Definitions Pertaining to:
Foundational Science Course,
Agrology Course, Senior Level Course and Recognized University

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Definition of a Foundational Science Course:
In Section 1 of the academic worksheet, a foundational science course in the natural sciences provides science instruction that forms the foundation upon which subsequent natural science courses or agrology courses are built. It is by its very nature 'introductory'. Foundational science courses are typically taught within the first two years of any four-year university degree program, generally do not have university level course prerequisites, and include introductory courses in biology/biological sciences, botany, biochemistry, chemistry, earth sciences, ecology, genetics, geology, hydrogeology, hydrology, microbiology, physical geography and physics.

The basis for identifying a foundational science course includes the following assessments:

- Does the course provide instruction in fundamental principles of a particular science or does it provide instruction in application of fundamental principles to agrology-related activities? An introductory ecology type course is considered a fundamental science course whereas a plant ecology course is considered an agrology course. The first course is fundamental to the latter. Or in other words, the latter course relies upon understanding of principles in the first course.

- Does the course provide <u>further</u> instruction in principles taught in introductory science courses with little application to agrology-specific activities? If so, the course is a foundational science course. An introductory inorganic chemistry type course is a foundational science course. Chemistry of the Main Group Elements is also a foundational science course. The first course introduces fundamental principles of inorganic chemistry. The latter course explores these principles in greater depth with respect to specific elements, yet with little to no application to agrology-related activities.

Hence, foundational knowledge course will be deemed to be 'fundamental' by virtue of what it is (e.g., introductory, basic science) or what it is not (e.g., little application to agrology-related activities). Generally speaking, the word 'foundational' is tacitly associated with the word 'introductory' or 'junior', and at most educational institutions would be designated by the lowest course numbers.

Additional foundational courses that are of a benefit to the study of agrology include Mathematics or Statistics, Computer Science, Economics or Communications/Writing (not a literature/Shakespeare type course).

Definition of an Agrology Course according to the BCIA *Agrologists Act (2003)*:
In Section 2 of the academic worksheet, an agrology course provides instruction related directly to definition of Agrology as provided below:

Agrology as defined in the *Act* means using agricultural and natural sciences and agricultural and resource economics, including collecting or analyzing data or carrying out research or assessments, to design, evaluate, advise on, direct or otherwise provide professional support to:

(a) the cultivation, production, improvement, processing or marketing of aquatic or terrestrial plants or animals, or
(b) the classification, management, use, conservation, protection, restoration, reclamation or enhancement of aquatic or terrestrial ecosystems that are affected by, sustain, or have the potential to sustain the cultivation or production of aquatic or terrestrial plants or animals.

Example: ENVS 414 from UNBC (Environmental and Professional Ethics) is a non-science based course so therefore not an agrology course yet APBI 315 from UBC (Animal Welfare and Ethics of Animal use) is very science based and is an accepted agrology course.

Agrology in BC shares common subject matter boundaries with the forestry profession and the biology profession therefore fishery science and appropriate forest related courses may be considered agrology courses since aquaculture and tree growing/farming falls within the definition of agrology according to the *Agrologists Act*.

The National Education Standard (NES) by Agrologists Canada (the national body of agrology) are viewed as guidelines only. Being closely aligned to a national education standard will support mobility rights by ensuring that, to the extent allowed by provincial legislation *(Agrologists Act)*, all Agrologists have acquired the necessary basic and scientific knowledge required to be recognized as an agrology professional in any province in Canada.
https://www.bcia.com/about-bcia/agrologists-canada

Definition of a Senior Level Course:
In Section 3 of the academic worksheet, a Senior Level course is an advanced course that requires antecedent academic knowledge on the part of the student, and develops the concepts acquired in introductory courses. A Senior Level course must require scholarly and critical analyses by the student.

A senior Agrology course is a course that directly addresses at least one of the subject matters in the BCIA definition of Agrology. These courses are advanced courses in Agrology that go beyond introductory concepts and increases the depth of knowledge in the subject matter. Senior level courses may have multiple prerequisites including foundational science and introductory Agrology courses and are intended for third or fourth year of a four year 120 credit bachelor degree. Graduate level courses are also considered senior level courses. Only senior courses taught by a Recognized University are considered senior level courses.

Definition of a Recognized University:
It is important that coursework to be considered as requisite knowledge for entrance into the Agrology profession is credible in that both content and instructional contact hours meet minimum requirements. To ensure that coursework content is credible, only coursework obtained from a 'Recognized University' should be considered for entrance to the Agrology profession. Courses that provide credit yet are provided by a professional development organization are not considered.

A 'Recognized University' is defined as a research and teaching institution, with established and continuing research programs in agrology or related sciences. Such a university must be able to provide introductory and senior level courses, and graduate studies research programs in subject matters related to Agrology. Instructors enhance the teaching program by providing information related to new scientific discoveries and technologies relevant to the practice of Agrology. Courses (and transfer credits) from Colleges will be considered on a case by case basis if precursor to courses at a recognized university.

Please note that notwithstanding a course of which was completed at a Recognized University, each course is still subject to review and final approval by the BCIA Registrar/Credentials Committee.

Other Useful Information:
Course credit is awarded only for courses that have

a) a prescribed syllabus of peer review knowledge ; and
b) a standard level of examination and adjudication; and,
c) a nominally defined number of instruction and study hours.

A 3-credit course consists of a minimum of 39 lecture contact hours (e.g. three hours of lecture per week for a term of thirteen weeks.) A full course load for a single semester is typically 15 credits (5 courses); a full year course load is typically 30 credits (10 courses); and a four-year degree is typically 120 credit (40 courses).

In some cases, universities do not assign the standard 3 credits to a one term course (minimum of 30 lecture hours). Where a university assigns less than the 3 credits to such a course the credits should be converted to the 3 credits standard provided the course meet the requirement of a one term course with a minimum of 30 lecture hours. For example, if a university assigns 1 credit for a 30 hour one term course, then the single credit should be multiplied by 3 to convert the course to a standard 3 credit course.

International universities often use a credit system that differs substantially from that used by Canadian universities. International credential service organizations are available to provide an assessment of course credits and whether an international degree is equivalent to a Canadian university degree. For example, the International Qualification Assessment Service (IQAS) provides a detailed assessment of credits in Canadian credit equivalents as well as assessing degree equivalency. IQAS will provide a course listing with Canadian equivalent credits when a 'comprehensive assessment or 'specialized assessment' is requested by the Agrology Institute. The World Education Service (WES) also provides an analysis of Canadian equivalent credits by course. This service is referred to as a 'course-by-course analyses'. A third group, International Credit Evaluation Service (ICES) provides a similar service offering an analysis of Canadian equivalent credits by course. Typically, the cost of these assessments is the responsibility of the applicant.

For review of international applicants with degrees conferred in nations other than Canada the BCIA registration requirements must be interpreted in context with the structure of academic programs in the nation where the degree was conferred, without compromising the academic standards of the BC Institute of Agrologists (BCIA).

Note: Course credit for entrance to the Agrology profession is not awarded for seminar courses, stand alone lab courses or for a practicum/co-op/work experience course. Appropriate thesis and directed studies courses, in which a final marked paper is required, are considered on a case by case basis and require supporting documentation for review.