

# Required Courses

## Bachelor of Digital Agriculture Degree

YEAR 1   TERM 1	
1	<p><b>AGF 1000 - Survey of Agriculture and Food Systems in Rural and Urban Environments</b></p> <p>The need to develop sustainable and profitable agriculture and food systems at a time of major changes in the environment is an important challenge for agricultural science. This interdisciplinary course provides a comprehensive introduction to sustainable food systems as they relate to agricultural production in Canadian agriculture. Students will engage in a systems approach overview of agricultural food production in diverse environments and examine some of the physical, biological, and economic characteristics of Canadian agricultural systems.</p>
2	<p><b>AGT 1010 - Design Thinking in Agriculture Technology</b></p> <p>Students will explore design thinking in technology in a project-based team environment. Students will create a 3D printable design using parametric modeling software, rapid prototyping theory, national or international documentation standards, and technical drawings.</p>
3	<p><b>MTH 1100 - Applied Math</b></p> <p>Students will develop an understanding of basic principles of applied mathematics in agricultural contexts and applications, including statistics, math, and trigonometry.</p>
4	<p><b>LVS 1370 - Principles of Animal Agriculture</b></p> <p>In this introductory course, students will examine fundamental principles of livestock production including anatomy, physiology, nutrition, animal health, welfare, genetics, marketing and livestock-specific management strategies. Specific livestock that will be examined include monogastric, ruminant, and avian species. This course additionally offers students hands-on exposure to livestock animals.</p>
5	<p><b>PLS 1010 - Plant Science Principles</b></p> <p>Students will gain a theoretical and practical understanding of the growth, development, and nutritional needs of plants. Students will select this course based on self-identified professional development and leadership goals.</p>

**YEAR 1 | TERM 2**

1	<p><b>AGS 1000 - Applied Science in Agriculture</b></p> <p>Students will learn and integrate the foundations of soil science, plant science, and hydrology with technology systems. Students will evaluate the impact of various management recommendations on the soil-plant-water nexus by applying science literacy and systems thinking.</p>
2	<p><b>AGT 1510 - Experiencing Technology</b></p> <p>Students will engage in team-oriented experiences in a broad spectrum of topics related to technology, including problem solving, critical thinking, machine networking, network communications, and digital literacy. This course culminates in an agriculture-based technology project.</p> <p><i>Pre-req: AGT 1010 - Design Thinking in Agriculture Technology</i>  <i>Pre-req: MTH 1100 - Applied Math</i></p>
3	<p><b>AGT 1050 - Practicing Exponential Foresight</b></p> <p>Students will identify and scan current macro trends in agriculture technology. Students will identify knowns and unknowns about the future of agriculture. Students will frame new challenges by considering social, technical, economic, environmental, and political perspectives. Students will develop the ability to create informed predictions about possible futures in agriculture.</p>
4	<p><b>AGT 1080 - Data Management and Analytics</b></p> <p>Students will examine principles of statistics and the collection, storage, and manipulation of data. Students will also gain experience and understanding regarding data analytics and security.</p>
5	<p><b>ATG 1008 Solving Technology Problems</b></p> <p>Students will have the opportunity to use modern hardware and software tools for applied data-driven problem solving through data analysis and technical writing for specialist and non-specialist audiences. Students will develop an understanding of the problem-solving cycle for technological optimization unit conversion, unit factor, graphing curve fitting, and computer programming.</p>