

Associate of Arts in Teaching (AAT) Degree

Secondary Science Model Outline

May 2004

Background

Secondary science encompasses a number of fields and presents a challenge in the development of a model that addresses issues of depth, breadth, and sequencing within the total hours provided in an associate degree. Development of an Associate of Arts in Teaching in Secondary Science Degree model commenced in September 2002 and was circulated for field review in the summer of 2003.

Based on the scope of feedback from the public comment period, the AAT steering committee recommended that further review and discussion take place in order to revise the model to best address the needs of students pursuing a degree in this field.

After thoughtful discussion and analysis, several modifications have been made to the model. Most significantly, the general education component was reduced to allow for the necessary major coursework required in math and science. It is not the intent of the committee to eliminate general education courses, but simply defer them to the junior or senior year for completion. This approach is supported by the AAT General Principles, which allow for a reduced general education requirement prior to transfer. This modification is suggested in good faith — that transfer students completing an AAT in Secondary Science would be required to complete *only* those general education components which had been deferred, not be bound to a different or additional general education package at the receiving institution.

Secondly, the original major course recommendation was slightly revised to recognize that in disciplines that involve sequential courses, it is in the student's best interest to complete the initial sequence prior to transfer to ensure that all content is covered and to facilitate transfer of credit. This applies to Biology, Chemistry, and Physics. Therefore, students taking initial courses in these areas (the core courses in the model's recommendation) should also take the second course in the sequence to guarantee transfer credit. Depending on the number of hours in an individual's degree, there may be room for one science elective. A separate section listing recommended elective courses is reflected in the model, as well. It should be noted that the major course recommendations for the AAT differ somewhat from a regular IAI science major recommendation because the AAT recommendations are based on the state and national teaching standards for the sciences. An AAT Science Matrix that identifies the standards appropriate for freshmen/sophomore science courses was developed as part of the process of developing the degree model and is available on the ICCB website at www.iccb.org/HTML/what/aat.html. Finally, because of the number of credit hours in both general education and the major content area, only Introduction to Education is listed for the Professional Education component.

The following pages reflect the revised recommendation for the AAT in Secondary Science Model.

General Education Component (35 - 38 semester credits)

Please Note: This degree model contains a reduced number of general education hours prior to transfer; however, students will still be expected to complete their remaining general education course work at the receiving institution. Because the general education package has been altered to accommodate for the number of science and math courses needed in the first two years, only a partial IAI General Education Core Curriculum (GECC) transfer package is available for this degree.

Communication: 9 semester credits
(two-course writing sequence and one course in oral communications)

Mathematics: 7- 9 semester credits
(Calculus I and Calculus II, or Statistics, or Linear Algebra*) *Students are advised to check with intended transfer institution for transfer guidelines.*

Physical and Life Sciences: 7 - 8 semester credits (one course from the life sciences, one course from the physical sciences, and at least one laboratory course)

Humanities & Fine Arts: 6 semester credits (one course from humanities and one from the fine arts) *Completion of three additional hours would be required in the junior or senior year.*

Social and Behavioral Sciences: 6 semester credits (courses selected from two disciplines) *Completion of three additional hours would be required in the junior or senior year.*

Professional Education Component (3 semester credits)

Required: Introduction to Education (with a clinical component*)

*The clinical component should include field experiences in a variety of school settings. For students intending to pursue an AAT Secondary Science degree, it would be appropriate for half the number of hours to be spent in a secondary science environment. A variety of assignments and activities should be included, with artifacts and assessments documented. A minimum of 15 contact hours of field experience is required.

Please note: A separate, one-hour course focusing solely on field experience activities may be included, as well; however, students should be aware that such a course may not be transferable.

Major Area Sequence (18 - 23 semester credits)

Core Courses: 6 - 8 semester credits

All four of the following core courses are required; however, two of the courses can be used to fulfill general education requirements.

Earth Science
Introduction to Biological Sciences I
General Chemistry I
General Physics I with Calculus

Major Courses: 12-15 semester credits

In order to fulfill IAI transfer requirements, the following supporting classes are necessary to complete the second course in the Biology, Chemistry, and Physics sequence:

Introduction to Biological Sciences II
General Chemistry II
General Physics II with Calculus

Elective Option (4 semester credits)

If additional hours are available, choose one course from the following list which best supports your area of concentration:

Organic Chemistry I
Anatomy and Physiology I
General Physics III with Calculus
Biology elective

Total for the degree: 60 - 64 semester credits