# Degree Level Expectations, Learning Outcomes, Indicators of Achievement and the Program Requirements that Support the Learning Outcomes

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<th>Expectations (general descriptors from OCAV)</th>
<th>Learning Outcomes (program specific)**</th>
<th>Indicators of Achievement</th>
<th>Relevant Courses and academic requirements (requirements that contribute to the achievement of learning outcomes and degree expectations)</th>
<th>Transferable Skills</th>
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<td>Depth and breadth of knowledge</td>
<td>An in depth knowledge of the history, technology and conservation of cultural heritage materials.</td>
<td>Students should be able to:</td>
<td>Treatment streams: All students must complete the following requirements:</td>
<td>• Conservation treatment</td>
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<td>A thorough understanding of the underlying scientific principles in conservation treatments, as well as the scientific basis of the structure, properties, and deterioration of materials and the prevention of damage.</td>
<td>• Determine the composition, structure and deterioration of cultural heritage objects;</td>
<td>3 lecture courses in the history, technology and conservation of cultural heritage materials in their specific area of specialization and 1 additional lecture course in another specialization;</td>
<td>• Treatment proposals</td>
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<td>An understanding of the application of different scientific examination techniques and the techniques themselves that are used to study cultural heritage.</td>
<td>• Formulate and implement treatment plans for the objects with complete documentation that conforms to contemporary conservation ethical principles.</td>
<td>4 laboratory courses in the specific area of specialization and 1 conservation science laboratory course in microscopy (ARTC-804);</td>
<td>• Photo-documentation</td>
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<td>A thorough understanding of current conservation principles and ethics.</td>
<td>These skills are evaluated through assignments, workshops and examinations in various courses.</td>
<td>2 courses in conservation science (ARTC-802 and 808);</td>
<td>• Scientific analysis</td>
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<td>1 course in preventive conservation (ARTC-801);</td>
<td>• Preventive conservation</td>
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<td>1 course in digital imaging techniques (ARTC-810);</td>
<td>• Project management</td>
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<td>Completion of a research project which includes a comprehensive report (ARTC-898);</td>
<td>• Integrated pest management</td>
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<td>2 summer internships (ARTC-806 and 807).</td>
<td>• Art courier</td>
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<td>Research streams (Pattern I): Students in the Conservation Science and the Mid-Career specializations must complete the following courses:</td>
<td>• Curator</td>
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<td>• 4 half courses in conservation science, the history, technology and conservation of cultural heritage materials, or other approved courses;</td>
<td>• Data manager/collection management</td>
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<td>• Completion of a research master’s thesis (ARTC-899).</td>
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| Research and scholarship | • A capacity for original research including design, implementation and write-up of a research project.  
• Critical assessment of the conservation literature. | Successful completion of the research project (ARTC-898) in the treatment streams or the thesis (ARTC-899) in the research streams indicates that the student has achieved this outcome. Presentations and posters at conferences and the publication of research are additional indicators. | • Conservation research  
• Theoretical, scientific and cultural materials analysis |}
| --- | --- | --- | --- |
|  |  | The primary course for most students in Pattern II is the research project, ARTC-898. For Pattern I students, the Master’s thesis, ARTC-899, is the relevant course. Research and critical reading of literature is stressed in all lecture and lab courses. |  | }
| Application of Knowledge | • An ability to apply laboratory methodology and theoretical knowledge to the assessment and treatment of cultural heritage objects.  
• Students also develop and complete a research project | Students have achieved this outcome when they can devise a treatment plan, including assessments of condition, treatment proposals, comprehensive treatment reports and thorough photo-documentation. Students complete lab projects for ARTC-804, where pigments, fibres, and cross-sections from works of art are analyzed and identified. In ARTC-898 and 899, students present a proposal, carry out research and produce a thesis or report. | • Collections management  
• Research technologist  
• Environmental monitoring  
• Conservation treatment  
• Treatment proposals  
• Photo-documentation  
• Scientific analysis  
• Preventive conservation  
• Project management  
• Integrated pest management  
• Art courier  
• Curator  
• Data manager/collection management |}
|  |  | Courses in the following series teach students how to apply theoretical knowledge to conservation treatments in the laboratory: ARTC-850 to 853; ARTC-861 to 864; and ARTC-871 to 874. Two summer internships (ARTC-806 and 807) also contribute to this, as well as ARTC-804. Research courses ARTC-898/899 are also relevant here. |  | }
| Professional capacity/autonomy | Students are expected to demonstrate initiative, responsibility and accountability as well as a capacity for independent decision-making in all of their courses. | The ability to work semi-autonomously and professionally is evaluated in all laboratory and research courses. | • Policy administration  
• Heritage consultant |}
|  |  | Professional and ethical guidelines are stressed in ARTC-801. All courses including the summer internships foster a developing sense of autonomy and professionalism. |  | }
| Communication Skills | Ability to:  
• To write in a professional manner suitable for publication in professional journals.  
• To communicate information orally via seminars, lab presentations, posters and conference papers | Oral and written skills are evaluated through various assignments: seminars, seminar papers, research papers and poster sessions. Assessment of documentation for all assigned conservation treatments is key in all laboratory courses. Additional indicators include:  
• research project for ARTC-898  
• MA thesis for ARTC-899 | • Conservation treatment  
• Collections management  
• Research technologist  
• Environmental monitoring  
• Conservation treatment  
• Treatment proposals  
• Preventive conservation  
• Project management  
• Integrated pest management  
• Curator |}
|  |  | Lecture courses typically require written assignments and in-class seminars which are evaluated.  
• In ARTC-898, an oral and written research proposal must be presented, followed by a final comprehensive research report and poster.  
• ARTC-899 requires a proposal, submission and defense of a thesis. |  | }
| Awareness of limits of knowledge | Treatment streams: Successful completion of required courses, including laboratory and research courses, and summer internships. Research streams: Successful completion of courses and a thesis. | Treatment streams: Awareness of the limits of knowledge is stressed in all lecture and laboratory courses, summer internships and the research project. Research streams: The limits of knowledge are understood from course work and completing the thesis. |