

# ACADEMIC PROGRAM DESIGN

## ***Introduction***

Academic program design is multi-dimensional. It includes indentifying and structuring content, selecting delivery methods, and designing the assessment of learning outcomes. This document focuses on the architecture of program content which is, in some sense, both an art and a science.

Academic Programs Policy 3.36 and Procedure 3.36.1 define an academic program as follows:

"Academic program. Academic program means a cohesive arrangement of college level credit courses and experiences designed to accomplish predetermined objectives leading to the awarding of a degree, diploma, or certificate. Most academic programs include a general education component. The purpose of an academic program is to:

1. increase students' knowledge and understanding in a field of study or discipline,
2. qualify students for employment in an occupation or range of occupations, and/or
3. prepare students for advanced study."

An academic program is more than just a major. An academic program includes all curricular components required to earn an award.

## ***Principles***

Four principles guide academic program design. A program design must

1. comply with system academic program policies, procedures and guidelines,
2. be succinct,
3. be internally consistent with purposes, objectives and learning outcomes aligned, and
4. stand alone without requiring completion of other awards except for programs designed for transfer and admission to graduate programs.

## ***Process***

Designing the curriculum for an academic program can be a sequential process, beginning with defining the program's scope of content, describing the program's purpose, designing a conceptual framework, determining the appropriate award, identifying program content, and developing the courses necessary for implementation. The office of the chancellor reviews academic program curricula as part of the program approval process, but it does not review the content of individual courses.

## **Defining program scope**

Professional practice, regulatory requirements, existing business needs, emerging fields, or more general societal factors may encourage development of a new program. Understanding the implications of these factors will help identify the appropriate educational response. Here the contributions of advisory groups, professional connections and scholarly observations of faculty, trend analyses, and marketing studies can be considered to identify the contextual bases for program development.

Program scope can also be shaped by career pathway expectations, skills standards or other initiatives.

## **Identifying the Program Purpose**

A subsequent step in program design is to determine the program purpose of the program. The program purpose is drafted in response to or in anticipation of the identified need. Purpose is

important because this is the element that directs program learning outcomes. Programs may prepare students for transfer to advanced study, employment in an occupation or profession, or increased knowledge and skills in a specific area of study or discipline. The program purpose is used to answer questions such as "What is to be learned, or what do students need to know and be able to do?" The purpose should be described as succinctly as possible

### **Developing a conceptual framework**

Creating a conceptual framework can be the next step in designing a program. The conceptual framework provides a foundation of subject matter or content. Subject matter as it is used here refers to the concepts that are learned, while content includes the intellectual skill embodied in the learning as well as the concepts. A conceptual framework is a formal way of thinking that is used to guide the design, development and evaluation of an educational program or a part therein. Depending upon the disciplinary tradition, a conceptual framework may consist of a set of coherent ideas or concepts, a relational model, theories with related propositions, goals and objectives, rules and processes associated with subject matter, philosophical statements or other parameters that help define the scope and nature of a content area.

### **Aligning Purpose with an Award**

Another aspect of designing an academic program is determining the appropriate award to be granted for the intended educational outcome. The award selected determines the architecture of the program and reflects the purposes and conceptual framework.

System colleges and universities are authorized to offer the following specific awards: [*See [Policy and Procedure](#) and Appendix D: Academic Program Design Architecture*]

**Certificates** are designed to be stand-alone awards though they may also complement a subsequent award in a related area. They are short programs, highly focused on specific outcomes (occupational or a focused area of study), and may or may not include general education. General education, if any, should directly support the certificate's purpose. Certificates are not intended to be "stacked" on top of one another (sequenced or prerequisites) by requiring that one be completed before the other. Certificate Programs are offered at both the undergraduate and graduate levels. [*See Appendix C: Design Criteria for Certificates*]

**Diplomas** are also designed to be stand-alone awards. They are one-to-two years in length, highly focused on specific occupational outcomes to prepare students for employment and may or may not include general education.

**Associate Degrees (AA, AFA, AS, AAS)** are offered at the lower division level. Most associate degrees (AA, AFA and AS) are designed primarily to transfer to baccalaureate degrees. Most contain general education courses. The AFA and the AS require a formal articulation agreement with one or more system institutions [*See Appendix A: Agreements*]. Associate degree curriculum is designed to be similar to curriculum taken by the university students in the first two years of their baccalaureate degrees, and should transfer "in its entirety" to the baccalaureate program. The articulation agreement specifies the course equivalencies involved in the transfer.

- **The Associate in Arts** degree is a general liberal arts degree without a named field of study. Areas of emphasis are permitted in AA degrees, but the coursework within the emphasis must transfer to a specific baccalaureate degree. An Articulation Agreement is required for an AA with an area of emphasis [*See Appendix A: Agreements*]. The AA degree program requires completion of the Minnesota Transfer Curriculum.

- **The Associate in Fine Arts** degree is a named fine arts degree designed to transfer to a specific baccalaureate fine arts degree. An Articulation Agreement is required [*See Appendix A: Agreements*].
- **The Associate in Science** degree is a named degree designed primarily to transfer to a specific baccalaureate degree. Coursework is concentrated in a scientific, technical, or professional field. Some AS degree programs also may have an occupational outcome, e.g., preparation for a nursing license. There are two types of AS degrees: a degree in a specific field and a broad field degree. Broad field AS degrees must transfer to all system universities offering that major at the baccalaureate degree. Articulation Agreements are required for all AS degrees.
- **The Associate in Applied Science** degree has an occupational outcome. It can be designed to stand alone or for transfer to a bachelor of applied science degree (BAS). Articulation Agreements are required for a AAS degree that transfers to a BAS program [*See Appendix A: Agreements*].

**Baccalaureate** degrees are offered by universities and represent significant knowledge at an advanced level in an academic or professional area. A variety of degree types may be offered in addition to the BA and BS. They require a minimum of four years to complete. Baccalaureate degrees can be in any field. They include the entire Minnesota Transfer Curriculum as a general education component, a major and/or minor and other requirements.

**Graduate** degrees are offered by universities and represent mastery of advanced knowledge in a particular field. A variety of degree types may be offered in addition to the MA, MS, Education Specialist, and doctorates.

### **Program Curriculum Building Blocks**

Academic programs are created from courses that are grouped by structural requirements and skill and/or knowledge. Courses may be grouped to form a major with or without emphases, a minor, general education, or electives.

A program will have one or more of these elements depending upon its purpose, conceptual framework and award. Awards differ in their inclusion of these elements, and the size and scope of those elements.

Program curriculum content is internally consistent and coherent and strikes a balance between breadth and depth. It is apparent to students that each course connects to other courses or the next level of knowledge in a systematic and meaningful manner. Most programs base their designs on a core of courses that all students are required to complete.

Design components form the basis for organizing and categorizing the separate courses into a coherent whole. Some design components are identified in system [Policy 3.36 and Procedures 3.36.1](#). The type of an award (associate in science, diploma, baccalaureate) also influences the components of the curriculum—for example, the amount of general education coursework required or the proportion of courses that are upper division or graduate-only. The curriculum should describe all required courses.

The program design may include one or more of the following elements. Many elements are optional:

Preparatory course. A lower-division college level course that compensates for insufficient high school or equivalent preparation.

*Example (1). A student wishes to prepare for a baccalaureate degree in engineering. He or she did not complete pre-calculus in high school. If the first mathematics course in the engineering degree is Calculus I, the student will have to prepare to enter mathematics having completed pre-calculus. This preparatory course does not constitute a prerequisite, and does not need to be counted in the total degree credits required for graduation.*

*Example (2). Entrance into a college language program usually requires two years of high school preparation. If a student wishes to take up a new language, those preparatory courses must be completed at the college level, but do not have to be counted in the total degree credits required for graduation.*

Prerequisite Course. College level courses required to take a subsequent course or to be admitted to a major. These courses are not generally taught at the high school level. Prerequisite courses are not developmental courses, inasmuch as developmental courses are not college-level.

*Example: A student wishes to be admitted to a major within a nursing program. One of the requirements for admission is the completion of several prerequisite courses—Anatomy and Physiology or Chemistry I. These course credits must be counted in the total degree credits required for graduation.*

General education (lower and/or upper division) is defined as “General education means a cohesive curriculum defined by system college or university faculty to develop general knowledge and reasoning ability through an integration of learning experiences in the liberal arts and sciences.” General education requirements can vary by type of degree;

A major is defined as “a curriculum component of an academic program intended to provide in-depth study in a discipline, a professional field of study or an occupation. A major may include an academic program emphasis.” Major means a curriculum component of an academic program intended to provide in-depth study in a discipline, a professional field of study or an occupation. A major may include an academic program emphasis. A major has a core of courses which are perceived to be the basic foundation courses of an academic area without which students would have difficulty continuing to learn or which provide an overview of the field;

An area of emphasis is defined as “a focused component of an academic program.” An emphasis is a focused component of an academic program. An emphasis is optional. It is not always necessary to create a new program to enhance or expand an area of knowledge. Sometimes it is best to build on an existing program by creating a curriculum emphasis within the program. Local descriptors such as options, tracks, concentrations, cognate areas, are the same as emphases. A substantial proportion of required core courses in the major are shared by all emphases. A separate program must be designed and approved when there is not a substantial shared base of core courses in the major or when external program accreditation is required.

Emphases may be included in the design of any program except those that lead to a certificate, an AFA or an AS award. The AA may have emphases which must be articulated to a baccalaureate degree, but the AA degree remains unnamed.

Electives, Electives may be restricted, unrestricted or general.

*Restricted electives* represent a narrow choice within the major or minor. Example: Chose one of the following three courses, or choice course A or course B. The term "or" is sometimes included in the text describing these electives.

*Unrestricted Electives* are also within the major or minor. Example: A Biology degree has 40 credits, there are 20 credits of specific courses, and 20 credits of any other biology courses, usually selected from a long list.

*General Electives* are degree requirements that are not part of a curriculum component. Example: Against a 120 credit degree, when general education is 40 credits, the major is 40 credits, a minor is 20 credits, the remaining credits can be taken in any department. Sometimes called "free" electives;

Internship or practica requirements within the major;

A capstone experience, thesis or performance requirement within the major.

A related area of knowledge such as supporting courses or a minor. A minor is defined in procedure as "a curriculum component of limited depth and/or breadth within a baccalaureate academic degree program." The content of a minor may or may not be related to the major.

### **Special Program Designs**

Individualized Degrees. In individualized degrees, curriculum is designed to specific needs of individuals. [See Appendix B: Individualized Degree Programs Guidelines]

Focused Area of Study within a Certificate. New procedures in 2007 allow for certificates to be offered in focused areas of study, in addition to those with an occupational outcome. [See Appendix C: Design Criteria for Certificates]

Combined Undergraduate and Graduate Degrees. In some fields of study academic programs are designed to transition students from undergraduate coursework to graduate coursework in the same degree, for example, engineering and accounting. Upon completion, students are awarded both degrees.

## ***APPENDIX A: AGREEMENTS***

Articulation Agreements. Articulated degrees allow students to transfer smoothly and efficiently from one type of award to another or from one level of program requirements to another. An “articulation agreement” is a formal agreement between two or more educational entities to accept credits in transfer toward a specific academic program. Copies of all articulation agreements must be filed with the system office for each award. Some examples of articulation arrangements:

- an emphasis in an associate in arts degree that must transfer to a specific baccalaureate degree,
- a complete associate in science or associate in fine arts degree (specific or broad field) that must transfer to a baccalaureate,
- an associate in applied science degree that may transfer to a bachelor in applied science degree.

Guidelines for preparing articulation agreements are available on the [MN Transfer](#) website. Complete the [Articulation Agreement Table](#) to show how courses will transfer from the college to the university program.

Collaborative Agreements. The system recognizes and encourages collaborative arrangements between system institutions. Partnerships and innovative delivery approaches may enhance program design and allow for greater diversity in the program array of an institution. They provide an opportunity for efficient and effective use of state and institutional resources and societal need for the program.

A “collaborative agreement” is a formal agreement between two or more parties, at least one of which is a system college or university, to co-deliver an academic program. One or more colleges or universities signing the agreement may confer the award. In some cases, a collaborative program may require review by the Higher Learning Commission.

The Office of the Chancellor encourages institutions to collaborate in the delivery of academic programs and/or degrees. To help institutional partners prepare comprehensive collaborative or consortial agreements, a [sample agreement](#) is available as a template.

### **GUIDELINES FOR WRITING COLLABORATIVE AGREEMENTS**

Collaborative agreements should include a general introductory statement that briefly outlines the history and rationale for developing the collaborative agreement, the names of participating institutions, and a brief description of the program/degree. The agreement should also include the following information:

#### ***General Information***

1. description of collaborative governance structures and confirmation that they have been implemented by all parties to the agreement;
2. description of curriculum and confirmation that internal faculty curriculum approval processes at all participating institutions have approved the curriculum;
3. description of fiscal arrangements agreed to;
4. description of student academic policies and procedures and confirmation that students in collaborative programs will be treated equally (e.g., regarding admission; grievances, transferability/non-transferability of credit between collaborating institutions).

#### ***Management of the Collaborative Agreement***

Collaborative agreements shall also include a description of the specific responsibilities of the members, including

1. the time period established for the agreement and members' commitments to participate for the duration;
2. the terms of participation, including process for entering and leaving the collaborative.
3. policies and procedures for periodic review and assessment of the agreement by its members;
4. statement recognizing and accepting differences in individual institutional policy and practice to accommodate the collaborative agreement;
5. formal endorsement by the presidents of all participating institutions;
6. description of plans for managing operational changes over time, e.g., if a course cannot be taught as scheduled.

***The office of the chancellor will require***

1. timely notification of any proposed changes to the collaborative agreement.
2. a review of the program(s) and the collaborative agreement after three years of operation

These guidelines are consistent with recommendations developed by the Higher Learning Commission in *Good Practices in Contractual Arrangements Involving Courses and Programs (1998)*.

## ***APPENDIX B: INDIVIDUALIZED DEGREE PROGRAM GUIDELINES***

### **Design Criteria for Undergraduate Individualized Programs Minnesota State Colleges and Universities**

Academic Programs Policy 3.36 and Procedure 3.36.1 define an academic program as follows:

"Academic program. Academic program means a cohesive arrangement of college level credit courses and experiences designed to accomplish predetermined objectives leading to the awarding of a degree, diploma, or certificate. Most academic programs include a general education component. The purpose of an academic program is to:

4. increase students' knowledge and understanding in a field of study or discipline,
5. qualify students for employment in an occupation or range of occupations, and/or
6. prepare students for advanced study."

Consistent with this definition, criteria for individualized programs have been developed around three curriculum designs: multidisciplinary, interdisciplinary and intradisciplinary.

The following program approval criteria are applicable to all individualized programs:

1. General structure of individualized programs shall be consistent with [Academic Programs Policy 3.36 and Procedure 3.36.1](#), including general education requirements.
2. Individualized programs may be designed for the following awards: Diploma, Associate in Applied Science, Associate in Science, and Baccalaureate.
3. Individualized programs will have the same title, Individualized Studies, and the same CIP code, 30.9999. Designation of an emphasis on the transcript is not permitted in individualized programs.
4. Curriculum designs may be one of three types: Multidisciplinary, Interdisciplinary and Intradisciplinary.
  - Multidisciplinary means coursework is in more than one discipline in unrelated areas, for example, biology and psychology.
  - Interdisciplinary means coursework is in more than one discipline, but the coursework is tied together thematically, for example, gerontological studies.
  - Intradisciplinary means coursework is all within the same discipline for example, computer science.
5. Individualized programs require a written program plan initiated by the student with guidance from a faculty member and approval consistent with college or university academic approval processes. Individualized program plans shall be kept on file.
6. Colleges and universities that want to offer individualized programs shall develop policies and procedures for awarding individualized programs. The policies and procedures shall be attached to applications for individualized programs.

**Individualized Program Design Criteria for Specific Awards**

		<b>Diploma</b>	<b>Associate in Applied Science</b>	<b>Associate in Science</b>	<b>Baccalaureate</b>
Credit Length		31-45	60	60	120
Curriculum Designs	Multidisciplinary	Minimum of 9 credits required in at least 2 unrelated areas of study	Minimum of 9 credits required in at least 2 unrelated areas of study	Minimum of 9 credits required in at least 2 unrelated areas of study	Minimum of 9 credits required in at least 3 unrelated areas of study
	Interdisciplinary	Minimum of 9 credits required in at least 2 thematically related areas of study	Minimum of 9 credits required in at least 2 thematically related areas of study	Minimum of 9 credits required in at least 2 thematically related areas of study	Minimum of 9 credits required in at least 3 thematically related areas of study
	Intradisciplinary	Minimum of 32 credits from one area of study	Minimum of 32 credits from one area of study	Not Applicable. Requirements defined by the articulation agreement	Minimum of 32 credits from one area of study
Transfer		An articulation agreement may be arranged	An articulation agreement may be arranged	An articulation agreement is required. Articulation with a system university is not required	A transfer agreement is not required

## ***APPENDIX C: DESIGN CRITERIA FOR CERTIFICATES***

**Definition of a Certificate.** "An undergraduate certificate may have an occupational outcome or address a focused area of study." [*Chancellor's Procedures, Academic Programs, Procedure 3.36.1* Adopted August 2007]

In addition to an occupational outcome, chancellor's procedures adopted in August 2007 allow for creation of certificates with a "focused area of study." The design of a certificate must be coherent, with explicit outcomes identified. The criteria below have been developed to clarify and interpret the purposes of a certificate.

A certificate program is designed to:

- Prepare individuals for employment, licensure or certification in an occupation (e.g., Carpentry Assistant, Wound Care Nurse, Microsoft Network Communication),
- Provide specialized, in-depth or advanced knowledge or skills in a focused area of study such as a discipline, field of study, profession, or occupation (e.g., American Indian Studies, American Sign Language, Advanced Collision Services, Supervisory Leadership)

A certificate program may not be primarily designed to:

- Explore careers,
- Introduce a discipline, field of study, occupation or industry,
- Meet general education requirements,
- Qualify graduates for entry into another program,
- Prepare individuals for entry into a baccalaureate or post-baccalaureate professional program, or
- Allow students to qualify for financial aid.

A certificate may include restricted electives, e.g., a choice between two or three courses related to the certificate's outcomes. A certificate may not include general electives.

An individualized studies certificate is not permitted.

A certificate title may include the word advanced.

These guidelines allow for certificates at a range of levels without creating a special category of "advanced certificates". Admission requirements to some certificates may include an expectation of previous knowledge or skill, a previous award, work experience or its equivalent. Requirements for entrance into certificates must be outlined in catalog copy to ensure the likelihood of student success. *Example:* Individuals working in the computer field might need to upgrade programming skills or explore new areas of knowledge such as computer security. The expectation can be that these individuals will have extensive prior experience, equivalent knowledge and/or have completed a previous award to successfully complete the certificate.

**APPENDIX D: ACADEMIC PROGRAM DESIGN AWARD ARCHITECTURE**

Title of Award	Award Length	General Education	Major <sup>1</sup>			Professional Education Courses	Free Electives	Optional Minor <sup>4</sup>
			Discipline/Technical/Occupational Field	Core <sup>2</sup>	Optional Emphases <sup>3</sup>			
<b>Certificate</b>	10-30	0-N	10-30	N/A	0-N		0-N	
<b>Diploma</b>	31-72	0-N	31-64	9-N	0-N		0-N	
<b>Associate in Applied Sciences (AAS)</b>	Minimum of 60	15-N	45-57	9-N	0-N		0-N	
<b>Associate in Science and Associate in Fine Arts (AS, AFA)</b>	Minimum of 60	30-N	30-N	N/A	0-N		0-N	
<b>Associate in Arts (AA)</b>	Minimum of 60	40-N	N/A	9-N	0-20			
<b>Baccalaureate</b>	Minimum of 120	40-N	32-80	Emphases/Electives 0-N			0-N	0-24
<b>Education Baccalaureate</b>	Minimum of 120	40-N	32-50	Emphases/Electives 0-N		30	0-N	minor 0, 18
<b>Graduate Certificate</b>	10-30		10-30	N/A	0-N	N/A		
<b>Master of Arts, Master of Science</b>	30-54		30-54	Emphases/Electives 0-N		N/A		
						N/A		
<b>Education Specialist</b>	Maximum 72, post-baccalaureate		N-72	Emphases/Electives 0-N		N/A		
<b>Doctorate</b>	Minimum 72, post-baccalaureate		72-N	N/A	Electives 0-N	N/A	N/A	

<sup>1</sup>Includes pre-requisites and co-requisites; program or discipline requirements may include 0-N credits of service courses, support courses, restricted electives, post-admission, pre-admission, internship, pre-requisites within or external to college/department.

<sup>2</sup>Required courses within a major or program. If there are no emphases or electives, every course in the core is required.

<sup>3</sup>Emphases, if any, are sometimes called options, tracks, concentrations or foci.

<sup>4</sup>Minors may be specified, restricted or open. The requirement of a minor is optional.