

EXAMPLES OF EXPERIENTIAL LEARNING IN THE CLAYTON H. RIDDELL FACULTY OF ENVIRONMENT, EARTH, AND RESOURCES AT THE UNIVERSITY OF MANITOBA

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UNIVERSITY
OF MANITOBA

Clayton H. Riddell Faculty of
Environment, Earth, and Resources

OUTLINE

- Experiential learning in the Clayton H. Riddell Faculty of Environment, Earth, and Resources
- Environmental Co-Operative Education degree option
- Integration of experiential learning into core and elective courses
- Future curriculum development



EXPERIENTIAL LEARNING

- UofM definition
 - ‘Learning through experience’
 - Students consistently apply their learning, receive on the spot coaching/feedback, build a sense of community and team relationships, and realize accomplishments
 - Atmosphere is also created for ‘Learning through reflection on experience’
 - Learning takes place within the specific locations where experience is gained
 - Linkage of local environmental issues to theories and concepts

CO-OPERATIVE EDUCATION

- UofM definition
 - A program that combines academic study with paid work experience
 - Engages students and employers to meet mutually beneficial goals
 - Meets the requirements as defined by the Province of Manitoba for paid, supervised, and evaluated placements
 - Minimum of 2 full-time 4-month paid work terms

ENVIRONMENT CO-OPERATIVE EDUCATION OPTION

- Environment Co-Op includes **work placements + 6 credit hours of mandatory coursework**:
 - Linked to the student's area of study, with advice from the **Co-operative Education Coordinator**, who is a faculty member
 - Minimum of 2 paid placements (but opportunity to participate in additional placements)
 - 2 professional development courses (worth 3 cr hrs)
 - second year of academic study (career path, resume development, cover letters, portfolio)
 - third year of academic study (networking, professional memberships, mock interviews)
 - Goal is for students to **create a 'brand'** for themselves
 - 2 technical reports (worth 3 cr hrs) based on work experience
 - integrate concepts and theories from the classroom to the work experience

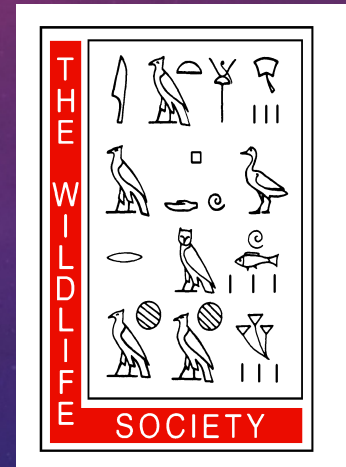
CERTIFICATION IS ENCOURAGED....



Society of
American
Foresters -
Foresters



American
Fisheries Society
– Fisheries
Professionals



The Wildlife
Society – Wildlife
Biologists

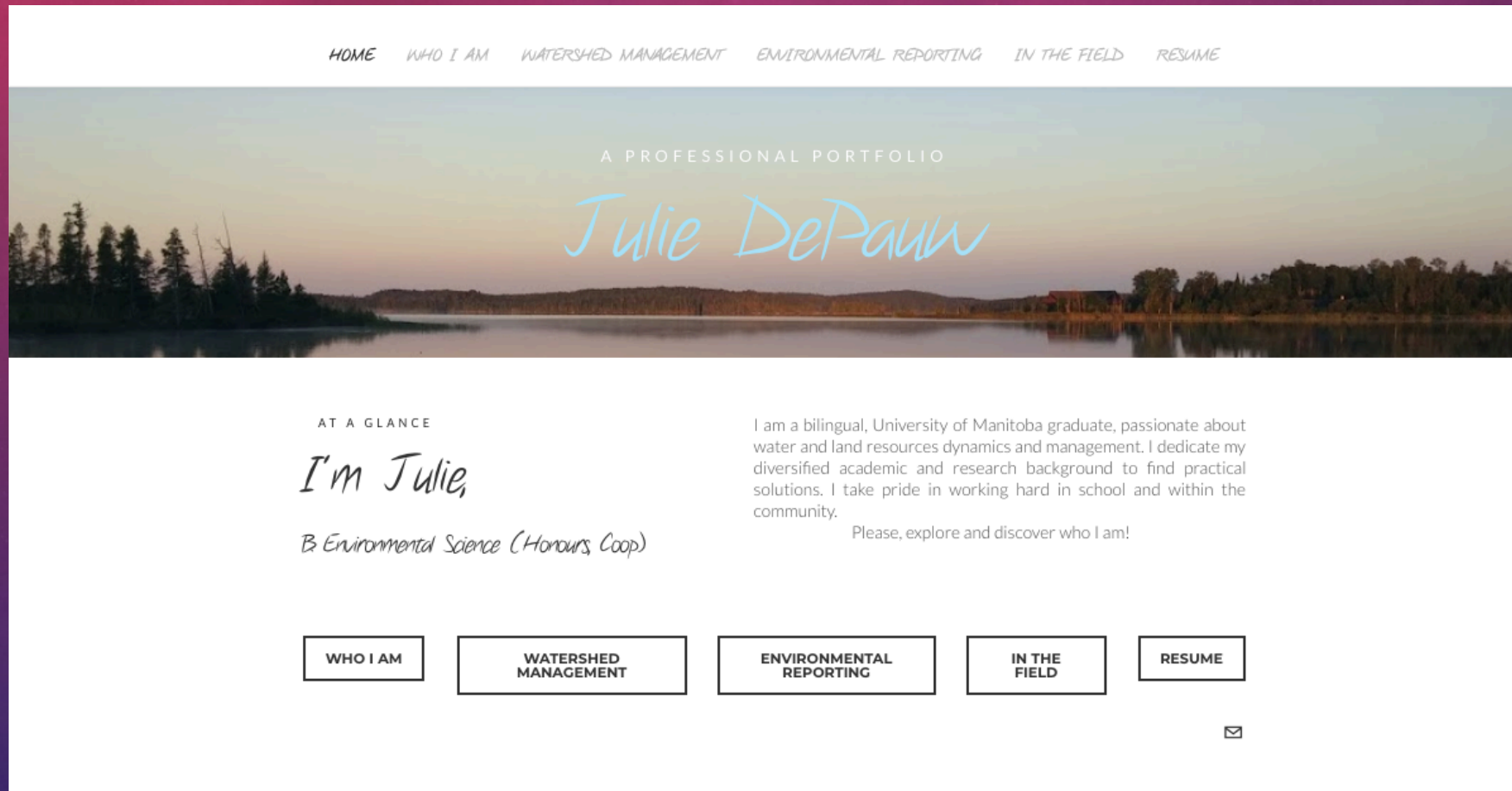


Society for Range
Management –
Land Managers



Environmental Practitioner &
Environmental Practitioner
In-Training

ENVIRONMENTAL CO-OPERATIVE EDUCATION THE PROFESSIONAL PORTFOLIO



Dom Simard

Aspiring Wildlife Biologist



Scanning land-fast ice for Ringed Seals (*Pusa hispida*) on Hudson Bay near Churchill Manitoba. Photo Credit Laura D. Burns

I am a student at the University of Manitoba in the final year of my B.Env.St. (Honours Co-op). I am extremely passionate about my development as a wildlife biologist.

I currently volunteer my time with The Wildlife Society as the Manitoba Chapter's Undergrad Rep, The Roth Trophic Ecology Lab as a Lab Technician, and with the Conservation and Research Department of Assiniboine Park Zoo working on animal behavioural studies and captive rearing of endangered grassland butterflies.

When I am not working or in school I spend my time in the outdoors, hiking and fishing primarily around my cabin in North Western Ontario. I spend the remainder of my free time reading popularized and peer-reviewed literature, watching YouTube videos, or listening to podcasts on wildlife related topics.

I am excited to begin the next stage of my journey in wildlife biology studying mountain goat ecology with the Université Laval in Caw Ridge, Alberta in the summer of 2018.

ENVIRONMENTAL CO-OPERATIVE EDUCATION

PAST SEMESTER OFFERINGS

1. IISD-ELA Field Trip
2. Wildlife Biologist Certification Workshop
3. The Wildlife Society Student Discussion and Networking Nights
4. Additional events that co-op supports:
 - a. Professional Networking Pizza Night
 - b. Speed Mentoring
 - c. Food Waste Sustainability Workshop
 - d. Canadian Water Resources Association – Seminar Series
 - e. UM Wetlanders DU Student Chapter Pizza Night
5. Industry Mixer – Water Resources
6. *Using Social Media as a Tool to Develop Professional Relationships – Seminar*
9. Field Readiness Workshop
10. Careers Discovery Night
11. *What to do with my Degree*
12. Green Building – Zero Carbon Workshop



FIELD READINESS WORKSHOP

- Workshops that teach important safety measures and foundational technical skills for working in a field setting
- Topics covered include:
 - field preparedness; what to do when lost; acquiring fire; finding safe drinking water; shelter construction; edible and medicinal plants; small-engine repair; effective navigation with a trailer; safety working with wildlife; basic wilderness first aid; working with maps, a compass, and GPS



FIELD READINESS



HANDS-ON LEARNING FOR INTERNATIONAL STUDENTS

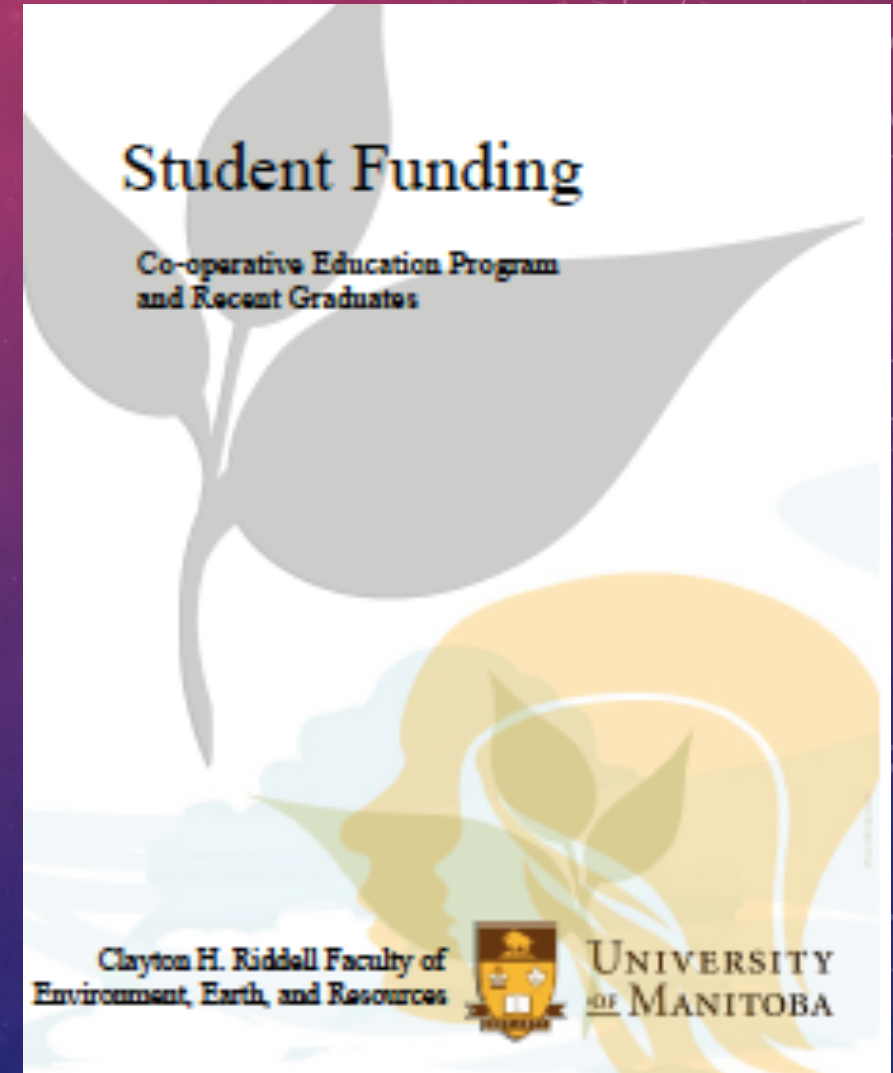
- International students find Co-Op an appealing direction in development of knowledge related to Canada and Manitoba
 - Have access to a work permit that provides opportunity to earn a salary while completing academic studies
 - Improves ability to apply and relate theory with local issues, thereby building their knowledge-base
 - Exposure to local landscapes

EXPERIENTIAL LEARNING LINKAGES

- Placement examples
 - Federal, Provincial, Municipal governments – expected departments and some surprises
 - First Nations
 - Environmental NGOs
 - Consulting Firms & Industry Partners
 - Universities (Research)
 - Universities (Sustainability Offices; EHS)

FUNDING OPPORTUNITIES

- ECO Co-op
- Provincial Tax-Credit
- Summer NSERC
- Provincial Green Team
- United Nations Green Cities
- Others as well



ENVIRONMENT CO-OPERATIVE EDUCATION OPTION

- Outcome – *Co-Op students are renowned for their high academic standards and a strong work ethic. Technical knowledge, professional development, the ability to network, and maturity are only a few of the skills that students acquire from their participation in your program.*
- Co-Op is a One-stop Shop for Students and Employers
- Mutual benefits are achieved by all.....

EXPERIENTIAL LEARNING COURSE LINKAGES

- Environmental Field Investigations
- Ecosystem Management
- Wildlife Management
- Sustainable Water Management
- Sustainable Manitoba
- Rural Environments
- Parks and Protected Areas Planning and Management: Field Studies in Banff NP
- Conservation and Sustainable Tourism of Grenada
- 100+ Honours Theses with representatives from industry and government supervising and participating in the learning outcome

ENVIRONMENTAL FIELD INVESTIGATIONS



Turkey Trapping



Banding turkeys in St. Claude,
Manitoba

February 13, 2012

Necropsy of White-tailed Deer



CHRONIC WASTING DISEASE AERIAL SURVEY



RURAL ENVIRONMENTS

- Applied Agroecosystem Management in Clearwater, Manitoba
- Student teams work with individual farmers/ranchers to address on-site sustainable farming issues and techniques
- Liaison with Government and Agriculture Industry representatives
- Concluding public presentations at each cooperating farm/ranch by students, open to all members of the rural community
- Final BBQ and 'Celebration' with community members



PARKS AND PROTECTED AREAS PLANNING AND MANAGEMENT

- Students investigate specific management issues in Banff National Park
- 10-day field experience
- Participate in current research and management being conducted in the Park



ARCTIC FIELD ECOLOGY - CHURCHILL

- Students experience environmental, economic, and social influences of resource and environmental planning, management and development on northern people, communities, land, flora, and fauna
- Students engage in local community open houses and presentations
- Involvement of representatives from Government Agencies, First Nations, NGO's, industry, and others



Conservation and Sustainable Tourism in Grenada

- Student exposure to the natural history and conservation of flora and fauna of Grenada
- Investigation of the socioeconomic roles and potential management opportunities for Grenadian flora and fauna
- Application of knowledge gained through to real-world tourism or conservation issues and research



ENVIRONMENTAL CAREER FAIR



UNIVERSITY
OF MANITOBA



RED RIVER
COLLEGE
OF APPLIED ARTS, SCIENCE AND TECHNOLOGY



BRANDON
UNIVERSITY
Founded 1899



ASSINIBOINE
COMMUNITY COLLEGE



THE UNIVERSITY OF
WINNIPEG



Living Lab

- Using the campus as a laboratory to explore sustainability subjects
- Leverage Baseline Studies & Actions
 - Biodiversity Study of Riparian Areas
 - Energy use & GHG data
 - Waste audit results
 - Transportation survey
 - Wood Duck Boxes
 - Wildlife Management Study



FUTURE 'EXPERIENTIAL' CURRICULUM DEVELOPMENT

- Field Techniques (Spiral learning techniques)
 - Avian, amphibian, mammal, fish, insect, biodiversity survey techniques
 - Vegetation assessments
 - Water quality
 - Soil sampling
 - Dendrochronology
 - Trail Cameras, ARUs, Telemetry
- Environmental effects monitoring and baseline studies for environmental assessment
- On-site comparisons of Western Science vs. Traditional Knowledge approaches
- Request for Proposal Development/Interviews – Environmental Consulting
 - linking graduate, undergraduate students with community driven projects
 - project management, stakeholder consultation, budgeting, field experience, technical writing
 - Hiring a 'professional mentor' in 2020 with the view of better engaging the community in student learning

CO-OPERATIVE EDUCATION AND WORK INTEGRATED LEARNING IN CANADA (CEWIL)

- Expand academic programming to include other forms of work-integrated learning in:
 - Applied Research Projects
 - Field Placement
 - Internships
 - Service Learning

OUTCOMES FOR STUDENT LEARNING

- Forges important **linkages** to the professional community
- Development of **networks** upon graduation
- Enhances **‘real-world’** skill sets
- Builds greater **self-confidence**
- Attracts **additional** students
- Provides for a **‘fun’** learning experience



THANK YOU!