

## AGRICULTURAL SCIENCE SKILLS & KNOWLEDGE

*Agriculture is a complex industry that relies on extensive knowledge and skills related to natural sciences, economics, business, and agri-food. Agriculture is defined as the science and practice of producing crops and livestock from the natural resources of the earth. The primary aim of agriculture is to cause the land to produce more abundantly and at the same time to protect it from deterioration and misuse. The diverse branches of modern agriculture include agronomy, horticulture, animal sciences, agricultural engineering, soil science, agricultural economics and business, and aquaculture.*

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### DEPTH AND BREADTH OF KNOWLEDGE | APPLICATION OF KNOWLEDGE | KNOWLEDGE OF METHODOLOGIES RELEVANT TO DISCIPLINE

1. apply knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in agricultural science, as well as within a specialized discipline
2. appreciate the complexities and inter-connectivity of agricultural systems from biological, chemical, physical science, social, cultural and economic standpoints
3. understand the role of agriculture within society from a social and economic standpoint

## COMMUNICATION SKILLS

*Communicating is the ability to interact effectively with a variety of individuals and groups (including cross-cultural), and convey information successfully in a variety of formats. Communicating also comprises attentiveness and listening, as well as reading comprehension. It is the ability to communicate and synthesize information, arguments, and analyses accurately and reliably.*

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### WRITTEN COMMUNICATION | ORAL COMMUNICATION | READING COMPREHENSION

4. interact effectively with a variety of individuals and groups
5. convey information successfully in a variety of formats including oral and written communication
6. communicate and synthesize information, arguments, and analyses accurately and reliably

## LITERACY

*Literacy is the ability to extract material from a variety of resources, assess the quality and validity of the material, and use it to discover new knowledge. The comfort in using quantitative literacy also exists in this definition, as does using technology effectively and developing visual literacy.*

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### INFORMATION LITERACY | QUANTITATIVE LITERACY | TECHNOLOGICAL LITERACY

7. extract information from a variety of resources and assess the quality and validity of the material
8. use the breadth of information and resources available within the specific discipline to discover new knowledge

9. create and communicate numerical data effectively
10. demonstrate a breadth of knowledge in computer and technology skills and use these to enhance and manage the communication of knowledge

## CRITICAL & CREATIVE THINKING

*Critical and creative thinking is a concept in which one applies logical principles, after inquiry and analysis, to solve problems with a high degree of innovation, divergent thinking and risk taking. Those mastering this outcome show evidence of integrating knowledge and applying this knowledge across disciplinary boundaries. Depth and breadth of understanding of disciplines is essential to this outcome.*

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### INQUIRY AND ANALYSIS | PROBLEM SOLVING | CREATIVITY AND SYNTHESIS

11. use critical thinking, synthesis and evaluation skills to make judgements and solve problems
12. analyze critically and apply relevant information to the solving of science and/or agricultural problems
13. think in untested and innovative directions and take intellectual risks

## ENHANCED INTERPERSONAL SKILLS

*Interpersonal skills are life skills we use every day to communicate and interact with other people, both individually and in groups. People with enhanced interpersonal skills are usually more successful in both their professional and personal lives. These people will work well in a team and be able to communicate effectively with colleagues, customers and clients.*

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### AWARENESS OF LIMITS OF KNOWLEDGE | LEADERSHIP SKILLS | PLANNING & ORGANIZATIONAL SKILLS

14. evaluate critically the limits of one's knowledge and how these limits influence analyses
15. manage their own learning and contributions in teams and under changing circumstances, both within and outside the discipline
16. communicate respectfully and effectively with others from a wide variety of cultural and educational backgrounds while making sound decisions in complex contexts

## PROFESSIONAL & ETHICAL BEHAVIOUR

*Professional and ethical behaviour requires the ability to accomplish the tasks at hand with proficient skills in teamwork and leadership, while remembering ethical reasoning behind all decisions. The ability for organizational and time management skills is essential in bringing together all aspects of managing self and others. Academic integrity is central to mastery in this outcome.*

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### ETHICAL REASONING | ACADEMIC AND PROFESSIONAL INTEGRITY | SOCIAL RESPONSIBILITY

17. exhibit behaviour consistent with academic integrity, workplace/professional responsibility and social responsibility
18. examine problems from an ethical and moral perspective
19. demonstrate initiative, personal responsibility and accountability in both personal and group contexts