Climate Change (Collaborative Program)

This section presents the requirements for programs in:

- **M.A. Anthropology with Collaborative Specialization in Climate Change**
- **M. Architecture 2-year stream with Collaborative Specialization in Climate Change**
- **M. Architecture 3-year stream with Collaborative Specialization in Climate Change**
- **M.A.Sc. Civil Engineering with Collaborative Specialization in Climate Change**
- **M.Eng. Civil Engineering with Collaborative Specialization in Climate Change**
- **M.A. Communication with Collaborative Specialization in Climate Change**
- **M.A. Economics with Collaborative Specialization in Climate Change**
- **M.A. English with Collaborative Specialization in Climate Change**
- **M.A. Geography with Collaborative Specialization in Climate Change**
- **M.Sc. Geography with Collaborative Specialization in Climate Change**
- **M.A. History with Collaborative Specialization in Climate Change**
- **M.A. Migration and Diaspora Studies with Collaborative Specialization in Climate Change**
- **M.A. Psychology with Collaborative Specialization in Climate Change**
- **M.A. Sociology with Collaborative Specialization in Climate Change**
- **M.A.Sc. Aerospace Engineering with Collaborative Specialization in Climate Change**
- **M.A.Sc. Electrical and Computer Engineering with Collaborative Specialization in Climate Change**
- **M.A.Sc. Environmental Engineering with Collaborative Specialization in Climate Change**
- **M.A.Sc. Materials Engineering with Collaborative Specialization in Climate Change**
- **M.A.Sc. Mechanical Engineering with Collaborative Specialization in Climate Change**
- **M.B.A. with Collaborative Specialization in Climate Change**
- **M.Eng. Electrical and Computer Engineering with Collaborative Specialization in Climate Change**
- **M.Eng. Environmental Engineering with Collaborative Specialization in Climate Change**
- **M.A. Political Economy with Collaborative Specialization in Climate Change**
- **Master of Public Policy - Sustainable Energy and the Environment with Collaborative Specialization in Climate Change**
- **M.Eng. Sustainable Energy with Collaborative Specialization in Climate Change**
- **M.Sc. Management with Collaborative Specialization in Climate Change**

Program Requirements

M.A. Anthropology with Collaborative Specialization in Climate Change (5.0 credits)

Requirements - Thesis pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
ANTH 5401 [0.5]	Theory in Anthropology	
ANTH 5402 [0.5]	Research in Anthropology	
4. 1.0 credit in approved electives, chosen in consultation with the student's advisor		1.0
5. 2.0 credits in:		2.0
ANTH 5909 [2.0]	M.A. Thesis (in the specialization)	
Total Credits		**5.0**

Requirements - Research essay pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
ANTH 5401 [0.5]	Theory in Anthropology	
ANTH 5402 [0.5]	Research in Anthropology	
4. 2.0 credit in approved electives, chosen in consultation with the student's advisor		2.0
5. 1.0 credit in:		1.0
ANTH 5908 [1.0]	M.A. Research Essay (in the specialization)	
Total Credits		**5.0**

Requirements - Coursework pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
ANTH 5401 [0.5]	Theory in Anthropology	
ANTH 5402 [0.5]	Research in Anthropology	
4. 0.5 credit in a 5000-level ANTH course with sufficient climate change content, with departmental approval		0.5
5. 2.5 credits in approved electives, chosen in consultation with the student's advisor		2.5
Total Credits		**5.0**

M. Architecture 2-year stream with Collaborative Specialization in Climate Change (8.0 credits)

Note: consult the School regarding registration sequence.

Requirements:

1. 1.0 credit in:	1.0

CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 2.0 credits in core:		**2.0**
ARCC 5100 [0.5]	Advanced Building Systems	
ARCC 5200 [0.5]	Professional Practice	
ARCH 5200 [0.5]	Graduate Seminar 1: Introduction to Critical Thought in Architecture	
ARCH 5201 [0.5]	Graduate Seminar 2: Contemporary Theoretical Perspectives in Architecture	
4. 3.0 credits in studio:		**3.0**
ARCS 5105 [1.5]	Graduate Studio 1	
ARCS 5106 [1.5]	Graduate Studio 2	
5. 2.0 credits in:		2.0
ARCN 5909 [2.0]	Thesis - Directed Research Studio (DRS) (in the area of climate change, must be defended at an oral examination)	
Total Credits		**8.0**

M. Architecture 3-year stream with Collaborative Specialization in Climate Change (15.5 credits)

Note: consult the School regarding registration sequence.

Requirements:		
1. 1.0 credit in:		**1.0**
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 5.5 credits in core:		**5.5**
ARCC 5096 [0.5]	Building Technology I	
ARCC 5097 [0.5]	Building Technology II	
ARCC 5098 [0.5]	Building Technology III	
ARCC 5099 [0.5]	Building Technology IV	
ARCC 5100 [0.5]	Advanced Building Systems	
ARCC 5200 [0.5]	Professional Practice	
ARCH 5010 [0.5]	History and Theory of Modern Architecture	
ARCH 5020 [0.5]	Theories of Modernity	
ARCH 5200 [0.5]	Graduate Seminar 1: Introduction to Critical Thought in Architecture	
ARCH 5201 [0.5]	Graduate Seminar 2: Contemporary Theoretical Perspectives in Architecture	
ARCN 5005 [0.5]	Theory and Practice of Architectural Representation	
4. 7.0 credits in studio:		**7.0**
ARCS 5030 [1.5]	M.Arch 1 - Studio 1	
ARCS 5032 [1.5]	M.Arch. 1 - Studio II	
ARCS 5033 [1.0]	M.Arch. 1 - Studio III	
ARCS 5105 [1.5]	Graduate Studio 1	
ARCS 5106 [1.5]	Graduate Studio 2	
5. 2.0 credits in:		**2.0**
ARCN 5909 [2.0]	Thesis - Directed Research Studio (DRS) (must be defended at an oral examinatiion)	
Total Credits		**15.5**

M.A.Sc. Civil Engineering with Collaborative Specialization in Climate Change (6.0 credits)

Requirements:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 2.5 credits in courses listed below (other courses may be taken with prior departmental approval)		2.5
4. 0.0 credit in:		
CIVE 5901 [0.0]	Master's Seminar	
5. 2.5 credits in:		2.5
CIVE 5909 [2.5]	M.A.Sc. Thesis (in the specialization)	
Note: no more than 0.5 credit may be taken from the following: CIVE 5103, CIVE 5200, CIVE 5305		
Total Credits		**6.0**

M.Eng. Civil Engineering with Collaborative Specialization in Climate Change (6.0 credits)

Requirements - Project pathway:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 4.0 credits in courses listed below (other courses may be taken with prior departmental approval)		4.0
4. 1.0 credit in:		1.0
CIVE 5900 [1.0]	Civil Engineering Project (in the specialization)	
Note: no more than 1.0 credit may be taken from the following: CIVE 5103, CIVE 5200, CIVE 5305		
Total Credits		**6.0**
Requirements - Coursework pathway:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 4.0 credits in courses listed below (other courses may be taken with prior departmental approval)		4.0
4. 1.0 credit from:		1.0
ENVE 5105 [0.5]	Atmospheric Aerosols	
ENVE 5200 [0.5]	Climate Change and Engineering	
ENVE 5201 [0.5]	Geo-Environmental Engineering	
ENVE 5205 [0.5]	Sludge Treatment and Disposal	
ENVJ 5908 [0.5]	Anaerobic Digestion	
ENVJ 5212 [0.5]	Climate Change Impacts on Water Resources	
or approved Special Topics in the area of climate change		
Total Credits		**6.0**

M.A. Communication with Collaborative Specialization in Climate Change (5.0 credits)

Requirements - Research essay pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5
COMS 5101 [1.0]	Foundations of Communication Studies	
COMS 5605 [0.5]	Approaches to Communication Research	
4. 1.0 credit in:		1.0
COMS 5908 [1.0]	Research Essay (in the specialization)	
5. 1.5 credits from the list of optional courses		1.5
Total Credits		**5.0**

Requirements - Thesis pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5
COMS 5101 [1.0]	Foundations of Communication Studies	
COMS 5605 [0.5]	Approaches to Communication Research	
4. 2.0 credits in:		2.0
COMS 5909 [2.0]	M.A. Thesis (in the specialization)	
5. 0.5 credit from the list of optional courses		0.5
Total Credits		**5.0**

M.A. Economics with Collaborative Specialization in Climate Change (4.0 credits)

Requirements - Coursework pathway (4.0 credits)

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credit in:		1.5
ECON 5020 [0.5]	Microeconomic Theory	
ECON 5021 [0.5]	Macroeconomic Theory	
ECON 5027 [0.5]	Econometrics I	
4. 0.5 credit in:		0.5
ECON 5029 [0.5]	Methods of Economic Research (including a research paper on a Climate Change-related topic)	
5. 0.5 credit in:		0.5
ECON 5507 [0.5]	Environmental Aspects of Economic Development	
ECON 5803 [0.5]	Economics of Natural Resources	
ECON 5804 [0.5]	Economics of the Environment	
ECON 5805 [0.5]	Topics in Environmental and Resource Economics	
or approved Special Topic in the area of Climate Change		
6. 0.5 credit in ECON at the 5000 level with sufficient Climate Change content (may be an additional course from Item 5 above), chosen in consultation with Department of Economics		0.5
Total Credits		**4.0**

Requirements - Thesis pathway (4.0 credits)

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5
ECON 5020 [0.5]	Microeconomic Theory	
ECON 5021 [0.5]	Macroeconomic Theory	
ECON 5027 [0.5]	Econometrics I	
4. 1.5 credits in:		1.5
ECON 5909 [1.5]	M.A. Thesis (in the specialization)	
Total Credits		**4.0**

M.A. English with Collaborative Specialization in Climate Change (4.5 credits)

Requirements - Coursework pathway (4.5 credits)

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 2.5 credits in ENGL at the 5000-level (excluding ENGL 5908 and ENGL 5909)		2.5
4. 0.5 credit in a graduate seminar with sufficient Climate Change content in ENGL or another department, as approved by the Coordinator of the Climate Change Specialization.		0.5
5. 0.5 credit in:		0.5
ENGL 5005 [0.5]	M.A. Seminar	
Total Credits		**4.5**

Requirements - Research essay pathway (4.5 credits)

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit in:		0.5
ENGL 5005 [0.5]	M.A. Seminar	
4. 2.0 credits in ENGL at the 5000 level (excluding ENGL 5908)		2.0
5. 1.0 credit in:		1.0
ENGL 5908 [1.0]	Research Essay (in the specialization)	
Total Credits		**4.5**

Requirements - Thesis pathway (4.5 credits)

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in ENGL at the 5000-level (excluding ENGL 5909)		1.0
4. 0.5 credit in:		0.5
ENGL 5005 [0.5]	M.A. Seminar	

5. 2.0 credits in:		2.0
ENGL 5909 [2.0]	M.A. Thesis (in the specialization)	
Total Credits		**4.5**

M.A. Geography with Collaborative Specialization in Climate Change (5.5 credits)

Requirements:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
GEOG 5000 [0.5]	Approaches to Geographical Inquiry	
GEOG 5905 [0.5]	Masters Research Workshop	
4. 2.5 credits in:		2.5
GEOG 5909 [2.5]	M.A. Thesis (in the specialization and including oral examination of the thesis)	
5. 1.0 credit in approved graduate-level electives		1.0
6. In addition to the formal requirements, MA students are required to attend the Departmental Seminar series, and the Graduate Field Camp.		
Total Credits		**5.5**

M.Sc. Geography with Collaborative Specialization in Climate Change (5.5 credits)

Requirements:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
GEOG 5001 [0.5]	Modeling Environmental Systems	
GEOG 5905 [0.5]	Masters Research Workshop	
4. 0.5 credit in Physical Geography selected from:		0.5
GEOG 5002 [0.5]	Quantitative Analysis for Geographical Research	
GEOG 5103 [0.5]	Hydrologic Principles and Methods	
GEOG 5104 [0.5]	Advanced Biogeography	
GEOG 5107 [0.5]	Field Study and Methodological Research	
GEOG 5303 [0.5]	Geocryology	
GEOG 5307 [0.5]	Soil Resources	
GEOG 5803 [0.5]	Seminar in Geomatics	
GEOG 5804 [0.5]	Geographic Information Systems	
GEOG 5900 [0.5]	Graduate Tutorial	
up to 0.5 credit in GEOG or GEOM at the 4000 level, with departmental approval		
5. 3.0 credits in:		3.0
GEOG 5906 [3.0]	M.Sc. Thesis (in the specialization and including oral examination of the thesis)	
6. In addition to the formal requirements, M.Sc. students are required to attend the DGES Departmental Seminar series, and the Graduate Field Camp.		
Total Credits		**5.5**

M.A. History with Collaborative Specialization in Climate Change (4.5 credits)

Requirements - research essay pathway (4.5 credits):

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit in:		0.5
HIST 5003 [0.5]	Historical Theory and Method	
4. 1.5 credits in HIST at the graduate level of which only 0.5 credit may be taken in a designated public history course. With departmental permission, up to 0.5 credit of courses with historical content may be taken from another unit at Carleton University, at the University of Ottawa, or at another accredited institution.		1.5
5. 0.5 credit in:		0.5
HIST 5900 [0.5]	Directed Research	
6. 1.0 credit in:		1.0
HIST 5908 [1.0]	M.A. Research Essay (in the specialization)	
Total Credits		**4.5**

Requirements - thesis pathway (4.5 credits):

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit in:		0.5
HIST 5003 [0.5]	Historical Theory and Method	
4. 1.0 credit in HIST at the graduate level of which only 0.5 credit may be taken in a designated public history course. With departmental permission, up to 0.5 credit of courses with historical content may be taken from another unit at Carleton University, at the University of Ottawa, or at another accredited institution.		1.0
5. 2.0 credits in:		2.0
HIST 5909 [2.0]	M.A. Thesis (in the specialization)	
Total Credits		**4.5**

M.A. Migration and Diaspora Studies with Collaborative Specialization in Climate Change (5.0 credits)

Requirements - Thesis Pathway:

1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
MGDS 5001 [0.5]	MA Core Seminar: Migration and Diaspora Studies	
MGDS 5003 [0.5]	Research Seminar in Migration and Diaspora Studies	

4. 1.0 credit from Migration and Diaspora Studies electives (see below). Up to 1.0 credit in Migration and Diaspora Studies practicum placements (MGDS 5101) may count toward this requirement.		1.0
5. 2.0 credits in:		2.0
MGDS 5909 [2.0]	M.A. Thesis (in the specialization)	
Total Credits		**5.0**

Requirements - Research Essay Pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
MGDS 5001 [0.5]	MA Core Seminar: Migration and Diaspora Studies	
MGDS 5003 [0.5]	Research Seminar in Migration and Diaspora Studies	
4. 0.5 credit in MGDS at the 5000 level. May not include MGDS 5101.		0.5
5. 1.5 credits from Migration and Diaspora Studies electives (see below). Up to 1.0 credit in Migration and Diaspora Studies practicum placements (MGDS 5101) may count toward this requirement.		1.5
6. 1.0 credit in:		1.0
MGDS 5908 [1.0]	Research Essay (in the specialization)	
Total Credits		**5.0**

Requirements - Coursework Pathway

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
MGDS 5001 [0.5]	MA Core Seminar: Migration and Diaspora Studies	
MGDS 5003 [0.5]	Research Seminar in Migration and Diaspora Studies	
4. 0.5 credit in MGDS at the 5000 level. May not include MGDS 5101.		0.5
5. 2.0 credits from Migration and Diaspora Studies electives (see below). Up to 1.0 credit in Migration and Diaspora Studies practicum placements (MGDS 5101) may count toward this requirement.		2.0
6. 0.5 credit in a graduate course with sufficient climate change content as approved by the Coordinator of the Climate Change Specialization.		0.5
Total Credits		**5.0**

M.A. Psychology with Collaborative Specialization in Climate Change (5.5 credits)

Requirements:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit in:		0.5
PSYC 5410 [0.5]	Foundations of the General Linear Model	
4. 0.5 credit from the following statistics courses:		0.5
PSYC 5001 [0.5]	Qualitative Research Methods in Psychology	
PSYC 5407 [0.5]	Scale Development and Psychometrics	
PSYC 5411 [0.5]	Extension of the General Linear Model	
PSYC 5416 [0.5]	Advanced Survey Methods	
PSYC 5417 [0.5]	Categorical Data Analysis	
PSYC 5801 [0.5]	Special Topics: Statistics	
5. 0.5 credit from professional development courses:		0.5
PSYC 5000 [0.5]	Introduction to Program Evaluation	
PSYC 5002 [0.5]	Ethics in Psychology	
PSYC 5003 [0.5]	Open Science and Methodological Improvements	
PSYC 5004 [0.5]	Knowledge Mobilization	
PSYC 5802 [0.5]	Special Topics: Professional Development	
PSYC 5903 [0.5]	Practicum in Psychology	
6. 0.5 credit in PSYC course work at the 5000 level, excluding professional development courses above, and excluding elective statistics courses		0.5
7. 0.0 credit in:		
PSYC 5906 [0.0]	Pro-Seminar in Psychology	
8. 2.5 credits in:		2.5
PSYC 5909 [2.5]	M.A. Thesis (in the specialization)	
Total Credits		**5.5**

M.A. Sociology with Collaborative Specialization in Climate Change (5.0 credits)

Requirements - Thesis pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
SOCI 5005 [0.5]	Recurring Debates in Social Thought	
SOCI 5809 [0.5]	The Logic of the Research Process	
4. 1.0 credit in approved electives, chosen in consultation with the student's advisor		1.0
5. 2.0 credits in:		2.0
SOCI 5909 [2.0]	M.A. Thesis (in the specialization)	
Total Credits		**5.0**

Requirements - Research essay pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
SOCI 5005 [0.5]	Recurring Debates in Social Thought	
SOCI 5809 [0.5]	The Logic of the Research Process	
4. 2.0 credit in approved electives, chosen in consultation with the student's advisor		2.0
5. 1.0 credit in:		1.0

SOCI 5908 [1.0]	M.A. Research Essay (in the specialization)	
Total Credits		**5.0**

M.A.Sc. Aerospace Engineering with Collaborative Specialization in Climate Change (5.0 credits)

Requirements:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in courses offered by the OCIMAE.		1.5
4. Participation in the Mechanical and Aerospace Engineering seminar series		
5. 2.5 credits in:		2.5
MECH 5909 [2.5]	M.A.Sc. Thesis (in the specialization)	
Total Credits		**5.0**

M.A.Sc. Electrical and Computer Engineering with Collaborative Specialization in Climate Change (5.0 credits)

Requirements:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in courses		1.5
4. 2.5 credits in:		2.5
SYSC 5909 [2.5]	M.A.Sc. Thesis (in the area of climate change)	
Total Credits		**5.0**

M.A.Sc. Environmental Engineering with Collaborative Specialization in Climate Change (5.0 credits)

Requirements:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in courses, with at least 0.5 credit from two different areas of study listed below outside the area of EIA, Sustainability and Climate Change		1.5
4. 0.0 credit in:		
ENVE 5800 [0.0]	Master's Seminar (participation in the graduate student seminar series)	
5. 2.5 credits in:		2.5
ENVE 5909 [2.5]	Master's Thesis (in the specialization)	
6. Note: no more than 0.5 credit may be taken from the following: ENVE 5008, ENVE 5101, ENVE 5200, ENVE 5201, ENVE 5301		
Total Credits		**5.0**

M.A.Sc. Materials Engineering with Collaborative Specialization in Climate Change (5.0 credits)

Requirements:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in courses offered by the OCIMAE.		1.5
4. Participation in the Mechanical and Aerospace Engineering seminar series		
5. 2.5 credits in:		2.5
MECH 5909 [2.5]	M.A.Sc. Thesis (in the specialization)	
Total Credits		**5.0**

M.A.Sc. Mechanical Engineering with Collaborative Specialization in Climate Change (5.0 credits)

Requirements:		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in courses offered by the OCIMAE.		1.5
4. Participation in the Mechanical and Aerospace Engineering seminar series		
5. 2.5 credits in:		2.5
MECH 5909 [2.5]	M.A.Sc. Thesis (in the specialization)	
Total Credits		**5.0**

M.B.A. with Collaborative Specialization in Climate Change (8.5 credits)

Requirements:		
1. 1.0 credit in		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.25 credit in		0.25
BUSI 5108 [0.25]	Sustainable Business Development	
4. 1.0 credit in elective specialization courses designated as having sufficient climate change content, within the School of Business or elsewhere, with permission of the School of Business.		1.0
5. 4.25 credits in compulsory core courses		4.25
6. 1.0 credit in elective courses		1.0
7. 1.0 credit in:		1.0
BUSI 5999 [1.0]	Internship [1]	
8. 0.0 credit in		
BUSI 5998 [0.0]	MBA Skills Workshop [2]	
Total Credits		**8.5**

[1] Students with less than two (2) years of professional employment experience must successfully complete BUSI 5999 [1.0] Internship in order to graduate. Students with

two or more years work experience may apply for an exemption.

[2] Non-credit required skills workshop.

M.Eng. Electrical and Computer Engineering with Collaborative Specialization in Climate Change (4.5 credits)

Requirements - project pathway (4.5 credits)		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit in:		0.5
ELEC 5302 [0.5]	Renewable and Distributed Energy Resource Technologies	
SERG 5001 [0.5]	Sustainable Energy Policy for Engineers	
SERG 5003 [0.5]	Energy Evaluation and Assessment Tools	
SYSC 5104 [0.5]	Methodologies For Discrete-Event Modeling And Simulation	
or approved Advanced Topic in the area of climate change		
4. 2.5 credits in courses		2.5
5. 0.5 credit in:		0.5
SYSC 5900 [0.5]	Systems Engineering Project (in the area of climate change)	
Total Credits		**4.5**

Requirements - coursework pathway (4.5 credits)		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit in:		0.5
ELEC 5302 [0.5]	Renewable and Distributed Energy Resource Technologies	
SERG 5001 [0.5]	Sustainable Energy Policy for Engineers	
SERG 5003 [0.5]	Energy Evaluation and Assessment Tools	
SYSC 5104 [0.5]	Methodologies For Discrete-Event Modeling And Simulation	
or approved Advanced Topic in the area of climate change		
4. 3.0 credits in courses		3.0
Total Credits		**4.5**

M.Eng. Environmental Engineering with Collaborative Specialization in Climate Change (5.0 credits)

Requirements - Project pathway		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 0.5 credit from:		0.5
ENVE 5105 [0.5]	Atmospheric Aerosols	
ENVE 5200 [0.5]	Climate Change and Engineering	
ENVE 5201 [0.5]	Geo-Environmental Engineering	
ENVE 5205 [0.5]	Sludge Treatment and Disposal	
ENVJ 5908 [0.5]	Anaerobic Digestion	
ENVJ 5212 [0.5]	Climate Change Impacts on Water Resources	
or approved Special Topics in the area of climate change		
4. 2.5 credits in courses, with at least 0.5 credit from two different areas of study listed below outside the area of EIA, Sustainability and Climate Change		2.5
5. 0.0 credit in:		
ENVE 5800 [0.0]	Master's Seminar	
6. 1.0 credit in:		1.0
ENVE 5900 [1.0]	Environmental Engineering Project (in the specialization)	
Note: no more than 1.0 credit may be taken from the following: ENVE 5008, ENVE 5101, ENVE 5200, ENVE 5201, ENVE 5301		
Total Credits		**5.0**

Requirements - Coursework pathway		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits from:		1.5
ENVE 5105 [0.5]	Atmospheric Aerosols	
ENVE 5200 [0.5]	Climate Change and Engineering	
ENVE 5201 [0.5]	Geo-Environmental Engineering	
ENVE 5205 [0.5]	Sludge Treatment and Disposal	
ENVJ 5908 [0.5]	Anaerobic Digestion	
ENVJ 5212 [0.5]	Climate Change Impacts on Water Resources	
or approved Special Topics in the area of climate change		
4. 2.5 credits in courses, with at least 0.5 credit from two different areas of study listed below outside the area of EIA, Sustainability and Climate Change		2.5
Note: no more than 1.5 credits may be taken from the following: ENVE 5008, ENVE 5101, ENVE 5200, ENVE 5201, ENVE 5301		
Total Credits		**5.0**

M.A. Political Economy with Collaborative Specialization in Climate Change (5.0 credits)

Requirements - Thesis pathway (5.0 credits)		
1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.0 credit in:		1.0
PECO 5000 [0.5]	Theories of Political Economy	
PECO 5001 [0.5]	Methodologies of Political Economy	
4. 2.0 credits in:		2.0
PECO 5909 [2.0]	M.A. Thesis (in the specialization, including an oral examination)	
5. 1.0 credit in approved graduate level electives (see Selection of Courses, below) [1]		1.0
Total Credits		**5.0**

Requirements - Research essay pathway (5.0 credits)

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		0.0
CLIM 5800 [0.0]	Climate Seminar Series	0.0
3. 1.0 credit in:		1.0
PECO 5000 [0.5]	Theories of Political Economy	
PECO 5001 [0.5]	Methodologies of Political Economy	
4. 1.0 credit in:		1.0
PECO 5908 [1.0]	Research Essay (in the specialization)	
5. 2.0 credits in approved graduate level electives (see Selection of Courses, below) [1]		2.0
Total Credits		**5.0**

[1] Up to one (1.0) credit may be taken at the 4000 (honours undergraduate) level.

Master of Public Policy - Sustainable Energy and the Environment with Collaborative Specialization in Climate Change (6.0 credits)

Requirements - Coursework pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5
SERG 5002 [0.5]	Sustainable Energy Engineering for Policy Students	
SERG 5003 [0.5]	Energy Evaluation and Assessment Tools	
SERG 5005 [0.5]	Applied Interdisciplinary Project	
4. 0.0 credit in:		0.0
SERG 5800 [0.0]	Sustainable Energy Seminar	
5. 0.5 credit in:		0.5
PADM 5121 [0.5]	Policy Analysis: The Practical Art of Change	
6. 0.5 credit in:		0.5
PADM 5510 [0.5]	Energy Economics	
7. 0.5 credit in:		0.5
PADM 5515 [0.5]	Sustainable Energy Policy	
or PADM 5615 [0.5]	Politics and Policy of Energy in Canada	
8. 2.0 credits from Sustainable Energy Policy courses listed below or other courses as approved by the MA supervisor		2.0
Total Credits		**6.0**

Requirements - Research essay pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5
SERG 5002 [0.5]	Sustainable Energy Engineering for Policy Students	
SERG 5003 [0.5]	Energy Evaluation and Assessment Tools	
SERG 5005 [0.5]	Applied Interdisciplinary Project	
4. 0.0 credit in:		0.0
SERG 5800 [0.0]	Sustainable Energy Seminar	
5. 0.5 credit in:		0.5
PADM 5121 [0.5]	Policy Analysis: The Practical Art of Change	
6. 0.5 credit in:		0.5
PADM 5510 [0.5]	Energy Economics	
7. 0.5 credit in:		0.5
PADM 5515 [0.5]	Sustainable Energy Policy	
or PADM 5615 [0.5]	Politics and Policy of Energy in Canada	
8. 1.0 credit from Sustainable Energy Policy courses listed below or other courses as approved by the MA supervisor		1.0
8. 1.0 credit in:		1.0
PADM 5908 [1.0]	Research Essay (in the specialization)	
Total Credits		**6.0**

Requirements - Thesis pathway:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5
SERG 5002 [0.5]	Sustainable Energy Engineering for Policy Students	
SERG 5003 [0.5]	Energy Evaluation and Assessment Tools	
SERG 5005 [0.5]	Applied Interdisciplinary Project	
4. 0.0 credit in:		0.0
SERG 5800 [0.0]	Sustainable Energy Seminar	
5. 0.5 credit in:		0.5
PADM 5121 [0.5]	Policy Analysis: The Practical Art of Change	
6. 0.5 credit in:		0.5
PADM 5510 [0.5]	Energy Economics	
7. 0.5 credit in:		0.5
PADM 5515 [0.5]	Sustainable Energy Policy	
or PADM 5615 [0.5]	Politics and Policy of Energy in Canada	
8. 2.0 credits in:		2.0
SERG 5909 [2.0]	MA Sustainable Energy Thesis (in the specialization)	
Total Credits		**6.0**

Notes:

1. Courses must be appropriate to the student's qualifications and selected with the approval of the student's program supervisor.

M.Eng. Sustainable Energy with Collaborative Specialization in Climate Change (5.0 Credits)

Requirements:

1. 1.0 credit in:		1.0
CLIM 5000 [1.0]	Climate Collaboration	
2. 0.0 credit in:		
CLIM 5800 [0.0]	Climate Seminar Series	
3. 1.5 credits in:		1.5

	SERG 5001 [0.5]	Sustainable Energy Policy for Engineers	
	SERG 5003 [0.5]	Energy Evaluation and Assessment Tools	
	SERG 5005 [0.5]	Applied Interdisciplinary Project	
4.	**0.0 credit in:**		
	SERG 5800 [0.0]	Sustainable Energy Seminar	
5.	**0.5 credit in:**		0.5
	Mechanical Engineering Focus:		
	Mechanical Energy Conversion courses (listed below), or Sustainable Energy Policy courses		
	or		
	Electrical Engineering focus:		
	Efficient Electrical Energy Systems courses (listed below) or Sustainable Energy Policy courses		
6.	**2.0 credits in:**		2.0
	Mechanical Engineering focus:		
	Graduate-level MECH courses		
	or		
	Electrical Engineering focus:		
	Graduate-level ELEC, SYSC or EACJ courses		
Total Credits			**5.0**

M.Sc. Management with Collaborative Specialization in Climate Change (5.0 credits)

Requirements (5.0 credits):

1.	**1.0 credit from:**		1.0
	CLIM 5000 [1.0]	Climate Collaboration	
2.	**0.0 credit in:**		
	CLIM 5800 [0.0]	Climate Seminar Series	
3.	**1.5 credits in:**		1.5
	BUSI 5980 [0.5]	Foundations of Management Theory and Research	
	BUSI 5981 [0.5]	Statistics for Business Research	
	BUSI 5982 [0.5]	Research Methodology in Business	
4.	**0.5 credit from:**		0.5
	BUSI 5983 [0.5]	Qualitative Research Design	
	BUSI 5984 [0.5]	Quantitative Research Design	
5. Completion of the Research Tutorial			
6.	**2.0 credits in:**		2.0
	BUSI 5989 [2.0]	M.Sc. Thesis (in the specialization)	
Total Credits			**5.0**

Regulations

See the General Regulations section of this Calendar and the regulations of the participating unit.

Admission

Admission to the collaborative master's program in Climate Change is available to master's students who are admitted in one of the participating master's programs. To apply to one of the participating master's programs, please visit the Faculty of Graduate and Postdoctoral Affairs Admissions page.

Climate Change (CLIM) Courses

CLIM 5000 [1.0 credit]
Climate Collaboration
A seminar on the climate crisis from an interdisciplinary perspective. Drawing on a range of disciplinary approaches from the humanities, social sciences, public policy, engineering and natural science, students will engage with the many factors bearing on the climate crisis and how to address it.

CLIM 5800 [0.0 credit]
Climate Seminar Series
A series of seminars presented by researchers and practitioners in the area of climate change. To complete this course, a student must attend six seminars.