used by students and faculty to assess the development of skills that are fostered through the process of building a portfolio in the MACAL program.

Portfolio Skills	Capstone (Competence/Mastery)  MACAL 601	Milestone (Reinforce)  MACAL 502, 505	Benchmark (Introduce)  MACAL 501
<p><b><i>Identity Development</i></b></p> <p>Personal and academic identities developed as complex projects are undertaken; Capabilities and progress are regularly reflected upon* connected to program outcomes</p>	<p>Evidence of experience in self-determined identity development activities and describes what you have learned about yourself as it relates to a reinforced and clarified sense of personal and professional identity and continued commitment to public action.</p>	<p>Evidence of experience in self-determined identity development activities and describes what you have learned about yourself as it relates to a growing sense of your professional identity and commitment to growth as an advocate.</p>	<p>Evidence suggests identity development activities are generated from expectations or course requirements in addition to self-directed and motivated identity development.</p>

<p><b><i>Planning for and Articulating Learning</i></b></p> <p>Identify your own academic pathway and articulate knowledge and abilities as well as opportunities for future learning and professional growth</p>	<p>Meaningfully <b>synthesizes</b> connections among experiences outside of the formal classroom (including life experiences and academic experiences such as internships and travel abroad) to <b>deepen understanding</b> of fields of study and to broaden one's own points of view.</p>	<p>Effectively <b>selects and develops</b> examples of life experiences, drawn from a variety of contexts (e.g., family life, artistic participation, civic involvement, work experience), to <b>illuminate</b> concepts/theories/frameworks of fields of study.</p>	<p><b>Identify</b> connections between life experiences and those academic texts and ideas <b>perceived as similar and related</b> to your own interests.</p> <p><b>Compare</b> life experiences and academic knowledge to infer differences, as well as similarities, and <b>acknowledge perspectives</b> other than your own.</p>
<p><b><i>Reflection and Self-Assessment</i></b></p> <p>Develop a sense of self as a learner, building on prior experiences to respond to new and challenging contexts (may be evident in self-assessment, reflective, or creative work)</p>	<p>Envisions a future self (and possibly makes plans that build on past experiences) that have occurred across multiple and diverse contexts</p>	<p>Evaluates changes in own learning over time, recognizing complex contextual factors (e.g., works with ambiguity and risk, deals with frustration, considers ethical frameworks).</p>	<p>Describe your own performances with general descriptors of success and failure.</p> <p>Articulate your strengths and challenges (within specific performances or events) to increase effectiveness in different contexts (through increased self-awareness).</p>

<p><b><i>Integrated Learning</i></b></p> <p>Connects relevant experience and academic knowledge across courses and time</p>	<p>Meaningfully <b>synthesizes</b> connections among experiences outside of the formal classroom (including life experiences and academic experiences such as internships and travel abroad) to <b>deepen understanding</b> of fields of study and to broaden one's own points of view.</p>	<p>Effectively <b>selects and develops</b> examples of life experiences, drawn from a variety of contexts (e.g., family life, artistic participation, civic involvement, work experience), to <b>illuminate</b> concepts/ theories/ frameworks of fields of study.</p>	<p><b>Identifies</b> connections between life experiences and those academic texts and ideas <b>perceived as similar and related</b> to one's own interests.</p> <p><b>Compares</b> life experiences and academic knowledge to infer differences, as well as similarities, and <b>acknowledge perspectives</b> other than your own.</p>
<p><b><i>Knowledge Transfer and Mobilization</i></b></p> <p>Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations; mobilizes knowledge to enable change</p>	<p>Adapts and applies, independently, skills, abilities, theories, or methodologies gained in one situation to new situations to <b>solve difficult problems or explore complex issues in original ways.</b></p> <p>Makes explicit references to previous learning and applies in an innovative (new and creative) way that knowledge and those skills to demonstrate comprehension</p>	<p>Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations to <b>solve problems or explore issues.</b></p> <p>Makes references to previous learning and shows evidence of applying that knowledge and those skills to demonstrate</p>	<p>Uses skills, abilities, theories, or methodologies gained in one situation in a new situation to <b>contribute to understanding of problems or issues.</b></p> <p>Makes references to previous learning and attempts to apply that knowledge and those skills to</p>

	and performance in novel situations.	comprehension and performance in novel situations.	demonstrate comprehension and performance in novel situations.
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## Appendix 2

## Student Self-Assessment Rubric

<i>Areas in Need of Development</i>	<i>Adequate</i>	<i>Areas of Strength</i>
<p><b><i>Identity Development</i></b></p> <p>Personal and academic identities developed as complex projects are undertaken; Capabilities and progress are regularly reflected upon</p>		
<p><b><i>Reflection and Self-Assessment</i></b></p> <p>Demonstrates a developing sense of self as a learner, building on prior experiences to respond to new and challenging contexts (may be evident in self-assessment, reflective, or creative work)</p>		

<b><i>Planning for Learning</i></b>		
Identifies own academic pathway while understanding what they know and can do and what they still need to learn		
<b><i>Integrated Learning</i></b>		
Connects relevant experience and academic knowledge across courses and time		

<b><i>Knowledge Transfer and Mobilization</i></b> Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations; mobilizes knowledge to enable change		



## Appendix 3

### Assessing Alternative Credit Requests

#### ELECTIVE COURSES

Where students take courses at RRU or an approved external institution that meet program requirements and learning outcomes. Course transfer is used for external courses and credit is assigned accordingly.

#### PLAR

Where students bring forward or wish to undertake informal learning events for credit

Evidence for assessment is submitted as part of your portfolio. This consists of an in-depth academic blog post or media production that:

1. Describes relevant informal, workshops, micro-credentials, seminars, MOOCs, OERs and open courses, professional development, workplace training including duration, focus or learning outcomes
2. Includes developed artifacts such as documents, videos, lessons, and other materials, as well as any helpful information such as learning outcomes, syllabi, certificates and diplomas
3. Describes with examples competencies gained and connection to program learning outcomes and/or CCA competency areas (using rubrics)
4. Frames the descriptions in relation to relevant theory, scholarly literature and/or, traditional cultural wisdom
5. Demonstrates reflective and critical understanding of the area or issue(s) under consideration and include or links to certificates, diplomas, produced work and/or other indicators of participation or completion as available and relevant
6. Describes personal challenges (leadership, other) and growth as part of the learning engagement
7. Credit(s) assigned on basis of coverage of program learning outcomes - additional work can be assigned to round out the credits. Credits assigned in 1-credit increments.

#### EXPERIENTIAL LEARNING

Where students wish to bring forward or undertake informal learning events for credit.

Evidence for assessment is submitted as part of your portfolio. This consists of an in-depth academic blog post or media production that:

1. Describes relevant experiential learning activities including such examples as professional or workplace projects, experience and/or mentoring; community/volunteer or paid projects or community engagements
2. Describes competencies gained and connection to program learning outcomes and/or CCA competency areas (using rubrics)
3. Frames the descriptions in relation to relevant theory, scholarly literature and/or, traditional cultural wisdom

4. Demonstrates reflective and critical understanding of the area or issue(s) under consideration and include or links to certificates, diplomas, produced work and/or other indicators of participation or completion as available and relevant
5. Describes personal challenges (leadership, other) and growth as part of the learning engagement
6. Credit(s) assigned on basis of coverage of program learning outcomes - additional work can be assigned to round out the credits. Credits assigned in 1-credit increments.

## Appendix 4

### Portfolio Prompts

1. What connections exist between your previous studies/work and your learning in the MCAL program?  
How do your artifacts of learning illuminate the connections?
2. How has your learning enabled you to design/develop public information, education, or advocacy projects? How are you leveraging your learning in this regard? Please be specific. (PLO #1)
3. How are you able to integrate your knowledge of worldviews, perspectives, and experiences in service of climate action? What specific projects have you worked on/developed that demonstrate integration? (PLO #2)
4. What networks have you developed? How do your networks influence, contribute, or change your vision for climate action? (PLO #3)
5. How have the learning resources you have developed or assisted in developing influenced your view of yourself as a climate change advocate? (PLO #4)
6. Where can you transfer knowledge, skills, abilities developed in your research work to critically analyze education, advocacy, community projects? How can your critical analyses assist the broader community? (PLO #5)
7. How do design thinking approaches enable you to implement change initiatives? (PLO # 6)
8. What skills and abilities are you developing by conducting peer review? How can these skills enable your climate change advocacy? (PLO #7)
9. As you reflect on your experiences, be sure to make specific references to your learning experiences and how you intend to transfer that learning into an advocacy project. How did what you learned in different contexts contribute to your thinking as you designed your project? What else do you need to/want to learn that you think could assist you in your future work? (PLO #8)