Addendum to the NASM Handbook 2011-12
National Association of Schools of Music
November 2012

The NASM Membership approved revisions to the *Handbook* set forth below during the First General Session – Plenary Business Meeting on Sunday, November 18, 2012.

BYLAWS

<u>NASM *Handbook 2011-12* – page 6</u>
Article I. Membership

Revise Article I., Section 2. as follows:

> **Section 2. Individual Members.** Musicians, educators, or other individuals who, through their teaching and professional activity or through their interest in accredited Membership for their institutions, who may both derive benefit from the Association and contribute to its effective operation, shall be accorded Individual Membership upon completion of the application process and payment of the membership fee.

STANDARDS FOR ACCREDITATION

<u>NASM *Handbook 2011-12* – pages 67-68</u>
Standard II. Purposes and Operations
F. Facilities, Equipment, Technology, Health, and Safety
I. Standards

Replace current Standard II.F.1.i. and the concluding note with the following:

i.   Students enrolled in music unit programs and faculty and staff with employment status in the music unit must be provided basic information about the maintenance of health and safety within the contexts of practice, performance, teaching, and listening.

For music majors and music faculty and staff, general topics include, but are not limited to, basic information regarding the maintenance of hearing, vocal, and musculoskeletal health and injury prevention. They also include instruction on the use, proper handling, and operation of potentially dangerous materials, equipment, and technology as applicable to specific program offerings or experiences. Beyond the provision of basic general information, and the identification of available resources, decisions regarding topic areas and breadth and depth are made by the institution, and normally are correlated with the nature, content, and requirements of specific areas of specialization or specific courses of study.

For non-majors enrolled in courses offered by the music unit, including performing ensembles, or other curricular offerings of the music unit, topics chosen in addition to the maintenance of hearing health are directly related to health and safety issues associated with their specific area of study or activity in music.

Music program policies, protocols, and operations must reflect attention to maintenance of health and injury prevention and to the relationships among: the health and safety of musicians; suitable choices of equipment and technology for various specific purposes; appropriate and safe operation of equipment

and technology; and the acoustic and other conditions associated with health and safety in practice, rehearsal, performance, and facilities.

Specific methods of providing information and addressing injury prevention, technology, and facilities are the prerogative and responsibility of the institution.

NOTE: Health and safety depend in large part on the personal decisions of informed individuals. Institutions have health and safety responsibilities, but fulfillment of these responsibilities cannot and will not ensure any specific individual's health and safety. Too many factors beyond any institution's control are involved. Individuals have a critically important role and each is personally responsible for avoiding risk and preventing injuries to themselves before, during, and after study or employment at any institution. The NASM standards above and applicable guidelines below, and institutional actions taken under their influence or independently do not relieve the individual from personal responsibility for appropriate, prudent, and safe behavior or action, nor do they shift such responsibility and liability for the consequences of inappropriate, imprudent, and/or unsafe behavior or action in any instance or over time to any institution, or to NASM.

NASM *Handbook 2011-12* – page 68
Standard II. Purposes and Operations
F. Facilities, Equipment, Technology, Health, and Safety
2. Guideline and Recommendations

Replace current Standard II.F.2., items c., d., and e., with the following:

c. Normally, institutions or music programs (1) have policies and protocols that maintain strict distinctions between the provision of general musicians' health information in the music program, and the specific diagnosis and treatment of individuals by licensed medical professionals and (2) identify for the benefit of students and other personnel as appropriate or as requested, resources that will enable them to make contact with such professionals for specific treatment or other medical care.

d. Normally, institutions and music programs develop their specific methods for addressing the maintenance of health and safety in consultation with qualified professionals, for example, licensed medical personnel and/or authoritative sources providing information to students and faculty regarding the maintenance of professional health and the prevention of performance injuries.

NASM *Handbook 2011-12* – page 89

Standard IV. Undergraduate Programs in Music
C. Degree Structures
2. Majors, Minors, Concentrations, and Areas of Emphasis

Add new Standard IV.C.2.f. as follows:

f. Some institutions offer non-degree-granting certificate programs that function to provide areas of emphasis or concentrations for students already candidates for undergraduate degrees in music at the institution. In such cases, the standards listed above regarding emphases or minors apply. Curricular standards for certificate programs serving other purposes and functions are outlined in Sections XVII., XVIII., XIX., and XX. As standards applicable to all programs indicate, the specific purposes, structure, admission requirements, and certain other operational and curricular aspects of certificate programs of any type must be clear in published materials.

Standard IX. Specific Professional Baccalaureate Degrees in Music
E. Bachelor of Music in Sacred Music

Revise entire Section IX.E. (to become IX.H.)

H. **Bachelor of Music in Sacred Music**

> Please see also Appendix I.C.: Standards and Guidelines for Degrees in Sacred Music and Music-Based Worship Studies.

The Bachelor of Music in Sacred Music is a professional undergraduate degree in music intended to prepare professional musicians for work in religious settings. The title encompasses many types of programs with sacred music, music, and general studies in proportions consistent with the degree structure described below. While all such degrees must fulfill general requirements for professional preparation, specific program purposes may vary. Thus requirements for entry, continuation, and graduation may vary. Basic standards concerning relationships between purposes and other program elements are found in Section IV.A.

Titles used to designate the major may include, but are not limited to, *Sacred Music, Church Music, Music and Worship, Worship Leadership,* and *Music Ministry.*

1. **Curricular Structure**

    a. **Standard.** Curricular structure, content, and time requirements shall enable students to develop the range of knowledge, skills, and competencies expected of those holding a professional baccalaureate degree in sacred music as indicated below and in Section VIII.

    b. **Guidelines.** Curricula to accomplish this purpose that meet the standards just indicated normally adhere to the following structural guidelines: study in the major area, including service leadership, music in worship, performance, improvisation, conducting, and arranging and/or composing should comprise 25-35% of the total program; supportive courses in music (including basic musicianship studies and competencies in Section VIII.B.), 25-35%; general studies, 25-35%. Studies in the major area and supportive courses in music normally total at least 65% of the curriculum. See Section III.C. regarding forms of instruction, requirements, and electives.

2. **Specific Recommendations for General Studies.** Studies in theology, comparative religion and liturgies, and religious history; other art forms; and other branches of historical or philosophical inquiry are particularly appropriate.

3. **Essential Competencies, Experiences, and Opportunities** (*in addition to those stated for all degree programs*):

    a. Comprehensive capabilities in the elements of sacred music, including the ability to:

        (1) lead ensembles and congregations;

        (2) perform, improvise, and conduct at the highest possible level(s) as appropriate to the area of specialization;

        (3) demonstrate competency in one or more secondary areas of performance as appropriate to the area of specialization; and

        (4) arrange and/or compose consistent with the purposes of the program.

    b. An understanding of musical religious practice including music in worship, orders of worship, repertories, congregational song, and service design, and of music administrative structures, practices, and procedures.

c. An understanding of how other disciplines are related to the practice of sacred music. Consistent with the purposes of the program, these may include, but are not limited to, other art forms, technologies, media, and the relationships between sacred music and the music of general culture.

d. At least one public demonstration of competence in music leadership and/or solo performance or composition. While these functions may be fulfilled in a variety of ways, a senior recital or a project involving similar length, engagement, and level of musical presentation is required.

e. Practicum opportunities within or beyond the institution that lead to demonstrations of competency to work in the field of sacred music. While these functions may be fulfilled in a variety of ways, an internship or similar formal experience is strongly recommended.

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Standard IX. Specific Professional Baccalaureate Degrees in Music

Add new Section IX.I.: The Bachelor of Music in Worship Studies (and re-letter the sections that follow accordingly).

I. **Bachelor of Music in Worship Studies**

> Please see also Appendix I.C.: Standards and Guidelines for Degrees in Sacred Music and Music-Based Worship Studies.

The Bachelor of Music in Worship Studies is a professional undergraduate degree in music. In contrast to the Bachelor of Music in Sacred Music, it includes a specific, significant designated component in worship or theological studies that may be music-related but are not sufficiently music-centered to be designated music studies or courses. It is structured consistent with standards in Section IV.C.6.b.(2) and (3).

Titles for degree programs of this type include, but are not limited to, *Bachelor of Music in Worship Studies, Bachelor of Music: Emphasis in Worship Studies, Bachelor of Music: Elective Studies in Theology,* and *Bachelor of Music in Ministry Studies.* For all of these titles, the degree and the terms used to designate the major or emphasis encompass music, associated religious studies, and general studies in proportions consistent with the degree structure described below. As is the case for all programs, titles must be consistent with content.

1. **Curricular Structure**

    a. **Standard.** Curricular structure, content, and time requirements shall enable students to develop the range of knowledge, skills, and competencies expected of those holding a professional baccalaureate degree in music with a designated component in worship studies as indicated below and in Section VIII.

    b. **Guidelines.** Curricula to accomplish this purpose that meet the standards just indicated normally adhere to the following structural guidelines: studies in music, including acquisition of the common body of knowledge and skills in Section VIII.B., and music-centered studies in or associated with service or worship and organizational leadership, normally comprise at least 50% of the total program; studies in worship practices, theology, ministry or similar subjects that are not music-centered but may be music-related, 15-20%, general studies, 30-35%.

2. **Specific Recommendations for General Studies.** Religious history, comparative religion and liturgies, other art forms, media and communications, philosophy, sociology, and general history are particularly appropriate.

3. **Essential Competencies, Experiences, and Opportunities** *(in addition to those stated for all undergraduate professional degree programs)*

    a. Comprehensive capabilities to provide music-based leadership in religious institutions and settings, including the ability to:

(1) Conceive, organize, and lead musical performances and experiences in congregational or worship settings.

(2) Perform, improvise, and conduct at a high level; irrespective of the primary area of performance, functional performance abilities in keyboard and voice are essential.

(3) Arrange and/or compose consistent with the purposes of the program.

(4) Develop choral and instrumental ensembles.

(5) Employ media and technologies in developing and producing music and worship experiences.

b. An understanding of musical religious practice including music in worship, orders of worship, repertories, congregational song, and service design, and of music administrative structures, practices, and procedures.

c. Knowledge in one or more fields of religious studies as determined by the institution, including but not limited to fields such as theology, sacred texts, worship studies, ministry studies, and liturgy.

d. At least one public demonstration of competence in music leadership and/or solo performance or composition. Competence may be demonstrated in a variety of ways, including but not limited to a single event or series, or through one or more than one type of public presentation. Normally, requirements include public demonstration in at least one extended worship setting. A senior recital or project is essential; specific elements and requirements are established by the institution. Though not necessarily the same in form, content, or presentation sequence, senior projects must be functionally equivalent to a senior recital in terms of composite length, engagement, and level of musical presentation.

e. Practicum opportunities within or beyond the institution that lead to demonstration of competency to provide leadership as a musician in the field of worship. While these functions may be fulfilled in a variety of ways, an internship or similar formal experience is strongly recommended.

NASM *Handbook 2011-12* – pages 113-114

Standard IX. Specific Professional Baccalaureate Degrees in Music

L. Baccalaureate Degree in Music Education *(to become item O.)*

3. Desirable Attributes, Essential Competencies, and Professional Procedures

c. Specialization Competencies

Amend item (2)(c) as follows:

(c) Experiences in solo vocal performance and in ensembles. Ensembles should be varied both in size and nature.

Amend item (3)(c) as follows:

(c) Experiences in solo instrumental performance and in ensembles. Ensembles should be varied both in size and nature.

Amend item (4)(d) as follows:

(d) Experiences in ensembles. Ensembles should be varied both in size and nature.

Amend item (5), first paragraph, by adding "music in multimedia" to the sample list of combination areas, to read as follows:

(5) Specific Music Fields or Combinations. Listed below are essential competencies and experiences for music teaching specialization(s) focused on either one or a combination of areas such as composition, electronic and computer music, ethnic music, guitar, small ensembles, jazz, keyboard, orchestral music, music history and theory, music in combination with other disciplines, music technologies, music in multimedia, and popular music; or combinations of one or more of these types of content with aspects of the general, vocal/choral, or instrumental specializations:

NASM *Handbook 2011-12* – page 126
Standard XIV. Specific Master's Degrees
B. Practice-Oriented Degrees
8. The Master's Degree in Sacred Music

Replace current Standard XIV.B.8. with the following:

8.   The Master's Degree in Sacred Music

Titles used to designate the degree may include, but are not limited to, *Church Music, Music and Worship, Worship Leadership, Music Ministry, and Ministry Studies.*

a.   Depending on the area of specialization, students demonstrate advanced competencies in sacred music, including but not limited to areas such as leadership, conducting, and performance; literature and hymnology; worship practices; composition, improvisation, or arranging; and supervised apprenticeship. Studies in these areas comprise as much as two-thirds or at least one-third of the total curriculum.

b.   Students gain knowledge and skills in one or more fields of music outside the major such as voice, service instruments, choral ensemble, music technology, music education, pedagogy, theory and analysis, musicology and ethnomusicology. Such supportive studies in music that broaden and deepen musical competence comprise at least one-third of the total curriculum.

c.   As a culminating demonstration of professional capability in the major field of sacred music, the student must present a public recital or a comparable musical presentation or project as a demonstration of musical competence in performance or musical leadership. If consistent with program purposes, a Master's thesis may substitute for or supplement the culminating recital, project, or presentation.

NASM *Handbook 2011-12* – page 138
Standard XXI. Specific Operational Standards for All Institutions of Higher Education
     for which NASM is the Designated Institutional Accreditor
Section 1. Standards for Accreditation

Amend item C. as follows:

C.   Finances

1.   Operation

a.   The institution must demonstrate that tuition and other fees are reasonable and appropriate in relation to subject matters taught; to goals, objectives, and time requirements of the degrees, credentials, or programs offered; and to any other relevant variables.

b.   The institution must conduct an annual financial review resulting in an annual audit with opinion prepared by an independent certified public accountant. The annual audit must be completed within 180 days after the close of each fiscal year.

c.   If the institution supplements tuition revenue with contributions private or public or earnings from endowment, evidence must be provided that there are appropriate policies, plans, procedures, and volunteer and/or professional resources to generate sustainable non-tuition revenue sufficient for the needs of the school.

2. **Review Protocol**

With regard to institutions for which regional accreditation is not available, for the purpose of evaluating the financial stability and business policies of the institution, at least one member will be added to each NASM visiting team. This member shall have expertise and experience in the management, operation, and assessment of financial practices, and in cooperation with other members of the team, be responsible for reviewing the practices and sufficiency of financial resources of the institution.

NASM *Handbook 2011-12* – page 142
Standard XXI. Specific Operational Standards for All Institutions of Higher Education
for which NASM is the Designated Institutional Accreditor
Section 1. Standards for Accreditation

Add new item H. as follows:

H. **Publication of Articulation Agreements**

In addition to the requirements of Section III.A.4., the institution must make readily available to enrolled and prospective students a list of any institutions with which the institution has established an articulation agreement.

Reletter current Sections H. and I. to I. and J.

NASM *Handbook 2011-12* – page 144
Standard XXI. Specific Operational Standards for All Institutions of Higher Education
for which NASM is the Designated Institutional Accreditor
Section 2. Procedural Requirements

Revise item D. as follows:

D. **Starting a Branch Campus or Similar Entity**

1. If an accredited institution for which NASM is the designated institutional accreditor plans to establish a new branch campus, or similar entity that functions in the same manner, in the U.S. or elsewhere, that offers postsecondary and/or professional level degrees or non-degree-granting programs in music, the following materials must be submitted at least six months prior to the opening of the branch:

    A. A business plan. At minimum, the business plan must contain a complete description of:

        (1) The educational program to be offered at the branch campus.

        (2) The projected revenues and expenditures and cash flow at the branch campus.

        (3) The operation, management, and physical resources at the branch campus.

        At the same time, the institution must provide:

        (4) Information showing the financial relationship of the branch to the main campus.

        (5) The most recent audited financial statement of the institution.

    B. Information in the standard NASM format which demonstrates compliance with operational standards, applicable curricular standards, and as applicable, Standards for Institutions of Higher Education for which NASM is the Designated Institutional Accreditor, and Specific Operational Standards for Proprietary Institutions of Higher Education.

2. Within six months of the opening of a branch campus or similar entity, the branch must schedule a visit and host a team of NASM visiting evaluators.

3. Approval of the branch campus and its operations will depend upon the institution's demonstration that it meets requisite NASM standards applicable to the programs it offers and the operations that support those programs.

NOTE: *If the proposed branch campus offers types of music programs under the purview of NASM other than those listed in item D.1. above, the review of those programs is conducted under provisions of Article V., Sections 1., 2.H., and 3. of the Rules of Practice and Procedure.*

NASM *Handbook 2011-12*
Appendices

Add new Appendix I.C. as follows:

APPENDIX I.C.

STANDARDS AND GUIDELINES FOR DEGREES IN SACRED MUSIC AND MUSIC-BASED WORSHIP STUDIES

Section 1. General Information

A. Introduction. Musicians with career aspirations as musicians, choir and ensemble directors, worship leaders, or music technicians within religious organizations and settings face a wide variety of education and training choices and sequences to prepare them for their career. These include, but are not limited to, degree programs, private study, individually directed development, work experience, practicum and internship experiences, and various combinations thereof.

B. Appendix Purpose and Institutional Purposes. This appendix provides information regarding the various frameworks for formal postsecondary studies that combine music, sacred music, and religious subjects in requirements for various types of degrees that are centered in music. Within these frameworks, institutions develop specific degree programs based on their specific purposes.

C. Content Categories. Institutions have many options for establishing goals for curricula and coursework as they fulfill their specific purposes. Subject areas from which choices are made include, but are not limited to, the following: musicianship; music performance, conducting, composition, theory, history, education, technology and other specializations; music in religious settings; religious studies and practices; associated fields in the arts, humanities, and technology; and general studies.

D. Institutional Content Choices. Each institution makes specific curricular content choices. These choices include, but are not limited to, what subjects are to be studied, the amount of time and emphasis each is given, the levels of achievement expected in specific subject and content areas, the relationships among required subject and content areas, and the competency expectations for graduation.

E. Institutional Content Choices, Degrees, and Titles. Curricular content choices determine the nature and type of degree offered and how the degree is titled. There must be functioning relationships among purposes, structure and content; and, degree titles, and designations of majors, minors, and areas of emphasis must be consistent with content, including graduation competency expectations. See NASM *Handbook,* Standards for Accreditation, Sections II.I. and IV.C.

F. NASM Standards. NASM standards provide a framework within which many different sets of purposes, structures, content choices, degrees, and titles can be pursued and used. Each specific set is related to a specific set of standards. All appropriate standards applicable to a particular purpose and its associated content, degree, and title choices must be met. All degree programs must meet standards applicable to their type as outlined in the NASM *Handbook*, Standards for Accreditation, Sections II. through XX.

Locations of the most fundamental curricular standards applicable to programs involving studies in music, sacred music, and religious studies are provided below in Sections 2. through 5. of this Appendix.

G. Music-Centered Content. NASM standards distinguish between music-centered content and other content. Music degrees include significant knowledge and skill-building studies in music-centered content in areas such as music creation, performance; theoretical, historical, and analytical study; and teaching. There is a distinction between music-centered content and other types of content in worship, theological, ministry or related fields that may be essential to an overall program of study or be music related, but are not sufficiently music-centered to be designated music studies or courses.

H. Music-Centered Degrees and Other Degrees. NASM supports the inclusion of music requirements or opportunities for music electives in degrees with majors in areas such as theology, ministry, and religious studies. However, these degrees are not music degrees, nor does their content provide or require the knowledge and skill development expected of those holding music degrees.

Section 2. Undergraduate Degree Types and Standards

A. Associate Degrees in Music. Usually titled *Associate of Arts* or *Associate of Science.* Specific structural and curricular standards for associate degrees are found in Section VI. as guided by the general structural standards for all undergraduate degrees in Section IV. Institutions offering programs intended to transfer to a professional baccalaureate degree in sacred music or worship studies must use the Common Body of Knowledge and Skills under Section VIII.B. and standards for the appropriate major under Section IX.E. or [proposed] Section IX.F.

B. Baccalaureate Degrees in Music

1. **Liberal Arts Degrees.** Usually titled *Bachelor of Arts in Music* or *Bachelor of Science in Music*. Specific structural, curricular, and content standards for liberal arts degrees in music are found in Section IV. 1. through 4. and Section VII. These standards encompass liberal arts degrees in music with elective or required content in sacred music, worship studies, and other religious studies. Required content in such areas is normally structured as a minor, concentration, or area of emphasis within the music major.

   If applicable to an institution's programs, (a) various structures for combining a liberal arts major in music with studies in related or outside fields—elective study, specific emphasis or minor, double major—are found in Section IV.C.6.a., (b) definitions of and standards for multidisciplinary degrees are found in Section III.I.

   Standards regarding the relationship between time distributions within degree programs and degree integrity are found in Section IV.C.1.c.(1).

2. **Professional Degrees.** Usually titled *Bachelor of Music*. Specific structural and curricular standards for all professional degrees in music are found in Section IV.1., 2., 3., and 5., and Sections VIII. and IX. Section VIII.B. and C. includes the common body of knowledge and skills, and results expected of all students graduating with such degrees.

   Each professional degree has an area of specialization. Section IX. contains standards for these specializations including (a) the major in sacred music or (b) the music-centered major in worship studies. These standards are also provided in Sections 3. and 4. of this appendix.

   If applicable to an institution's programs, (a) various structures for combining a professional degree in music with studies in related or outside fields—elective study, specific emphasis or minor, elective studies in a specific outside field, double majors, and the Bachelor of Musical Arts degree—are found in Section IV.C.6.b., (b) definitions of and standards for multidisciplinary degrees are found in Section III.I.

   Standards regarding the relationship between time distributions within degree programs and degree integrity are found in Section IV.C.1.c.(1).

Section 3. Bachelor of Music in Sacred Music

The Bachelor of Music in Sacred Music is a professional undergraduate degree in music intended to prepare professional musicians for work in religious settings. The title encompasses many types of programs with sacred music, music, and general studies in proportions consistent with the degree structure described below. While all such degrees must fulfill general requirements for professional preparation, specific program purposes may vary. Thus requirements for entry, continuation, and graduation may vary. Basic standards concerning relationships between purposes and other program elements are found in Section IV.A.

Titles used to designate the major may include, but are not limited to, *Sacred Music, Church Music, Music and Worship, Worship Leadership,* and *Music Ministry.*

> Please refer to Section IX.H. of the Standards for Accreditation regarding specific NASM standards and guidelines for the professional undergraduate degree in Sacred Music.

Section 4. Bachelor of Music in Worship Studies

The Bachelor of Music in Worship Studies is a professional undergraduate degree in music. In contrast to the Bachelor of Music in Sacred Music, it includes a specific, significant designated component in worship or theological studies that may be music-related but are not sufficiently music-centered to be designated music studies or courses. It is structured consistent with standards in Section IV.C.6.b.(2) and (3).

Titles for degree programs of this type include, but are not limited to, *Bachelor of Music in Worship Studies, Bachelor of Music: Emphasis in Worship Studies, Bachelor of Music: Elective Studies in Theology,* and *Bachelor of Music in Ministry Studies.* For all of these titles, the degree and the terms used to designate the major or emphasis encompass music, associated religious studies, and general studies in proportions consistent with the degree structure described below. As is the case for all programs, titles must be consistent with content.

> Please refer to Section IX.I. of the Standards for Accreditation regarding specific NASM standards and guidelines for the professional undergraduate degree in Worship Studies.

Section 5. Graduate Degrees

1. **Master's Degrees.** Standards for master's degrees are found in Sections XII. and XIV.A. Standards for the practice-oriented master's degree in Sacred Music are found in Section XIV.B.8.

2. **Doctoral Degrees.** Standards for doctoral degrees are found in Section XVI. A., B., C., and D.1., 2., 3. Standards for the doctoral degree in Sacred Music are found in Section XVI.D.4.h.

NASM *Handbook 2011-12* – Appendices

Add new appendix as follows:

APPENDIX I.H.

STANDARDS AND GUIDELINES FOR STUDIES IN MUSIC TECHNOLOGY

National Association of Schools of Music

Note: The standards and guidelines below address curricular programs that constitute areas of emphasis, minors, majors, or their equivalents in the field of music technology. They supplement standards and guidelines applicable to music technology and all other curricular programs in Sections I. through XXII. of the Standards for Accreditation applicable to accredited institutional membership in NASM.

Note: In this appendix, the word "Section" refers to a specified portion of the Standards for Accreditation in the NASM Handbook. When a Roman numeral follows "Section," the reference is found among items I. through XXII.,

and not in the appendices. When an Arabic number follows "Section," the reference is found within this appendix, unless another appendix is specified.

APPENDIX OUTLINE

Section 1. General Information
- A. Music Technology
- B. Scope of Music Technology
- C. Pathways to Competency
- D. Appendix Purpose and Institutional Purposes
- E. Institutional Content Choices
- F. Institutional Content Choices, Degrees, and Titles
- G. NASM Standards
- H. Music-Centered Content
- I. Music-Centered Degrees and Other Degrees

Section 2. Definitions, Concepts, Applicability, Content Relationships
- A. Definitions
- B. Music Technology Curricular Content Categories
- C. Levels of Institutional Engagement
- D. Applicability of Music Technology Standards
- E. Music Technology and Other Music-Centered or Music-Based Content
- F. Music Technology and Technology-Centered Content
- G. Music Technology, Computer Science and Engineering, and Research
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Section 3. Curricular Programs in Music Technology
- A. Content, Titles, Terminologies, and Program Description
- B. Curricular Components
- C. Music Technology Competency Development Choices, Proportions, and Curricular Structures
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Section 4. Standards for Specific Curricular Programs
- A. All Music Technology Curricular Programs
- B. Undergraduate Liberal Arts Degrees with a Major in Music Technology
- C. Bachelor of Music in Music Technology
- D. Graduate Curricular Programs in Music Technology

Section 5. Operational Standards for Music Technology Curricular Programs
- A. Instructional and Technical Personnel
- B. Resources and Delivery Systems
- C. Coordination

Section 1. General Information

A. Music Technology

Music technology as a field of study and practice is characterized by integrations and fusions of musical and technological knowledge and skills to produce work for various artistic, commercial, research, educational, and other purposes. Music technology as a term may refer to basic uses of software and other technologies in music applications, or to the inclusion of music in technological applications. As an artistic and academic discipline and as a professional field of practice, music technology encompasses such basic uses or inclusions but only as one of many starting points for pursuing the synthesis of music and technology at advanced levels.

Information regarding distinctions and relationships between programs in music technology and programs in areas such as recording technology, music composition, sacred music, music industry, etc., is located in Section 2.E. below.

B.   Scope of Music Technology

The field of music technology is large; its scope, broad with many sectors and specializations. As noted, work in music technology has applications in and contributes to artistic, commercial, research, pedagogical, and other areas of musical endeavor. It also has applications in connecting these musical endeavors to each other, to other endeavors in the arts, sciences, humanities, business, and to the further development of technology. The field of music technology is dynamic. It evolves with changes in and also influences the evolutions of music and technology. Consistent with the nature and scope of the field, the standards below are intended to provide a foundation for creative action and supportive environments in institutions offering a wide variety of curricular programs in music technology.

C.   Pathways to Competency

Competencies and proficiencies in music technology may be gained in many ways. These include, but are not limited to, degree programs, apprenticeships, individually directed development, work experiences, and practicum and internship experiences. This Appendix focuses on those pathways that can be defined as organized curricular programs offered by institutions of higher education with specific competency development and completion requirements. Other pathways are respected but not considered in terms of standards and guidelines below.

D.   Appendix Purpose and Institutional Purposes

This Appendix provides information regarding various frameworks for postsecondary curricula that combine music and technology in requirements for various types of degrees or programs that are centered in music. Within these frameworks, institutions develop specific degrees or programs in one or more aspects of music technology based on their specific purposes.

E.   Institutional Content Choices

Each institution makes specific curricular content choices. These choices are to be consistent with purposes; they include, but are not limited to, what subjects are to be studied, the amount of time and emphasis each is given, the levels of achievement expected in specific subject and content areas, the relationships among required subject and content areas, and the competency expectations for graduation.

F.   Institutional Content Choices, Degrees, and Titles

Curricular content choices determine the nature and type of degree offered and how the degree is titled. There must be functioning relationships among purposes, structure and content, and degree titles; and designations of majors, minors, and areas of emphasis must be consistent with content, including graduation competency expectations. See Standards for Accreditation, Sections II.I. and IV.C., and Sections 3.C., D. and 4. of this Appendix.

G.   NASM Standards

NASM standards provide a framework within which many different sets of purposes, structures, content choices, degrees, and titles can be pursued and used. Each specific set is related to a specific set of standards. All appropriate standards applicable to a particular purpose and its associated content, degree, and title choices must be met. All degree programs must meet standards applicable to their type as outlined in the NASM *Handbook*, Standards for Accreditation, Sections II. through XXII.

Locations of the most fundamental curricular standards applicable to programs involving studies in music, music technology, and technological studies are provided below in Sections 3. and 4. of this Appendix.

H. Music-Centered Content

NASM standards distinguish between music-centered content and other content. Music degrees and programs include significant knowledge and skill-building studies in music-centered content in areas such as music creation, performance; repertories and genres; theoretical, historical, and analytical study; and teaching. Music technology is associated with these and other music-centered content areas; often it and its component disciplines are themselves music-centered content areas. However, there is a distinction between music-centered content and other types of content in technology and related fields that may be essential to an overall program of music technology study or be music-related in some way, but are not sufficiently music-centered to be designated music studies or courses.

I. Music-Centered Degrees and Other Degrees

NASM supports the inclusion of music (including music technology) requirements or opportunities for music electives in degrees with majors in areas such as technological studies, computer science, and engineering. However, these degrees are not music degrees, nor does their content provide or require the knowledge and skill development expected of those holding music degrees.

Section 2. Definitions, Concepts, Applicability, Content Relationships

A. Definitions

For the purposes of this Appendix, the following definitions apply:

1. **Music Technology** refers to the field identified by its focus on integrations and fusions of music and technology as each is defined below. These integrations and fusions normally manifest themselves in work that creates in or supports one or more areas of musical endeavor. Such music-centered work includes, but is not limited to, production, recording, manipulation, systems design, installation, software and hardware development, and the wide variety of audio fields such as concert and event, film, game, and audio design.

   For lists of competencies that further define music technology, see Section 4.C.2.a.b.

   The use of technological means is central to music technology, but abilities to use hardware, software, and other technologies associated with music technology do not automatically or necessarily indicate competency in music technology. Technological knowledge is not conflated with general or specialized artistic and musical knowledge. The reverse is also true.

   Music technology work may stand alone or be incorporated into a product or project involving one or more artistic forms (e.g. concerts, opera, interactive media, plays, dance performances, films), including development of materials for and uses of the Internet, electronic media, and various networks.

2. **Technology**, singular or plural, encompasses all types of technology—current, past, and future. However, most uses in this Appendix refer to electronic, digital, and/or emerging technologies used as a means of producing musical or music-associated work.

3. **Music** encompasses the many areas of musical action, including their specializations, and the manifestations, practices, and futures-oriented developments associated with those specializations.

4. **Performance** encompasses traditional performance areas; performance using established or experimental technology in traditional and nontraditional applications; and performance integrated with composition/improvisation.

5. **Production** includes both means and finished work in some aspect of music technology.

6. **Curricular Program** indicates a set of courses, projects, or other published requirements for a degree, certificate, diploma, major, minor, area of emphasis, etc. The integrative nature of the field and requirements for professional practice in one or more areas of focus produce competency development expectations for each curricular program.

7. **Area of focus** indicates one of the several areas of music technology work and service chosen as a primary focus in a course or curricular program or project. Areas of focus in music technology include, but are not limited to, manipulation and recording of sound, live performance, electroacoustic production, live electronics, audio in its multiple forms (film, game, video, concert and event, audio design, etc.), music pedagogy, research, equipment design and installation, and the development of computer-based tools for music production. A choice regarding area(s) of focus does not preclude attention to other areas of music technology in the curriculum.

B. **Music Technology Curricular Content Categories**

Curricular programs in music technology address content in areas that include, but are not limited to, the fields of music; technology; music technology; and science, engineering, and math. The breadth, depth, and proportions of specific competency development requirements in these areas vary according to program purposes, including area(s) of focus. However, all such programs are characterized by creative integrations of music and technological knowledge and skills to fulfill a music or music-related purpose. See Section 3.B. and Section 4.

C. **Levels of Institutional Engagement**

Institutions have many choices about levels of engagement with music technology either in terms of basic applications and inclusions normally addressed in courses, or as a field or discipline normally addressed in curricular programs. They also have many choices regarding the specific focus of each course or curricular program and for establishing a set of competency development requirements consistent with course objectives or curricular program goals. These decisions are the prerogative of each institution. However, each decision about level and type of engagement produces its own set of necessities for success and its own set of relationships with applicable NASM standards.

D. **Applicability of Music Technology Standards**

The standards below are the basis for accreditation documentation and Commission review when music technology as defined above, has a curricular presence and is specifically designated:

1. As a minor or area of emphasis within a music degree or non-degree granting music program.

2. As the major in a music degree on non-degree granting music program.

3. As a first or second major in a double-major program.

4. As a primary component in a degree or non-degree granting music program featuring disciplines in combination that require a music major or at least 25% studies in music.

5. As the primary content of a course, normally only in terms of the relationship of that course to overall curricular structure, or to title/content consistency and other issues of program functionality and public information.

A short applicability test: Yes, if a curricular program is focused on the field of music technology. Yes, if a curricular program focused on music plus a curricular program in the field of music technology. No, if studies in a particular area of music plus studies in technology that may address elements of music technology, but that are not combined or integrated as indicated in the definition of music technology in Section 2.A.

E. **Music Technology and Other Music-Centered or Music-Based Content**

1. Programs focused in such areas as music composition (Section IX.C.), jazz studies (Section IX.F.), music education (Section IX.L.), sacred music (Section IX.E.) and music industry (Appendix I.E.) structured to meet standards in previous sections of the NASM *Handbook* are not considered, titled, or reviewed as majors in music technology, even though they may require the use of music technology or music technology content. The reciprocal also applies to programs structured and titled "music technology."

2. Professional degree programs focused on recording technology structured to meet the standards in Appendix I.G. of the NASM *Handbook* are not considered, titled, or reviewed as majors in music technology. The same principles regarding consideration, titles, and review apply to other single areas of focus in the field of music technology. Music technology programs may include studies in recording technology, along with other music technology subjects, for example see Section 4.C.2.b.(1). Such majors in music technology must meet the curricular standards in Sections 4.A. and C. below, the operational standards in Section 5. below, and fulfill the purpose, content, and requirements of the program consistent with its title as required in Section 3. below.

3. Various specializations within the field of music technology have natural relationships with the field of music industry. Curricular programming focused and titled as a curricular program in music technology or in music industry may have requirements or elective opportunities in the other area. These requirements or opportunities must preserve the relationships among purpose, content, title, and competency development expectations of each specific curricular program whether focused or titled in music technology or in music industry.

4. Curricular programs in various specializations, including but not limited to those listed in E.1. and 2. immediately above, may provide the preparation necessary to bring specialist expertise to teams that create and produce music technology work, irrespective of the inclusion of specific curricular program requirements in music technology. However, the music technology title or designation is appropriate only for programs or courses with a specific focus on the field of music technology. Titles and designations are based on what programs prepare students to do immediately upon graduation or completion, not how graduates apply or evolve their knowledge and skills to contribute to various forms of work later in their careers.

F. **Music Technology and Technology-Centered Content**

Knowledge and skills in technological subjects are essential aspects of music technology, but they alone do not constitute the whole. The institution must clearly differentiate (1) the acquisition of software capability or general understanding or more advanced knowledge and skills in one or more technologies potentially applicable to music technology from (2) mastery of the broader competencies associated with various professional practices in the creation and production of work in music technology.

G. **Music Technology, Computer Science and Engineering, and Research**

Curricular programs in music technology and other types of music technology content are natural partners with curricular programs in Computer Science and Engineering. These combinations are natural resources for various kinds of innovation-oriented research and development beneficial to the fields and work of all participants. Institutions control the purposes, organization, and management of such combinations, making choices among myriad possibilities for coordination.

Standards regarding relationships and distinctions between the accreditation of curricular programs in music and in engineering (ABET) are found in Appendix I.F. Operational standards and guidelines related to coordinated programs from a music technology perspective are found in Section 5. below.

H. Music Technology, Humanities and Social Science Scholarship, and Research

Some courses or curricular programs may address the field or discipline of music technology from a humanities or social science perspective. Music technology scholarship and research must be clearly delineated by title and description from those that are practice- or performance-based. "Music technology studies" may be appropriate to designate curricular programs. Curricular programs with such a focus are not appropriate for a professional practice-oriented degree, such as the Bachelor of Music in Music Technology or the Bachelor of Music with an Emphasis in Music Technology. Curricular programs that are rooted in humanities or social science perspectives are naturally suited to liberal arts degree programs and research-oriented graduate programs, and to the systems of academic research and scholarship associated with these perspectives.

Consistent with curricular program purposes and the standards in Section 4., content, courses, or electives in music technology scholarship and research as described in this section are appropriate in production-oriented undergraduate music technology degrees; and production-oriented content, courses, and electives are appropriate in humanities- and social science-based music technology degrees.

I. Music, Music Technology, and Arts/Design-Centered Multidisciplinary Multimedia

Music and music technology may participate in creative work featuring convergences among two or more arts/design disciplines and digital and emerging technology.

Music technology programs may provide an introduction to this work. However, there is a distinction between curricular programs centered in music technology and a multi-arts/design program centered in creative multidisciplinary convergence and technologies.

Section 3. Curricular Programs in Music Technology

A. Content, Titles, Terminologies, and Program Description

For each music technology curricular program offered by an institution, there must be consistency among content, title, terminology, and program descriptions, and any other information provided to students and the public.

1. Content

As noted, music technology refers to a specific field of integrative work involving music that is enabled by and manifested through applications of digital and other technologies. Curricular programs in music technology address knowledge, understanding, and skill development in music, technology, and music technology, and in integrations associated with and essential to work in the field of music technology.

The presence of courses that make connections among musical practices and various types of technology do not necessarily indicate the presence of a curricular program in the integrative field of music technology.

For curricular programs, required curricular content linked to competency development expectations are the primary determinants of (a) whether or (b) the extent to which a program is centered in music technology, and (c) what the answer reveals about consistency among titles, terminologies, and program descriptions.

2. **Titles**

   Title/content consistency determinations with regard to music technology start with content—the thing being done, in part because titles may be consistent with curricular content or programs that have elements of music technology, but that do not address or that is not centered on music technology sufficiently to warrant designating music technology as an area of emphasis or as a major or some other type of curricular program.

3. **Terminologies**

   As expected in a constantly evolving field, many terminologies are used but are not exclusive to music technology. A few of the many terminologies that may be associated with content and work in music technology or in closely related areas are: electronic music, computer music, electroacoustic music, music media, media design, media arts, sound design, digital media, audio (concert and event, film, game, audio design, etc.).

   Curricular programs with these titles or structures may or may not include requirements in music technology. If included, these music-technology-associated requirements may or may not have sufficient presence or focus to constitute a curricular program, e.g. area of emphasis, minor, or major in music technology. The relationship between content and curricular structure is the key determinant.

4. **Course Prefixes, Numbers, Titles, and Content**

   For any course, content and completion requirements are the primary determinants of its purpose, chief field or focus area, and projected achievement level of students completing the course. Title/content consistency is essential. Course prefixes, numbers, and administrative location may or may not necessarily correlate with course content.

5. **Program Descriptions**

   Given the range of possibilities regarding content, title, terminology, and their combinations, music technology curricular program descriptions must be accurate and clear regarding purposes, content, and competency development. These descriptions are particularly critical when titles or terminologies for music technology curricular programs use the same language as titles for programs not necessarily or always focused on music technology. Normally, within each institution, music technology curricular programs carry a title or use terminology that distinguishes them from other curricular programs.

   Music technology curricular program descriptions connecting program completion with career preparation, career entry, or preparation for advanced study must meet standards in Section II.I.1.j.k.

B. **Curricular Components**

   Institutions have a large number of options for establishing curricular goals and supporting coursework and competency development requirements. Curricular component categories within which competency development choices are made normally include, but are not limited to:

   1. Music technology as a comprehensive field and scope of practice.

   2. Music technology as an integration, fusion, or synthesis of music and technological means. Examples include music technology as the basis for production-oriented work in areas such as sound recording, live performance, creation of electroacoustic music or sound, audio for interactive or other media, networked audio, audio installations, music pedagogy, music notation, research, and various combinations of these areas.

3. Musicianship as a critical component of creative work in various aspects of music technology. Examples include areas such as performance, improvisation, composition, theory, aural acuity.

4. Technology as fundamental means for producing work in any aspect of music technology. Examples include current and emerging areas such as computer software, hardware, and programming; recording, editing, and performance technologies; interactive and generative media; and multiple technology interfaces and combinations. Technology goals may also include advanced integrations of technologies and music and how to build music technologies.

5. Science, engineering, math as enabling thought systems for technology and technological applications. Examples include areas such as acoustics, calculus, electronic systems, computer science, electrical or computer engineering.

6. Problem-solving as a particular set of approaches and expectations for identifying, setting, and solving problems in various aspects of music technology. The level, nature, and complexity of the problems to be solved delineate the program's character and the projected accomplishments of its graduates.

7. Program focus and specialization as a set of possibilities, ranging from programs that provide a broad foundation as the basis for future specializations to programs that are specifically focused on a particular area of music technology, or parts thereof. Examples include, but are not limited to, production and manipulation of live and recorded music; the production of musical events; design, production, and/or installation of music systems and equipment; development of music technology for instructional purposes, or research purposes; creative experimentation with relationships between music technology and musical artistry.

8. General education as a specific determination regarding the extent to which elements or composite expectations for education in the humanities, sciences, social sciences, and other arts are included in the program.

C. **Music Technology Competency Development Choices, Proportions, and Curricular Structures**

1. **Choices and Proportions**

   Institutional choices regarding the development of music technology competencies are placed within the institution's chosen purposes and program framework, e.g. (i) liberal arts or professional undergraduate degrees, or a degree with an experimental structure, (ii) production or scholarship focus or blended concentration, (iii) major, double major, minor, area of emphasis, independent study, etc., (iv) introductory, basic, intermediate, advanced, etc., (v) overview, comprehensive, focused, specialized, etc.

   Choices of competency requirements must enable students to fulfill the specific purposes and scope of any music technology curricular program for which they are enrolled.

2. **Competency Requirements, Levels, and Institutional Prerogatives**

   The music technology competencies listed in this document may be pursued at basic, intermediate, and advanced levels. The levels are set by the institution for each music technology curricular program offered. Levels and associated graduation or completion competency and other requirements must be consistent with each degree or program's purposes, objectives, degree title, major, and admission and graduation requirements.

   The list of competencies in Section 4. or in other relevant sections of the Standards for Accreditation does not preclude any institution's prerogative to require the development of additional competencies or to state in other terms one or more of the functions indicated in the competency statements below.

D. **Curricular Structures**

1. **Music Technology Minors, Areas of Emphasis, and Their Equivalents**

    a. A music technology title indicates that a curricular program develops or requires at least an overview understanding of music technology as a whole field, and addresses not just one or more combinations but rather focuses on the integration of music and technology. Content chosen for this and other purposes demonstrates a clear connection to development in several of the competency areas listed in Section 4.B., C. below as appropriate to the level of the minor or area of emphasis.

    b. To meet requirements for title/content consistency, minors and areas of emphasis focused primarily on specific elements or components used in music technology are titled with the names of those elements or components, not music technology.

    c. For standards that place purposes in the context of the appropriate undergraduate degree pattern, see Standards for Accreditation, Section IV.C.

    d. For standards regarding consistency between program offerings and published materials, see Standards for Accreditation, Section II.I., especially items g., j., and k., and Section IV.C.6.

    e. For standards regarding the relationship between time distributions within degree programs and degree integrity, see Standards for Accreditation, Section IV.C.1.c.(1).

2. **Undergraduate Liberal Arts Degrees and Music Technology**

    Standards for undergraduate liberal arts degrees in music, irrespective of specific purpose, are found in Section IV.C.1., 2., 3., 4.; and Section VII. Music technology study may be incorporated into liberal arts degrees in music at various levels of engagement. These include single courses that are not considered curricular programs. If applicable to the fulfillment of an institution's purposes, various structures for combining a liberal arts major in music with studies in a related field such as music technology—elective study, specific emphasis or minor, double major—are found in Section IV.C.6.a. Curricular standards for a liberal arts degree with a major in music technology are found in Section 4.A. and B. below.

3. **Professional Undergraduate Degrees and Music Technology**

    Standards for all professional undergraduate degrees in music, irrespective of specialization, are found in Section IV.C.1., 2., 3., 5.; and Section VIII. Standards for specializations are found in Section IX. Music technology may be incorporated into professional degrees in music at various levels of engagement. These include single courses that are not considered curricular programs. If applicable to the fulfillment of an institution's purposes, various structures for combining a professional degree in music with studies in a related field such as music technology or its component disciplines—elective study, specific emphasis or minor, elective studies in a specific outside field (e.g. computer programming, electrical engineering), double majors, and the Bachelor of Musical Arts Degree—are found in Section IV.C.6.b. Standards for a professional degree with a major in music technology are found in Section 4.A., B., C. below.

4. **Graduate Curricula**

    See Section 4.D. below.

5. **Experimental Degree Structures**

    Experimentation in degree structures, content, and knowledge and skills development systems may be appropriate for some undergraduate music technology programs. However, music technology competency development requirements for graduation must be consistent with published program objectives, degree titles, and time distributions. See Sections III.M. and IV.C.1.c.

6. **Relationships to Other Curricula**

   Music technology competencies and courses may be required in degrees with various other majors in music or in other fields. Such requirements do not constitute a major in music technology, although they may or may not constitute a minor or area of emphasis.

Section 4. Standards for Specific Curricular Programs

A. **All Music Technology Curricular Programs**

   Please note:

   The standards below are in addition to and reviewed in terms of applicable standards in Sections II. through XXII., and in Appendix I.H.

   For each music technology curricular program—e.g. area of emphasis, minor, major—developed by an institution:

   1. A specific set of purposes must be developed and published that include, but are not limited to, the following. Please note that due to the broad scope of the music technology field, clarity regarding purposes, area(s) of focus, and specific goals is essential.

      a. Titles and basic identification of subject matter, techniques, technologies, disciplines, issues to be addressed, and music technology program size, scope, and areas of focus.

      b. Specific content, methods, and perspectives used to consider subject matter, techniques, technologies, disciplines, or issues to be addressed, including but not limited to expectations regarding:

         (1) Specific content and the specific perspective(s) and means for engaging it.

         (2) Breadth and depth in various disciplinary and music technology components.

         (3) The development of problem setting and solving capabilities.

         (4) Ability to juxtapose, combine, apply, integrate, or synthesize the disciplines involved.

         See Sections 2.C., 3.A.4., and 3.C.

   2. Curricular and other program structures and requirements shall be consistent with purposes, goals, objectives, and program level, and shall be published.

      For minors, areas of emphasis, and their equivalents, see Section 3.D.1, and for reference, the competencies listed for liberal arts and professional degrees below.

      For liberal arts degrees, see Section 3.D.2. and 4.B. if a music technology major.

      For professional undergraduate degrees, see Section 3.D.3. and 4.C. if a music technology major.

      For graduate programs, see Section 4.D.

   3. Operations must reveal coherent achievement of goals and objectives.

   4. Terminology must reflect accurately the type(s) of disciplines or disciplinary combinations represented or used, and any music technology areas or applications that are the focus of the program.

   5. Degree and program titles and descriptions must be consistent with associated curricular content and completion requirements. Published materials shall be clear about the status of any curricular

program with respect to constituting a major, a minor, area of emphasis, field for independent study, etc.

6. Institutions must establish enrollment or admissions policies for music technology programs consistent with the nature and expectations of program offerings. Students shall be admitted only to programs for which they show prospects of success. For general NASM standards regarding admission, see Section V. *Admission to Undergraduate Study* and Section XI. *Admission to Graduate Study.* Section V. contains standards applicable to open enrollment programs, transfer of credits, advanced standing, and so forth.

7. Applicable prerequisites for courses or curricula must be clearly stated, especially with regard to levels of competence in specific disciplines or technologies central to the artistic or educational purposes and content of the program. The same is true for any entry-level courses in math, engineering, or math-based disciplines that may be required for program completion or that develop competencies necessary for any required upper-level courses in these areas or in music technology, or its technological components. The institution must have means for assessing the extent to which prospective students meet these requirements before they are accepted or enrolled.

8. The institution must determine and publish any technical competency and equipment requirements for each program or course. The institution must have means for assessing the extent to which prospective students meet these requirements before they are accepted or enrolled.

9. Programs involving correspondence or distance learning must meet accreditation standards regarding such programs.

10. There must be clear descriptions of what the institution expects students to know and be able to do upon completion, and effective mechanisms for assessing student competencies against these expectations. Depending on the nature of the program, expectation and competencies are related to one, several, or all of the areas outlined in Sections 3.B; 4.B.; and 4.C.2.a., b., c. The levels of the competencies expected shall be consistent with the purpose, focus, and level of the degree or program offered.

11. For professionally oriented degree or non-degree programs, these expectations must include, but are not limited to:

    a. Achieving a measurable degree of advancement in and fulfillment of specified program purposes including mastery in the content outlined in Section 4.C. below and in at least one of the sets of established or innovative techniques appropriate to music technology;

    b. Developing an effective work process and a coherent set of ideas and goals that are embodied in their work; and

    c. Developing a significant body of knowledge and skills sufficient for evaluation and a level of technical proficiency and/or research competence in music technology applications that are observable in work acceptable for public exhibition or publication.

12. Evaluation mechanisms must be consistent with the goals defined for specific courses, projects, programs, or curricula, and to the collaborative approach(es) involved.

B. Undergraduate Liberal Arts Degrees with a Major in Music Technology

In addition to music and other competencies addressed in Section VII. applicable to all liberal arts degrees, the major in music technology requires:

1. Basic understanding of music technology as an integrated field. This includes, but is not limited to, informational knowledge about the scope of music technology; the multiple components, concepts, and applications of music technology; and the conceptualization, development, production, and distribution processes associated with one or more specific music technology areas or applications.

2. An understanding of fundamental science, engineering, and math content underlying acoustics and electronic technologies employed in music technology.

3. Ability to integrate and synthesize basic musical and technological knowledge and skills in the conceptualization of music technology projects.

4. Musical and technological capabilities to produce basic-level work in at least one area of integrative music technology, or to produce undergraduate-level research or scholarly work in integrative music technology.

Other requirements in music technology may be established by an institution. Studies and requirements from among those listed in Section 4.C.2. will serve as guidelines as appropriate to program purposes and areas of focus. Recommendations for General Studies are found in Section 4.C.2.c.

Institutions offering liberal arts degrees titled Bachelor of Science in Music Technology are strongly encouraged to require a specific set of college-level courses led by specialist faculty in science, technology, engineering, math, and specializations in these areas that are applicable to music technology. These courses are normally part of the required or elective general studies component for such degrees.

C. **Bachelor of Music in Music Technology**

> The text below is duplicated in its entirety in Section IX.G of the Standards for Accreditation in the NASM *Handbook*.

Music technology is a field of study and practice characterized by integrations and fusions of musical and technological knowledge and skills to produce work for various artistic, commercial, research, educational, and other purposes. In this field, digital and emerging technology serves as the primary tool, medium, or environment for musical and music-related work.

Music and technology have a long a fruitful relationship. Old and new technology is interwoven into various aspects of our musical heritage. The study and use of technological means are found in various music courses and in the work of various music specializations.

Music technology, as defined above, may also be an emphasis in Bachelor of Music programs with other majors. See Section II.I.1.g.; Section IV.C.6.b.; and Section 3.D.3. In these cases, NASM standards for the major area of specialization will apply; however, the standards for the Bachelor of Music in Music Technology will serve as guidelines as appropriate in the evaluation of student work and the articulation of goals and objectives of the emphasis and overall curriculum.

The Bachelor of Music in Music Technology, however, is intended to produce professional competence in the integration of music and technology in one or more areas of the music technology field, and basic competence in one or more additional areas. The degree requires development of a professional level of competence in music. When an institution has sufficient qualified music and music technology faculty, appropriate technological resources, and is otherwise equipped to offer the kinds of comprehensive music, technology, and music technology courses and curricula that develop these competencies, the offering of the Bachelor of Music degree with a major in music technology is justified.

For further standards and other information regarding music technology, see Appendix I.H.

1. **Curricular Structure**

   a. **Standard.** Curricular structure, content, and time requirements shall enable students to develop the range of knowledge, skills, and competencies expected of those holding a professional baccalaureate degree in music technology as indicated below and in Section VIII.

   b. **Guidelines.** Curricula to accomplish this purpose that meet the standards just indicated normally adhere to the following structural guidelines: studies in the music technology area, including music-centered technology applications in the area(s) of focus, should comprise 25-35% of the

total program; supportive courses in music (including basic musicianship studies and performance) and technology, 25-35%; general studies, 25-35%. Studies in the major area and supportive courses in music and technology normally total at least 65% of the curriculum. See Section III.C. regarding forms of instruction, requirements, and electives.

2. **Essential Competency Areas, Experiences, Opportunities, and Requirements**
   (*in addition to those stated for all professional undergraduate degrees in music):*

   Please note:

   The following standards refer to music technology as a field, and to areas of music technology. Areas of music technology include, but are not limited to, manipulation and recording of sound, live performance, electroacoustic production, live electronics, audio in its multiple forms (film, game, video, concert and event, audio design, etc.), music pedagogy, research, equipment design and installation, and the development of computer-based tools for music production.

   No institution can develop professional-level competency in all of these areas in the context of a professional undergraduate program. Therefore, each institution offering the Bachelor of Music in Music Technology must meet the standards below where indicated in terms of music technology in general, and otherwise in terms of one or more specific areas of music technology chosen by the institution as its area(s) of focus in music technology.

   Students must develop a professional level of competency in at least one specific area, and a basic level of competency in a second area. Experiences, opportunities, requirements, and supporting resources must also be compatible with the specific focus area(s) chosen.

   The competencies outlined may be developed in various ways. The list of competencies below should not be construed as requiring a separate course for each competency.

   a. **Essential Competencies**

      (1) Basic understanding of the scope, integrative nature, and various functions of music technology as a field, including acquaintance with various applications of music technology in music, technological development, research, pedagogy, and in other fields.

      (2) Knowledge of and ability to use various terminologies and procedures in music technology, music, and technology, and their combinations as employed in and associated with the work of music technology. This includes, but is not limited to, their respective vocabularies of practice, ways work is conceptualized, developed, synthesized, and finalized, and phases of production, presentation, and/or distribution.

      (3) Ability to solve music technology problems, including (a) problem identification, information gathering, solution development, and testing, and (b) knowledge and skill to produce case-specific decisions about what is useful, usable, effective, and desirable during the course of music technology project development and production.

      (4) Ability to describe and respond to the needs or expectations of users, audiences, and/or contexts associated with doing professional work in two or more areas of music technology.

      (5) Advanced capabilities in specific areas of musicianship consistent with the music technology areas that constitute the degree program's focus. Aural skills are essential. Abilities to apply advanced knowledge of the properties of musical structures and processes to solving music technology problems are essential.

      (6) Fundamental knowledge of current technologies and technological principles widely applicable to music technology, including but not limited to those associated with recording, manipulating, and presenting music and sound, signal flow and processing, music

communication protocols, synthesis and interface technologies, sound synthesis, and interactive and generative media.

(7) The ability to use industry standard technologies at a professional level to achieve goals and objectives associated with specific areas of music technology (e.g. Section 4.C.2.b. below). These goals may be in terms such as mastery of production techniques, artistic expression, support for work in other fields, relationships with other technologies and media, and so forth.

(8) Ability to apply knowledge of fundamental science, engineering, and math concepts and other aspects of the science of sounds and the electrical manipulations of sounds in music technology situations.

(9) Basic understanding of connections among music, technology, music technology, and culture, including the evolution of music technology, the impact of technology on music and culture, technological influences on multiple musical styles, including contemporary styles, and their cultural contexts, and information and means for projecting future possibilities in music technology; and basic understanding of these connections with regard to current and emerging Internet- and network-based programs, services, and environments related to the creation, sharing, and distribution of music.

(10) Knowledge of the basic principles, laws, regulations, and ethical considerations and practices associated with music technology and intellectual property as it is both acquired and created by individuals working in the music technology program.

(11) Comprehensive capabilities to use and integrate the above competencies in at least one area of music technology to produce professional-level work in at least one area, and basic level work in a second area.

b. **Relevant Competencies for Area Programs** *(in addition to those stated above for all music technology programs, and those stated in Section VIII. for all professional degree programs)*:

(1) In music technology programs with specific orientation to **recording, manipulation, and live performance**, competencies include, but are not limited to, advanced knowledge and technical competence in using industry-standard recording and other types of music technology studios and equipment; expertise in the use of music, digital, and other technological interfaces; high levels of aural and music analysis skills; ability to apply scientific knowledge of acoustics, electrical advanced capabilities in audio recording and sound manipulation; capabilities in audio engineering, studio sound, and live performance sound.

(2) In music technology programs with specific orientations to creative production of **electroacoustic music and live electronics**, competencies include, but are not limited to, advanced knowledge and technical competence in using and creating with technologies, protocols, and techniques associated with analog and digital instruments and various forms of synthesis; interfaces; programming language(s); interactive and generative media; and networks of digital and other instruments; and, the ability to conceive, create, develop, and produce real-time and recorded performances using digital and emerging technologies. Competence in using and creating with various keyboard-based and/or non-keyboard-based controllers and user interfaces is essential. An understanding of compositional principles, logics, narrative structures, and strategies is required.

(3) In music technology programs with specific orientations to one or more **audio applications**, competencies include, but are not limited to, knowledge of the nature, purpose, and the way work is created for the application and the roles of music technology to conceptualization, development, and production; advanced knowledge of and ability to use industry-standard technology, equipment, labs, and studios to produce work in or for the application; the ability to apply science, computer engineering, and software development

skills associated with the application. Experiences should include working together in teams that replicate, insofar as possible, professional working patterns associated with the application.

(4) In music technology programs with specific orientations to music technology in **education**, competencies include, but are not limited to, advanced knowledge of and ability to use technological means to conceive and develop specific products associated with instruction and evaluation; the ability to create interactive applications for educational purposes; thorough understanding of the elements, natures, and content of musical instruction in areas such as aural perception, music theory, music history, music teacher preparation, composition, and improvisation, and their relationships to the capabilities of current and emerging technology.

(5) In music technology programs with specific orientations to **psychology-based research**, competencies include, but are not limited to, advanced knowledge of and ability to use technological means for capturing records of behaviors, conducting measurements and assessments, and producing analyses in fields such as acoustics and psychoacoustics, the neuroscience of music, music perception, music cognition, and music performance. Fundamental understanding of the natures and content of research areas and protocols in two or more of these fields is essential. Experiences should include using technology in research settings for research purposes.

(6) In music technology programs with specific orientations to **engineering and the creation of technological means**, competencies include, but are not limited to, basic knowledge of the science, engineering, and math disciplines integral to the conceptualization, design, development, and production of music technology software, hardware, and equipment. A sample set of these fields includes acoustics, acoustical engineering, electrical engineering, computer science and technology, digital sound processing, and the mathematics required to learn and apply the content of these fields. Advanced knowledge of two or more specific fields of music work in terms of software, hardware, and equipment needs is essential. The ability to conceive and design viable basic solutions to one or more kinds of engineering problems is essential. For standards regarding the representation of music and music technology programs with engineering content, see Appendix I.F. and Sections 2.G., 3.A., and II.I.

(7) For music technology programs with **other areas of focus**, competency expectations must be consistent with the content, process, technologies, and product expectations and other requirements associated with professional work in that area.

c. **Specific Standards, Competencies, and Guidelines for Supportive and General Studies** *(in addition to those stated for all professional undergraduate degrees in music):*

(1) Consistent with the purposes and requirements of the program, institutions must require studies that support knowledge development in disciplines with direct applications to or connections with the practice of music technology. These disciplines may include, but are not limited to, mathematics, electrical or computer engineering, acoustics, or other sciences. Specific content choices, and the specific approaches to or locations of such studies in courses or curricular structures are the prerogative of the institution.

(2) Studies in mathematics, including college calculus if applicable, are required as may be necessary to support the needs of any electrical or computer engineering or other science-based course mandated by the program or the institution.

(3) Studies in areas such as acoustics, computer science, engineering, physics, music business/industry, digital/interactive media, sound design, broadcast journalism, mass communication, film studies, cultural studies, mathematics, and expository writing is strongly recommended.

d. **Experiences, Opportunities, and Project Requirements**

(1) Regular access to instruction and evaluation by faculty with the educational and professional backgrounds in music technology and associated disciplines to develop the competencies listed above both in general and in the music technology areas that are the focus of the degree. Appropriate backgrounds must include more than specific software or hardware skills. See Section II.E. and Section 5.A.

(2) Regular access to appropriate technology, equipment, and staff necessary for the development and professional production of work in the music technology areas that are the focus of the degree. Consistent with the purposes and content of the program, technology and equipment must align with disciplinary/industry standards. See Sections II.F.G. and Section 5.B.

(3) To ensure that opportunities can be fully realized, programs that require student purchase of computers should provide the technological infrastructure and staff to support use of privately owned machines in music technology workspaces, studios, and classrooms. The institution should be cognizant of industry preferences for certain operating systems, computer platforms, and software in setting computer purchase requirements and infrastructure support.

(4) Regular experiences and advanced practicums associated with producing work in the primary focus area of music technology must be provided. Students must have sufficient time with studios and equipment to develop their knowledge and skills and to complete required projects.

(5) Opportunities to work with a variety of musical genres and styles are strongly recommended.

(6) Internships in industry or the equivalent are strongly recommended.

(7) A final project demonstrating competence in at least one area of music technology must be required for graduation. The final project and other demonstrations of competence at senior year must show readiness to produce work in one or more music technology areas at a professional level.

e. **Guidelines**

(1) Normally, the institution maintains a program of regular consultation with professional practitioners in music technology.

(2) Normally, institutions maintain a counseling program to provide students with a realistic assessment of job opportunities and professional requirements as appropriate to individual aptitude, professional interest, and academic progress.

(3) Normally, institutions make a thorough assessment of each student's performance during internship experiences and use such assessment in the counseling process in general and with areas of music technology specialization that constitute the degree program's focus.

D. **Graduate Curricular Programs in Music Technology**

Specialized degrees or programs in music technology or degrees or programs with a required curricular component in music technology may be offered at the graduate level.

All music-centered graduate programs in music technology must meet operational, resource, and content standards applicable to their purposes, level, degree or program title, content, completion expectations, and other elements found in the graduate sections of the NASM Standards for Accreditation. Definitions,

descriptions, and principles outlined in Appendix I.H. above are also applicable to graduate curricular programs in music technology.

All graduate curricular programs in music technology must be able to demonstrate logical and functioning relationships among purposes, curricular structure, content, expectations for competency development, and completion requirements.

Graduate programs offer a range of possibilities for music technology. Terminal degree programs with majors in music technology must require high professional levels of competence in the creation and production of work in music technology, or in scholarship or research focused on music technology.

Programs with majors in other fields requiring a set of studies in music technology may focus on graduate-level introductory or intermediate-level studies in music technology.

One or two courses in music technology may be appropriate as requirements or electives in various types of graduate programs, but not be structured to constitute a curricular program in music technology.

The competencies listed in Section 4.C. above are developed to ever-higher levels of proficiency and integration as study and experience in music technology progress. Beyond basic levels, these competency statements normally evolve into other competency formulations developed and used by the institution as the basis for completion requirements at the graduate level.

Graduate programs focused on the creation and production of work in music technology must be supported by the significant technological infrastructure and staff necessary to remain current within the field of music technology. Resources include digital and emerging technologies associated with work in music technology.

Standards for master's degrees are found in Sections XII. and XIV.A. of the NASM *Handbook.*

Standards for doctoral degrees are found in Section XVI.A., B., C., and D.1., 2., 3. of the NASM *Handbook.*

E.   **Non-Degree-Granting Programs in Music Technology**

General standards for non-degree-granting programs are found in Sections XVII., XVIII., and XIX.

Section 5. Operational Standards for Music Technology Curricular Programs

The standards below are in addition to comprehensive standards stated in Sections II. and III. above applicable to all curricular offerings in music technology.

A.   **Instructional and Technical Personnel** *(in addition to those stated in Section II.E. Faculty and Staff)*

1.   The aggregate credential, experience, and achievement qualifications of faculty and staff for music technology and its various disciplines and components depend in large part on the nature of work in music technology, the institution's specific goals for achievement in one or more specific areas of music technology, and the nature of the institution's requirements for faculty in music, music technology, and other related disciplines. Music technology expertise is often gained through applications of interest, aptitude, and experimentation that develop capabilities for work in music technology. Formal academic credentials alone may not indicate the qualifications needed.

     Qualifications normally include the ability to:

     a.   Bring deep expertise and technical facility in some relevant body of content to integrative music technology efforts and programs.

     b.   Explain and otherwise articulate or notate artistic, musical, technical, and integrative concepts and issues, especially to students.

c. Research and effectively communicate complex ideas associated with work in the music technology area(s) of focus addressed by the curricular programs of the institution.

d. Teach: sponsor, guide, and assist the development of student competencies and projects in music technology.

e. Nurture and manage music technology projects of various types and sizes.

Qualified personnel may come from many sectors: full-time faculty, staff, adjuncts, industry employees, graduate students, personnel from other educational institutions.

2. Instructional and technical personnel supporting and/or administering work in music technology need to possess:

a. Expertise in music technology.

b. Advanced knowledge and skills in music and musicianship.

c. An understanding of the meanings, usages, and concepts of professional applications in preferably several fields of technology and related fields consistent with the purpose, nature, and areas of music technology addressed by the program.

3. Faculty teaching music technology courses and overseeing associated student project development or conducting labs in music technology must be qualified by demonstrated professional competence and experience. Faculty must have practical professional experience in the content covered by and the technology essential to any course they are teaching and remain current with professional applications of evolving technologies. Demonstrated teaching experience shall be a requirement for continuation.

4. In addition to qualified music technology faculty, the institution shall have faculty qualified to teach any specifically designated course in any discipline or area required to complete the curricular program that addresses an element or component of the music technology curriculum.

If such requirements include any math, engineering, or other science-centered course, normally faculty teaching such courses shall have an earned doctorate in the field in which they are teaching and hold a faculty position in a school or department in that field.

5. If an institution offers a major in music technology, a faculty member or administrators shall be designated who has primary responsibility for the program and sufficient assigned time for its operation and development consistent with the size, scope, and requirements of the program. Normally, faculty members designated as program administrators or coordinators have several years of experience in music technology.

6. Professional development and support are important for faculty associated with music technology programs. Some faculty may need to be engaged in professional development outside their home discipline, and perhaps even outside traditional academic professional development activity.

7. Technical staff resources must be sufficient to support teaching, practice, projects, and other program activities in areas that include, but are not limited to, technologies, facilities, and maintenance. The level of technical staff support must be consistent with program purposes, size, scope, and curricular requirements.

B. **Resources and Delivery Systems** *(in addition to those stated in Section II.F., Facilities, Equipment, Health, and Safety, and Section II.G., Library and Learning Resources)*

Resources and delivery systems must match the purpose, nature, and scope of each course or program, including but not limited to:

1. Resource acquisition systems to assemble technologies and other resources used for specific elements of curricular programs in music technology, including associated projects.

2. Teaching spaces, workspaces, and studios with proper acoustics and acoustical control, furnished with up-to-date technologies and equipment for student experimentation and work in music technology and, as applicable, rehearsal halls, demonstration sites, performance venues, and digital workspaces. The number of teaching spaces, workspaces, and studios and their configurations must be commensurate with program enrollment and content requirements and with professional expectations and practices in the areas of focus in music technology offered by the institution.

3. Intellectual Resources

   a. In addition to the usual resources, music technology programs need to access music and sound libraries, both those they acquire and those that are created by individuals working in the programs. These become part of the raw materials of work in music technology.

   b. Participants in music technology programs need access to the range of current work in this field, including but not limited to appropriate texts, journals, and periodicals in the fields of music technology, electrical engineering, and associated technologies that are current in their accuracy and applicability, as well as documentation in various forms and means of state-of-the-art music technology work.

   c. Resource issues include appropriate hardware and software, and fees for licensing and royalties.

   d. Issues related to copyright, fair use, and legal aspects of the use of digital assets—acquired or created—need to be addressed.

   e. Mechanisms for archiving music technology work are strongly recommended.

C. Coordination

Music-based curricular programs that require specific engineering or math or science courses must be able to demonstrate coordination with professionally credentialed faculties and administrators responsible for teaching those disciplines at a level consistent with the nature of purposes of the music technology program being offered. If the music unit shares the organization and management of a music technology program with another unit, cooperation in the development, operation, and evaluation of the program is required.

NASM *Handbook 2011-12* – Appendices

Add new appendix as follows:

APPENDIX I.I.

CREATIVE MULTIDISCIPLINARY CONVERGENCE AND TECHNOLOGIES
Information and Standards for Curricular Programs in Higher Education

National Association of Schools of Art and Design
National Association of Schools of Dance
National Association of Schools of Music
National Association of Schools of Theatre

Please Note:

1. **Applicability Focus.** This Appendix applies only to certain types of multidisciplinary curricular programs as defined below and descriptively labeled for the purposes of this document "Creative Multidisciplinary Convergence and Technologies (CMCT)." These programs are distinguished from other programs by their purposes, content, and competency expectations involving or combining multiple disciplines and technology (see Section 1.C., *Definitions and Concepts,* and Section 2.M., *CMCT Competencies, Experiences, and Opportunities*.) These standards are applicable only to certain types of organized and published curricular

offerings, and not to single educational experiences or stand-alone individual or group CMCT experimentation or production. Therefore, they do not apply to most art/design, dance, music, or theatre degrees or program majors, or to minors, areas of emphasis, or the equivalent that appear on the program listing for institutions with one or more arts accreditations. See Section I.E.2., *Curricular Programs*, and Section 2.A., *Applicability*.

2. **Complexity.** Appendix I.I. addresses educational programs that focus on certain combinations and convergences of creative purposes, disciplinary content, and ways of thinking and working that are complicated in and of themselves. In operation, these combinations and convergences produce and expand both creative possibility and complexity, whether or not they are placed within a curricular program. Therefore, this Appendix reflects the reality of these complexities in order to support conditions for learning that foster creativity. Institutions interested in CMCT are strongly encouraged to study the entire Appendix. An outline of the Appendix is provided below.

3. **Accreditation Reviews.** Although Appendix I.I. is a standards statement developed and used by four arts accrediting organizations (NASAD, NASD, NASM, and NAST), institutions offering curricular programs eligible for review under these standards and holding accredited institutional Membership in one or more of the organizations above are not required to seek accreditation from the other organizations as a condition of any single association's approval of any program eligible for single accreditation review under these standards. In principle, the Commissions of each association act separately. The four arts accrediting organizations have provisions for multidisciplinary consideration of these programs in accreditation reviews under certain conditions (see Section 2.H., *Commission Jurisdictions: The Arts Accreditors and CAAA)*.

4. **Association Positions.** Each of the arts accrediting associations above encourages member institutions to become informed and to participate in CMCT-related projects and other multidisciplinary cooperative efforts and courses as they deem appropriate to their purposes; however, offering curricular programs in this area changes the nature and scope of an institution's engagement with CMCT. The associations affirm that the standards below are intended to neither encourage nor discourage the development of curricular programs in CMCT. Such decisions are the prerogative of the institution.

5. **Standards References.** In this appendix, the word "Section" refers to a specified portion of the respective association's Standards for Accreditation (NASAD, NASD, NASM, or NAST). When a Roman numeral follows "Section," the reference is found among items I. through XX. or beyond, as applicable to the specific Association, and not in the appendices. When an Arabic number follows "Section," the reference is found within this appendix, unless another appendix is specified.

APPENDIX OUTLINE:

Section I. Information
   A.   Introduction
   B.   Appendix Purposes
   C.   Definitions and Concepts
   D.   Institutional Purposes
   E.   Institutional Projects and Program Choices

Section 2. Standards and Guidelines
   A.   Applicability
   B.   CMCT and Arts/Design-Centered Content
   C.   CMCT and Technology-Centered Content
   D.   CMCT, Computer Science and Engineering, and Research
   E.   Programs Combining Studies in Arts/Design with Non-Arts CMCT
   F.   Related Arts Accreditation Standards
   G.   Administrative Home
   H.   Commission Jurisdictions: The Arts Accreditors and CAAA
   I.   Content, Titles, Terminologies, and Program Descriptions
   J.   Basic Undergraduate Curricular Structures and Standards References
   K.   CMCT Curricular Structure Standards and Associated Requirements

L.   CMCT Competency Development Choices and Proportions
M.   CMCT Competencies, Experiences, and Opportunities
N.   General Studies Associated with CMCT
O.   Operational Standards for CMCT Curricular Programs
P.   Graduate Curricular Programs in CMCT
Q.   Standards for Specific Curricular Programs

Items A. through H. provide standards-based information. Items I. through Q. address CMCT curricular programs specifically.

Section 1. Information

A. Introduction.

   1. Appendix Scope. This appendix addresses a complex area of artistic work and creative production enabled when historically evolving disciplinary and multidisciplinary concepts and creativity are allied with digital and other emerging technologies to create new forms of convergence.

   The particular convergence addressed by this appendix involves a fusion of multiple disciplines within the arts and design fields with multiple forms of technology and other media in the production of creative work. Other fields may be involved as well.

   This appendix does not address or encompass every, or even most, of the connections between technology and work in the various individual arts and design disciplines, nor does it address every combination involving multiple disciplines in the arts, design, and technology.

   It does address a particular set of connections and integrations defined by certain mixtures of content, purpose, and means, as defined in Section 1.E.2. and Section 2.M. below.

   The standards in this appendix area are applicable to curricular programs—areas of emphasis, minors, certificates, majors, etc.—focused primarily on addressing the particular set of connections and integrations defined below in Section 1.C. Other standards address curricular programs focused on other types of combinations.

   2. Definition Locations and Descriptions. For the definition of Creative Multidisciplinary Convergence and Technologies (CMCT) and other terms used in this Appendix, see Section I.C., *Definitions and Concepts.*

   For a description of CMCT in terms of the basic content, knowledge, and skills involved, see Section 2.M., *CMCT Competencies, Experiences, and Opportunities*

   For a description of resources associated with CMCT work, see Section 2.O., *Operational Standards for CMCT Curricular Programs.*

   For additional background and advisory information, see the *CAAA Tool Kit on Issues of Creative Multidisciplinary Convergence and Technologies (CMCT)* on the CAAA Web site at http://www.arts-accredit.org/index.jsp?page=CMCT_Tool_Kit.

   3. Pathways. Competencies and proficiencies in CMCT may be gained in many ways. This Appendix focuses on those pathways that can be defined as organized curricular programs offered by institutions of higher education with specific competency development and completion requirements. Other pathways are respected but not considered in terms of the standards and guidelines below.

   4. Appendix Sections. Appendix I.I. provides overview information in Section 1. for institutions and arts/design programs interested in this area. The text of Section 1. is not a statement of accreditation standards.

Section 2. provides accreditation standards and guidelines for institutions with appropriate resources wishing to offer curricular programs addressing: (1) the type of creative and technological convergence based in the production of multidisciplinary work involving two or more arts/design fields or specializations and digital/emerging technologies, and perhaps also one or more other disciplines, or (2) the scholarly study of such work consistent with the definition in Section 1.C.

5. **Frameworks and Creativity.** This Appendix incorporates fundamental principles of academic integrity, public information, and program operation into a framework. This framework provides a basis for creative local consideration about goals and expectations in a field that by its very nature is experimental, and that has and should continue to have few boundaries.

B. **Appendix Purposes**

This Appendix is intended to:

1. Support the continuation and growth of creative dynamism in a multifaceted field where discovery is a major goal, and where there is little or no stasis.

2. Focus on CMCT from the perspectives of arts and design disciplines while fully addressing the fact that CMCT work encompasses and finds impetus from many other disciplines and perspectives.

3. Present principles and concepts that can be considered at various levels of breadth and depth, and that remain current as change occurs.

4. Provide a framework that can encompass and encourage specific CMCT applications or content details that change constantly as exploration, discovery, and technical changes continue.

5. Address and encompass a broad range of purposes, content, approaches, and methods among institutions.

6. Clarify means for determining commonalities and distinctions among basic types of curricular programs according to content and levels of engagement.

7. Indicate protocols for maintaining the internal integrity of individual curricular programs, and for providing clear, accurate program information to students and the public.

8. Offer guidance for the timely evolution of essential academic functions needed to support CMCT programs, such as libraries, data scores, academic management information systems, etc.

C. **Definitions and Concepts**

For the purposes of this Appendix:

1. **Creative Multidisciplinary Convergence and Technologies (CMCT)** normally indicates the active involvement of

   ▪ More than one arts or design discipline (e.g. art, design, dance, music, theatre, etc., including, as applicable, its specializations).

   ▪ In the combination or melding of two or more content forms and media through the use of digital and emerging technologies.

   ▪ To create works/productions involving two or more of the other arts/design forms or with significant arts/design content or presence.

   CMCT is centered in multiple creative artistic practices. In this text, "CMCT" refers to arts-centered and/or design-centered CMCT. Other types of creative convergence not involving a deep integration of two or more arts/design areas—and therefore not addressed in depth by this Appendix—are referred to in this text as "non-arts CMCT."

CMCT scholarship addresses various aspects of work in CMCT as defined above from analytical, historical, and other perspectives.

The use of technological means is central to CMCT, but abilities to use CMCT-associated hardware, software, and other technologies does not automatically or necessarily indicate competency in CMCT. Technological knowledge is not conflated with general or specialized artistic or design knowledge. The reverse is also true.

CMCT work may stand alone as a production unto itself, or may be incorporated into a production in one or more of the arts and design forms (e.g. plays, dance performances, films, opera, concerts, communication designs, interactive media designs, smart objects).

2. **Arts/design, or arts** encompasses all of the individual performing and visual arts and all of the various design fields and includes those disciplines, manifestations, and practices that combine arts (dance, music, theatre, visual arts, film, etc.) or design elements in traditional or new forms. The terms indicate a set of creative disciplinary areas from which choices about inclusion are made on a project-to-project basis. The terms do not indicate a requirement that all fields listed must always be represented in any CMCT course or project or curriculum.

3. **Multidisciplinary** includes the arts/design disciplines and other disciplines.

4. **Convergence** includes combinations, but strongly connotes a fusion of elements typically through explicit uses of digital and emerging technologies. Convergence may occur on many different levels and at many different scales.

5. **Technology**, singular or plural, encompasses all types of technology—current, past, and future. However, most uses in this Appendix refer to electronic, digital, and/or emerging technologies used as a means to produce creative work. Technology also refers to applications and uses, and to contexts for work shaped by technological means, for example, the distribution systems of social media.

6. The term **applications** encompasses many concepts, for example:

   a. CMCT applications are found in many sectors, including but not limited to the arts (e.g. dance, music, theatre, visual arts, film, etc.) and design (e.g. communication design, fashion design, industrial design, interior design, textile design, theatre design, etc.), game development, broadcasting and journalism, advertising and entertainment, information and instructional technology, business, and product development.

   b. Applications of CMCT and associated non-arts CMCT use and integrate work and processes from the sciences, engineering, and/or computer technology. Interactions, engagements, and applications involving these fields in some manner are fundamental aspects of arts/design CMCT.

7. **Curricular Programs** indicates a set of courses, projects, or other published requirements for a degree, certificate, diploma, major, minor, area of emphasis, etc.

D. **Institutional Purposes**

   1. Institutions interested in pursuing CMCT activity have many choices about levels of engagement. One fundamental choice is whether to support (a) projects, (b) curricular programs, or (c) both.

      Decisions regarding the scope of involvement with CMCT activity are the prerogative of each institution. However, each decision produces its own set of necessities for success.

   2. Levels of CMCT engagement in creative production and/or scholarship include but are not limited to:

      a. Projects (singly or in series).

      b. Coursework and/or experiences, elective or required, open or limited by admission criteria.

    c.   Curricular programs in the primary arts/design area, other arts/design areas, or other fields with required CMCT content, as coursework, emphases, or minors.

    d.   Curricular programs leading to degrees or other credentials with majors in arts/design CMCT.

These may be based administratively in (1) art/design, dance, music, theatre, or other arts/design areas (2) a consortium of several arts/design disciplines, or (3) institutes or similar administrative entities involving the arts and/or design, engineering, technology, business, and other disciplines.

3.   Types of projects, courses, or curricula offered at various levels of capacity and complexity may include, but are not limited to:

    a.   Orientations to or surveys of CMCT.

    b.   Conception, development, and production of CMCT work.

    c.   Research, scholarship, and publication associated with CMCT.

E. Institutional Projects and Program Choices

1. Projects

    a.   Projects may be stand-alone, extracurricular, or associated with courses or curricular programs.

    b.   Project choices are driven by personnel, aspirations, expertise, resources, and conditions in each institution, including the ability to establish and sustain creative environments and project teams.

    c.   Stand-alone and extracurricular projects are encouraged but are not subject to review or listing by the arts accrediting associations.

2. Curricular Programs

CMCT programs pursued in courses or curricula address a broad range of goals, objectives, and applications. Whatever goals or objectives are chosen, each program makes decisions about the extent to which students will be prepared to understand CMCT and to produce CMCT work or scholarship using knowledge and skills associated with:

    a.   Various means for producing multi-dimensional communications, products, environments, and interactions, including the structures and properties inherent in various disciplines and media, e.g. spatial, temporal, and/or algorithmic.

    b.   Differing viewpoints of users, audiences, clients, and/or artists in other fields, designers, and professionals in other sectors and fields.

    c.   Current and emerging knowledge and technologies.

    d.   Differing perspectives and conceptions of technology as a tool, a medium, and/or an environment.

    e.   Research and scholarship about or associated with CMCT.

    f.   CMCT concepts and applications in other disciplinary practices or as a freestanding endeavor.

Decisions about curricular presence, proportion, and objectives exert a critical influence on the structure and content of each program, and the resources needed to support it.

Qualified faculty, technical resources, disciplinary and multidisciplinary content and organization, and curricular offerings sufficient to support specific goals and objectives are prerequisites to

effectiveness in offering courses, areas of emphasis, minors, degrees, or other credentials in CMCT (see Section 2. below).

Whatever choices are made by the institution, students need to develop skills, knowledge, and perspectives from more than one discipline, e.g. art/design, dance, music, theatre. Multidisciplinary content oriented to capabilities in convergence is integral to curricular programs that address arts/design CMCT, whether structured as majors, minors, areas of emphasis, or in other patterns.

Section 2. Standards and Guidelines

The standards and guidelines below address curricular programs that constitute areas of emphasis, minors, majors, or their equivalents in CMCT. They supplement standards and guidelines applicable to all curricular programs beginning in Section I. and continuing to the end of the Standards for Accreditation applicable to accredited institutional Membership in NASAD, NASD, NASM, or NAST.

The standards in this Appendix address structural and operational issues. They also address basic knowledge and skills associated with creating and producing CMCT or with studying the field of CMCT from an informed perspective.

As is the case with standards for each arts and design field, knowledge and skills development standards for CMCT represent goals for capability to create and present work. They provide a foundation for individual cultivation of CMCT that enables informed exploration and effort that in turn lead to CMCT-centered production. These productions are unique creations irrespective of whether or not they are reproduced for mass consumption.

Thus, the CMCT curricular standards below and the competency development goals they contain support, enable, and serve uniqueness of result.

A. **Applicability.** The standards below are the basis for accreditation documentation and Commission review when *multidisciplinary* arts/design CMCT, as defined above, has a curricular presence and is specifically designated:

1. As a minor or area of emphasis within an arts or design degree or non-degree program (e.g. art/design, dance, music, theatre).

2. As the major in an arts or design degree or non-degree program.

3. As a first or second major along with an arts or design major in a double-major program.

4. As a primary component in degree or non-degree programs featuring disciplines in combination that require an arts or design major or at least 25% studies in arts or design.

5. As the primary content of a course, normally only in terms of the relationship of that course to overall curricular structure, or to title/content consistency and other issues of program functionality and public information.

A short applicability test: Yes, if a curricular program is focused on CMCT. Yes, if a curricular program is focused on one or more particular arts/design disciplines plus a curricular program in CMCT. No, if studies in a particular area of arts/design are combined with studies in technology or the other arts that may address elements of CMCT, but that are not combined or integrated as indicated in the definition of CMCT in Section 1.C.

B. **CMCT and Arts/Design-Centered Content**

1. Content, techniques, and technologies used as elements in CMCT are often applied and studied in arts/design contexts that are not fundamentally or primarily multidisciplinary. Programs of study of this type are documented and reviewed by the Commission as appropriate to program purposes using, as appropriate, other sets of NASM, NASAD, NAST, or NASD standards. In these circumstances, institutions and the Commission may reference competencies, experiences and opportunities, and

other portions of this Appendix, if applicable to the purpose and content of the program or to issues pertinent to documentation and review. Examples follow.

NASAD: Normally, programs in areas such as digital media, film/video production, communication design, animation, and theatre design structured to meet standards in previous sections of the NASAD *Handbook* are not considered, titled, or reviewed as majors in CMCT, even if they require some CMCT content.

NASD: Normally, programs based in dance choreography and electronic media structured to meet standards in previous sections of the NASD *Handbook* are not considered, titled, or reviewed as majors in CMCT, even if they require some CMCT content.

NASM: Normally, programs in areas such as music composition, opera, musical theatre, recording technology, or music technology structured to meet standards in previous sections of the NASM *Handbook* are not considered, titled, or reviewed as majors in CMCT, even if they require some CMCT content.

NAST: Normally, programs in areas such as design/technology, film/video production, or musical theatre structured to meet standards in previous sections of the NAST *Handbook* are not considered, titled, or reviewed as majors in CMCT, even if they require some CMCT content.

2. Curricular programs, including but not limited to those listed immediately above, may provide the preparation necessary to bring specialist expertise to teams that create and produce CMCT, irrespective of the inclusion of specific program requirements in CMCT. However, the CMCT title or designation is appropriate only for programs or courses with stated purposes and curricular structures in CMCT. Titles and designations are based on what programs prepare students to do immediately upon graduation or completion, not how graduates apply or evolve their knowledge and skills to contribute to various forms of work.

C. **CMCT and Technology-Centered Content**

Knowledge and skills in technological subjects are essential aspects of CMCT, but they alone do not constitute the whole. The institution must clearly differentiate (1) the acquisition of software capability or general understanding or more advanced knowledge and skills in one or more technologies potentially applicable to CMCT from (2) mastery of the broader competencies associated with various professional practices in the creation and production of CMCT work.

D. **CMCT, Computer Science and Engineering, and Research**

Curricular programs in CMCT and other types of CMCT content are natural partners with curricular programs in computer science and engineering. These combinations are natural resources for various kinds of innovation-oriented research and development beneficial to the fields and work of all participants. Institutions control the purposes, organization, and management of such combinations, making choices among myriad possibilities for coordination.

Standards regarding relationships and distinctions between the accreditation of curricular programs in the arts (arts accrediting organizations) and in engineering (ABET) are found in Appendix I.F. of the NASM *Handbook*, Appendix I.C. of the NASAD *Handbook*, and Appendix I.E. of the NAST *Handbook*. Operational standards and guidelines related to coordinated programs from a CMCT perspective are found in Section 2.O. below.

E. **Programs Combining Studies in Arts/Design with Non-Arts CMCT**

Curricular programs in arts/design may include or be combined with studies in non-arts CMCT areas. In these cases, arts accreditation standards for combination degrees found in Sections III.I., IV.C.6., and IV.C.7., apply to curricular structures.

F. **Related Arts Accreditation Standards**

NASAD: NASAD standards for Degree Programs Combining Studies in Art and/or Design and Electrical/Computer Engineering (NASAD and ABET) are found in Appendix I.C. of the NASAD *Handbook*. Generic NASAD standards for programs featuring Disciplines in Combination are found in Section III.I. Generic NASAD standards for Majors in or Based on Electronic Media are found in Section III.J.

NASD: Generic NASD standards for programs featuring Disciplines in Combination are found in Section III.I. of the NASD *Handbook*. Generic NASD standards for Majors in or Based on Electronic Media are found in Section III.J.

NASM: NASM standards for Studies in Recording Technology are found in Appendix I.G. of the NASM *Handbook*. Standards for Baccalaureate Curricula Combining Studies in Music and Electrical Engineering (NASM and ABET) are found in Appendix I.F. Generic NASM standards for programs featuring Disciplines in Combination are found in Section III.I. Generic NASM standards for Majors in or Based on Electronic Media are found in Section III.J.

NAST: NAST standards for Degree Programs Combining Studies in Theatre and Electrical/Computer Engineering (NAST and ABET) are found in Appendix I.E. of the NAST *Handbook*. Generic NAST standards for programs featuring Disciplines in Combination (Inter-, Multi-, Co-Disciplinary Programs, etc.) are found in Section III.I. Generic NAST standards for Majors in or Based on Electronic Media are found in Section III.J.

G. **Administrative Home**

Curricular programs in CMCT may be administered under the auspices of a single arts or design discipline, two or more arts and/or design disciplines, a college or school of the arts or design (however named) in combination with non-arts or design departments or schools, or in or through a separate consortium, institute, or similar entity developed specifically for CMCT or similar purposes in some other type of entity.

Choices regarding the administrative home for curricular programs in CMCT are the prerogative of the institution. Normally, curricular programs with a major in a particular area of art and/or design and an area of emphasis or minor in CMCT are administered by the applicable art and/or design unit.

H. **Commission Jurisdictions: The Arts Accreditors and CAAA**

Commission jurisdictions are determined primarily on relationships among purpose, content, and nature of work required in specific curricular programs. Degrees or other offerings that are (1) based in a specific arts or design discipline—visual arts, design, dance, music, theatre—and (2) include a curricular program in CMCT or (3) that require a significant presence for that discipline in a multidisciplinary format associated with CMCT are reviewed by the arts accreditor for that discipline as outlined in its various standards, many of which are referenced below in Section 2.J.

Majors in CMCT that are administered solely by an arts/design, dance, music, or theatre unit would be reviewed by the arts accrediting association appropriate for that unit, and a decision about accreditation and listing would be based on purpose, content, and nature of work. Expertise beyond the single discipline may be engaged in the review of such programs.

Majors in CMCT administered in schools or colleges of the arts, or by consortia, institutes, or other entities have the opportunity to seek a consultative review from a multidisciplinary perspective from the Commission on Multidisciplinary Multimedia (MDMM) of the Council of Arts Accrediting Associations (CAAA). CAAA is a consortium of the arts accrediting associations for art and design, dance, music, and theatre. This consultative review is not an accreditation review, but with an institution's agreement, it may be factored into accreditation reviews of the separate arts accrediting organizations and thus be advisory to one or more of their accreditation commissions, or it may be conducted at the request of the institution as a service to the institution.

For consultation regarding commission jurisdictions, please contact the staff of the National Office for Arts Accreditation.

I. **Content, Titles, Terminologies, and Program Descriptions**

In CMCT the focus is on the thing being done more than what it is called. However, as is the case for each curricular program offered by an institution, there must be consistency among content, title, terminology, program descriptions, and any other information provided to students and the public.

1. **Content**

    At its base CMCT refers to a specific kind of integrative production-oriented work involving at least two or more of the arts and/or design disciplines that is enabled by and presented through digital and emerging technologies. The integrations of all these characteristics and elements enable the particular types of convergences identified as CMCT (see Section I.C.)

    Many important and valuable connections among the arts and design disciplines, and among the arts and design disciplines and technology, are not CMCT.

    For curricular programs, required curricular content linked to competency development expectations involving integrations are the primary determinants of (a) whether or (b) the extent to which a program is centered in CMCT, and (c) what the answer reveals about consistency among titles, terminologies, and program descriptions.

2. **Titles**

    CMCT—a term used in this text to designate a type of work—is not a standard degree title, and may never become one. Other current or future titles can be consistent with CMCT-centered curricular programs. (See *Terminologies* below.)

    Title/content consistency determinations with regard to CMCT start with content—the thing being done, in part because titles in current use may be consistent with curricular content or programs that have elements of CMCT, but that do not address or that are not centered on CMCT sufficiently to warrant designating CMCT as an area of emphasis or a major or some other type of curricular program.

3. **Terminologies**

    As expected in a developing field, there are many terminologies. A few of the many terminologies that may be associated with CMCT content and work are: multidisciplinary multimedia, digital media, intermedia, game design, media arts, interactive media, new media, and emerging media.

    Terminologies used by the various art and design disciplines that include interactions with production-oriented technologies include, but are not limited to, animation, communication design, interaction design, installation, recording technology, music technology, game audio, film/video production, theatre design/technology.

    The arts and design disciplines also have degree structures for combining the professional undergraduate degree in a particular discipline with areas of emphasis in other fields, including technologically based fields.

    Curricular programs with these titles or structures may or may not include requirements in CMCT. If included, these CMCT-associated requirements may or may not have sufficient presence or focus to constitute a curricular program in CMCT. The relationship between content and curricular structure is the key factor in determining applicability of CMCT standards.

4. **Program Descriptions**

   Given the range of possibilities regarding content, title, terminology, and their combinations, CMCT curricular program descriptions must be accurate and clear regarding purposes, content, and competency development. These descriptions are particularly critical when titles or terminologies for CMCT curricular programs use the same language as titles for programs not necessarily or always focused on CMCT. Normally, within each institution, CMCT curricular programs carry a title or use terminology that distinguishes them from other curricular programs.

   CMCT curricular program descriptions connecting program completion with career preparation, career entry, or preparation for advanced study must meet standards in Section II.I.k.

J. **Basic Undergraduate Curricular Structures and Standards References**

   1. *Types of Degrees, Majors, Minors, Areas of Emphasis, Double Majors, etc.* Basic title, structural, and content standards are found in Section IV.C. Information regarding independent study is found in Section III.G.

   2. The relationship between time distributions within degree programs and degree integrity are found in Section IV.C.1.c.(1).

   3. *Liberal Arts Undergraduate Degrees*. Section IV.C.4. and Section VII.

      If applicable to an institution's programs, various structures for combining a liberal arts major in a particular arts/design field with studies in related or outside fields such as CMCT—elective study, specific emphasis or minor, double major—are found in Section IV.C.6.a.

   4. *Professional Undergraduate Degrees.* Section IV.C.1., 2., 3., and 5. and Sections VIII. and IX.

      If applicable to an institution's programs, various structures for combining a professional degree in an arts or design field with studies in related or outside fields such as CMCT—elective study, specific emphasis or minor, elective studies in a specific outside field, double majors, and, in NASM, the professional Bachelor of Musical Arts degree—are found in Section IV.C.6.

   5. *Liberal Arts Undergraduate Degrees in CMCT*

      These degrees must:

      a. Apportion time to the two curricular areas designated major and general studies consistent with standards and guidelines for other liberal arts degrees in the particular arts/design area and the other arts fields.

      b. Require that the major (CMCT) occupy at least 30% in content chosen consistent with program purposes from among that outlined in Section 2.L. below.

      c. Meet requirements outlined in Section 2.L.4. below.

      Such degrees may be combined with a liberal arts degree in one of the other arts disciplines or in design to create a double major.

   6. *Professional Undergraduate Degrees in CMCT*

      These degrees must:

      a. Apportion time to the three curricular areas designated major (CMCT), supportive studies in the major, and general studies consistent with standards and guidelines for other professional degrees in the arts and design disciplines.

b. Require that the major (CMCT) occupy at least 65% in order to develop requisite competencies and engage in essential experiences and opportunities listed in Section 2.M. below.

If the undergraduate professional degree in art/design, dance, music, theatre, film, etc. is associated with majors, minors, areas of emphasis, etc. in CMCT, the degree must meet arts accreditation requirements for all professional undergraduate degrees of that particular arts/design area, including common body of knowledge and skills development outlined in Section VIII.B.

K. **CMCT Curricular Structure Standards and Associated Requirements**

1. **Standards**

   a. Curricular structure, content, and time requirements shall enable students to develop the range of knowledge, skills, and competencies expected of those completing a specific area of emphasis, minor, or a degree or other credential in CMCT.

   b. Institutions interested in offering CMCT emphases or minors within single-discipline majors in arts/design or other fields use structural standards for that single discipline and a major as a framework for the inclusion of CMCT content (e.g. BFA in Stage Management with an Emphasis in CMCT; B.M. in Composition with an Emphasis in CMCT, etc.).

2. **Guidelines**

   The structure of each curriculum normally conforms to the basic distributions of time and disciplinary work, and achievement expectations associated with the type (e.g. liberal arts, professional, practice-oriented, research-oriented, practice- and research-oriented, etc.) and level (e.g. basic, intermediate, advanced, undergraduate, graduate, etc.) of the program or credential offered.

L. **CMCT Competency Development Choices and Proportions**

1. **Choices and Proportions.** Institutional choices regarding the development of CMCT competencies are placed within the institution's chosen CMCT purposes and program framework, e.g. (a) liberal arts or professional undergraduate degrees, or a degree with an experimental structure, (b) production or scholarship focus or blended concentration, (c) major, double major, minor, area of emphasis, independent study, etc., (d) introductory, basic, intermediate, advanced, etc., (e) overview, comprehensive, focused, specialized, etc.

   One or more of the competencies below may also inform content area choices for practice- and/or research-oriented graduate study, especially for students seeking to develop a set of knowledge and skills in CMCT.

   Choices of competency requirements must enable students to fulfill the specific purposes and scope of any CMCT curricular program for which they are enrolled.

2. **Competency Requirements, Levels, and Institutional Prerogatives.** The CMCT competencies listed in this Appendix may be pursued at elementary, intermediate, and advanced levels. The levels are set by the institution for each CMCT curricular program offered. Levels and associated graduation or completion competency and other requirements must be consistent with each degree or program's objectives, degree title, and major.

   The list of competencies in Section 2.M. does not preclude any institution's prerogative to require the development of additional competencies or to state in other terms one or more of the functions indicated in the competency statements below.

3. **CMCT Minors, Areas of Emphasis, and Their Equivalents.** A CMCT designation indicates that the program develops or requires at least an overview understanding of CMCT as a whole field. Content chosen for this and other purposes demonstrates a clear connection to development in several of the competency areas listed as titles for items a., b., c., and d. in Section 2.M.1. below as appropriate to the level of the minor or area of emphasis. To meet requirements for title/content consistency, minors and areas of emphasis focused primarily on specific elements or components used in CMCT, are titled with the names of those elements or components, not CMCT.

4. **Undergraduate Liberal Arts Degrees with a Major in CMCT.** A CMCT designation indicates that the program develops or requires a basic understanding of CMCT as a whole field; for example, informational knowledge about CMCT components, concepts and structures; conceptualization, creation, and development processes; the practicalities and contexts for CMCT work; and some experience in making CMCT. Specific requirements for the major demonstrate a clear connection to development in the competency areas listed as titles for items a., b., c., and d. in Section 2.M.1.

5. **Professional Undergraduate Degrees with a Major in CMCT.** All competencies listed in Section 2.M.1. below are required for graduation from a professional arts-/design-labeled undergraduate degree—BFA, BM, etc. —with a major in or focused primarily on the production of CMCT work, and/or titled a major in CMCT, irrespective of the particular terms or label used by the institution to indicate CMCT.

6. **Experimental Degree Structures.** Experimentation in degree structures, content, and knowledge and skills development systems may be appropriate for some undergraduate CMCT programs. However, CMCT competency development requirements for graduation must be consistent with published program objectives and time distributions (see Sections III.M. and IV.C.1.c.)

7. **Other Applications.** Whether centered in art/design, dance, music, theatre, or in other fields, one or more of the competencies listed below may be required to achieve the production and/or informational and/or scholarly objectives of individuals or programs.

M. **CMCT Competencies, Experiences, and Opportunities**

1. **Competencies**

   Consistent with their purposes and level, CMCT curricular programs develop one or more of the following competencies:

   a. Basic informational knowledge regarding:

      (1) The vocabulary of practice, including the ability to articulate what basic terms and concepts mean in:

         (a) At least one arts/design discipline, e.g. art/design, dance, music, theatre, film.

         (b) At least one and usually several other arts/design and/or other creative disciplines.

         (c) Appropriately related technology.

         (d) Multiple media forms and technologies associated with CMCT.

      (2) Fundamental generative processes—the way work is created in the various arts and design forms, in technology, and in CMCT. Includes basic components, disciplines, and integrations; materials and techniques; creative patterns/processes; problem-solving; and formal relationships.

      (3) Notational systems—the natures of notational systems (etching, scoring, pseudo-coding, mapping) and what they do in the various arts and in technology.

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(4) Editing systems—procedures, processes, and criteria for synthesizing and determining final compositional, design, or technical procedures.

(5) Phases of production, exhibition, and distribution—sequences for the art forms, for design, for other disciplines involved, for technology, and for multimedia.

(6) Fundamental business practices and contexts associated with production, exhibition, and distribution for various types of CMCT.

b. Knowledge and abilities regarding CMCT concepts and structures, including but not limited to:

(1) Knowledge of the concepts related to the visual, spatial, sound, motion, interactive, performative, and temporal elements/features of digital and emerging technology and the principles for their use in the creation and application of CMCT work.

(2) Ability to combine understanding of the special properties of various specific disciplines and media with an understanding of narrative and other information/language structures for organizing content in time-based or interactive CMCT.

(3) Ability to organize and represent content structures such as communications, objects, and environments in ways that are responsive to artistic/design goals and/or other technological, social, cultural, and educational systems and requirements.

c. Ability to conceptualize, create, and develop CMCT work, including but not limited to:

(1) Abilities to conceptualize, capture, create, and edit in various media using programming codes and/or software packages. Associated competencies include:

(a) Understanding of digital multimedia capabilities and uses of light, images, animation and film and video, sound, and texts.

(b) Understanding of the characteristics and capabilities of various technologies (hardware, software, and code-based systems); their appropriateness for particular expressive, functional, and strategic applications; their positions within larger contexts and systems; and their influences on individuals and society.

(2) Knowledge of the processes for the development and coordination of technology-based CMCT creative tools (for example, storyboarding, concept mapping, and the use of scenarios and personas).

(3) Ability to use technologies to achieve specific expressive, functional, and synergistic objectives.

(4) Understanding of the nature and procedures of collaborative work, and the ability to work in teams to organize collaborations among representatives from multiple disciplines and perspectives.

(5) Ability to communicate verbally and write effectively in CMCT contexts.

d. Knowledge and understanding of practicalities and contexts for CMCT, including but not limited to:

(1) Understanding of what is effective, useful, usable, and desirable with respect to:

(a) Interactive user/audience-centered interfaces.

(b) Digitally based, technologically mediated communication, objects, and environments.

(c)	The ability to analyze and synthesize relevant aspects of human interaction in various contexts (physical, cognitive, cultural, social, political, economic, etc.).

(2)	Knowledge of the basic principles, laws, regulations, and ethical considerations and practices associated with CMCT and intellectual property as it is both acquired and created by individuals working in the programs.

(3)	Knowledge of history, theory, and criticism with respect to CMCT and related areas such as film, video, technology, media, sonic arts, and digital arts and design.

**2.	Opportunities and Experiences**

The following standards and guidelines are applied according to the purposes and goals of each CMCT program. All are applicable to professional degree programs in CMCT.

a.	Sufficient access to the following resources to accomplish the purposes and requirements of the programs. Professional degree programs in CMCT require regular access to such resources.

(1)	Image, video, sound, and other libraries and resources that provide raw material for CMCT work, and to studios and libraries with appropriate electronic media resources and reference materials regarding CMCT in other relevant disciplines such as arts, design, film studies, cultural studies, history of technology, communication, cognitive psychology, human factors, computer science, and business.

(2)	For instruction and for independent work, appropriate technology and staff necessary for the development and professional production of CMCT work. Consistent with the goals and objectives of the program, equipment should align with disciplinary/industry standards. This alignment is essential for professional programs.

(3)	Regular access to instruction and associated experience and critique by faculty with educational and professional backgrounds in CMCT. Appropriate backgrounds must include more than specific software or hardware skills.

b.	Opportunities to do work that combines several disciplines or media applications, or that explores relationships between practice and research.

c.	For students in professional degree programs, final project and/or portfolio demonstrations of readiness to do CMCT work at a professional level.

d.	To ensure that opportunities can be fully realized, programs that require student purchase of computers should provide the technological infrastructure and staff to support use of privately owned machines in CMCT workspaces and classrooms. The institution should be cognizant of constantly changing industry preferences for certain operating systems, computer platforms, and software in setting computer purchase requirements and infrastructure support.

e.	In order to accomplish some kinds of work, students may need to know or learn computer programming or scripting.

f.	Opportunities to participate in internships or other types of practica are recommended.

**N.	General Studies Associated with CMCT**

1.	Work in convergent fields is inherently collaborative and synthesizes content, resources, and methods from many disciplines.

2. General studies requirements should correlate with the overall goals and objectives of each curricular program. Studies in areas such as writing, film studies, arts and design disciplines outside the student's home discipline, cultural studies, performance studies, history of technology, communication theory, cognitive psychology, human factors, computer science, and business are recommended.

O. Operational Standards for CMCT Curricular Programs

The standards below are in addition to comprehensive standards found in Sections II. and III. of the Standards for Accreditation that are applicable to all curricular offerings in CMCT.

1. Instructional and Technical Personnel

a. The aggregate credentials, experience, and achievement qualifications of faculty and staff for CMCT and its various disciplines and components depend in large part on the nature of CMCT work, the institution's specific goals for achievement in CMCT, and the nature of the institution's requirements for faculty in arts/design or other creative disciplines. CMCT expertise is often gained through applications of interest, aptitude, and experimentation that develop capabilities for combining and synthesizing component disciplines. Formal academic credentials alone may not indicate the qualifications needed.

Qualifications normally include the ability to:

(1) Bring deep expertise and technical facility in some relevant body of content to collaborative efforts and programs.

(2) Explain and otherwise articulate or notate artistic and technical concepts and issues, especially to those in other fields.

(3) Research and effectively communicate complex ideas associated with creative work developed through the collaborative process.

(4) Teach: sponsor, guide, assist; and mentor the development of student competencies and projects in CMCT.

(5) Build, participate in, and oversee multidisciplinary teams.

(6) Nurture and manage CMCT projects of various types and sizes.

Qualified personnel may come from many sectors: full-time faculty, staff, adjuncts, industry employees, graduate students, personnel from other educational institutions.

b. Instructional and technical personnel supporting and/or administering CMCT work need to possess:

(1) Expertise in multiple media forms.

(2) Some level of familiarity with related disciplines outside of the arts.

(3) An understanding of the meanings and usages of various words and concepts in preferably several fields of technology, media forms, and related fields consistent with the purpose and nature of the project or program.

c. Faculty teaching CMCT-centered courses and overseeing associated student project development or conducting labs in CMCT must be qualified by demonstrated professional competence and experience. Faculty must have practical professional experience in the content covered by any course they are teaching and be qualified to teach current technology. Demonstrated teaching experience shall be a requirement for continuation.

d.   In addition to qualified CMCT faculty, the institution shall have faculty qualified to teach any specifically designated course in any discipline or area required to complete the curricular program that addresses an element or component of CMCT.

If such requirements include any math, engineering, or other science-centered course, normally faculty teaching such courses shall have an earned doctorate in the field in which they are teaching and hold a faculty position in a school or department in that field.

e.   Staff support commensurate with the scale of programs, projects, resource requirements, and delivery systems is essential.

f.   Medium- to large-scale CMCT efforts normally require a project manager who coordinates fulfillment of technical and technological requirements.

g.   If an institution offers a major in CMCT, a faculty member or administrator shall be designated who has primary responsibility for the program and sufficient assigned time for its operation and development consistent with the size, scope, and requirements of the program. Normally, faculty members designated as program administrators or coordinators have several years of experience producing CMCT work.

b.   Professional development and support are important for faculty associated with CMCT programs. Some faculty may need to be engaged in professional development outside their home discipline, and perhaps even outside traditional academic professional development activity.

For additional standards regarding faculty and staff, see Section II.E.

2.   **Coordination and Coordinated Programs**

a.   CMCT-based curricular programs that require specific courses in other arts, design, humanities, technology, engineering, math, or science courses must be able to demonstrate coordination with professionally credentialed faculties and administrators responsible for teaching those disciplines at a level consistent with the nature and purposes of the CMCT program being offered.

b.   If the arts/design unit shares the organization and management of a CMCT program with one or more other units, cooperation in the development, operation, and evaluation of the program is required.

3.   **Resources and Delivery Systems**

Resources and delivery systems must match the purpose, nature, and scope of each course or program, including but not limited to:

a.   Resource acquisition systems to assemble technologies and other resources used for specific elements of curricular programs in CMCT, including associated projects.

b.   Working spaces that are the locations for:

(1)   Development of coherent creative action (dissimilar things going different ways, but working together).

(2)   Individual and collaborative study, exploration, and work.

(3)   Systems integration (artistic [e.g. composition, choreography, playwriting or narrative, visual design] and technological).

(4)   Project fulfillment and artistic production.

(5) Development and maintenance of a creative environment.

(6) Installation, access, maintenance, and security and storage of institutional and student-owned equipment.

Working spaces include, but are not limited to, locations featuring computers and other technologies, as well as studios, scene shops, rehearsal halls, demonstration sites, performance venues, and digital and virtual workspaces for CMCT.

c. Intellectual Resources

(1) In addition to the usual resources for the arts and technology, CMCT programs need to access image, video, sound, and other libraries and assets, both those they acquire and those that are created by individuals working in the programs. These become part of the raw materials of CMCT work.

(2) Participants in CMCT programs need access to the range of current work in this field.

(3) Resource issues include appropriate hardware and software, and fees for licensing and royalties.

(4) Issues related to copyright, fair use, and legal aspects of the use of digital assets—acquired or created—need to be addressed.

(5) Mechanisms for archiving CMCT work need to be developed.

For additional standards applicable to Facilities, Equipment, Health, and Safety, see Section II.F.; Library and Learning Resources, Section II.G.

4. **Time and Credit Allocations**

Various aspects of CMCT knowledge and skill development are time-intensive. Examples include, but are not limited to: collaborations, project-based activities involving multiple disciplines and perspectives, team-based learning and creating, developing the artistic and technological proficiencies to realize concepts within specific CMCT works and for any specific CMCT work as a whole.

Alternative models may be appropriate (a) to allocate time through schedules and other means, and (b) to structure the relationship between time and credit (see Standards for Accreditation, Section III.A., and especially note the following Section III.A.2.a).

Alternative models may also be appropriate for developing the relationship among time, faculty and staff personnel assignments, and load credit. Examples include, but are not limited to, mentoring project-based work, team-based teaching, and lab oversight and management.

Within the frameworks established in the various arts accreditation standards, decisions regarding time and credit allocations are the prerogative of each institution.

5. **Evaluation**

For CMCT curricular programs that are arts-/design-based, qualified artists/designers associated with the institution must be primarily responsible for quality definitions and quality assurance consistent with the purposes of each program.

Evaluation and associated planning need to take into account the fact that CMCT is new, experimental, and exploratory in both artistic and technical dimensions. Due to the emergent nature and the rapid expansion of digital and other technologies and the complexity produced by mixtures of the assessment approaches consistent with the natures of the various arts and design disciplines, traditional academic assessment criteria and ways of thinking may need to be adjusted to CMCT-

specific criteria consistent with the institution's specific goals for achievement in CMCT. Evaluation systems for students and programs need to be associated with maintaining a creative conceptual space in order to facilitate work rather than stifle it.

P. **Graduate Curricular Programs in CMCT**

Specialized degrees or programs in CMCT or degrees or programs with a required curricular component in CMCT may be offered at the graduate level by art/design, dance, music, theatre, or other types of arts units of disciplinary consortia.

When such programs are designated a major or emphasis in CMCT, or the equivalent, protocols in Section 2.H., *Commission Jurisdictions: The Arts Accreditors and CAAA* apply.

All arts-centered or design-centered, or arts- and design-centered graduate programs must meet operational, resource, and content standards applicable to their purposes, disciplinary base or bases, level, degree or program title, content, completion expectations, and other elements found in the graduate sections of the Standards for Accreditation published by each of the arts accrediting associations. See also Standard III.I. regarding multidisciplinary programs where a single art form contributes over 25% of the total program content. Definitions, descriptions, and principles outlined in this Appendix are also applicable to graduate curricular programs in CMCT.

All graduate curricular programs in CMCT must be able to demonstrate logical and functioning relationships among purposes, curricular structure, content, expectations for competency development, and completion requirements.

Graduate programs offer a range of possibilities for CMCT. Terminal degree programs with majors in CMCT must require high professional levels of competence in the creation and production of CMCT work, or in scholarship focused on CMCT work.

Programs with majors in other fields requiring a set of studies in CMCT may focus on graduate-level introductory or intermediate-level studies in CMCT.

One or two courses in CMCT may be appropriate as requirements or electives in various types of graduate programs, but not be structured to constitute a curricular program in CMCT.

The competencies listed in Section 2.M. above are developed to ever-higher levels of proficiency and integration as CMCT study and experience progress. Beyond basic levels, these competency statements may evolve into other competency formulations used by the institution as the basis for completion requirements at the graduate level.

Graduate programs focused on the creation and production of CMCT work must be supported by the significant resources necessary to remain current in any field associated with digital and emerging technology.

Q. **Standards for Specific Curricular Programs**

Please note: The standards below are in addition to and reviewed in terms of applicable standards in Sections II. through XXII., and in Appendix I.I., Section 2.

For each CMCT curricular program—e.g. area of emphasis, minor, major—developed by an institution:

1. A specific set of purposes must be developed and published that include, but are not limited to:

   a. Titles and basic identification of subject matter, techniques, technologies, disciplines, issues to be addressed, and CMCT program size, scope, and focus.

b. Specific content, methods, and perspectives used to consider subject matter, techniques, technologies, disciplines, or issues to be addressed, including but not limited to expectations regarding:

(1) Specific content and the specific perspective(s) and means for engaging it.

(2) Breadth and depth in various disciplinary and CMCT components.

(3) The development of problem setting and solving capabilities.

(4) Ability to juxtapose, combine, apply, integrate, or synthesize the disciplines involved.

2. Curricular and other program structures and requirements shall be consistent with purposes, goals, objectives, and program level, and shall be published.

3. Operations must reveal coherent achievement of goals and objectives.

4. Terminology must reflect accurately the type(s) of disciplinary combinations represented or used, and any CMCT applications that are the focus of the program.

5. Degree and program titles and descriptions must be consistent with associated curricular content and completion requirements. Published materials shall be clear about the status of any curricular program with respect to constituting a major, a minor, area of emphasis, field for independent study, etc.

6. Institutions must establish enrollment or admission policies for CMCT curricular programs consistent with the nature and expectations of specific CMCT program offerings. Students shall be admitted only to CMCT programs for which they show prospects of success. Evaluations of potential for success in a professionally oriented, production-focused major in CMCT normally involve considerations that go beyond those associated with a single art form, design discipline, or technology area. These considerations may include, but are not limited to, the integrative nature of CMCT and the diverse and emerging skill sets and artistic practices associated with CMCT. See also Sections V., XI., and XVIII.

7. Applicable prerequisites for courses or curricula must be clearly stated, especially with regard to levels of competence in specific disciplines or technologies central to the artistic or educational purposes and content of the program. The same is true for any entry-level courses in math, engineering, or math-based disciplines that may be required for program completion or that develop competencies necessary for any required upper-level courses in these areas or in CMCT, or its technological components. The institution must have means for assessing the extent to which prospective students meet these requirements before they are accepted or enrolled.

8. The institution must determine and publish any technical competency and equipment requirements for each program or course. The institution must have means for assessing the extent to which prospective students meet these requirements before they are accepted or enrolled.

9. Programs involving correspondence or distance learning must meet accreditation standards regarding such programs (see Section III.H.). This includes programs delivered robotically through interactive tutorials as well as those led by specific faculty members.

10. There must be clear descriptions of what the institution expects students to know and be able to do upon completion, and effective mechanisms for assessing student competencies against these expectations. Depending on the nature of the program, expectations and competencies are related to one, several, or all of the areas outlined above in Section 2.M. The levels of the competencies expected shall be consistent with the purpose, focus, and level of the degree or program offered.

11. For professionally oriented degree or non-degree programs, these expectations must include, but are not limited to:

   a. Achieving a measurable degree of advancement in and fulfillment of specified and stated program purposes including mastery in the content outlined in Section 2.I. above and in at least one of the sets of established or innovative techniques appropriate to CMCT.

   b. Developing an effective work process and a coherent set of ideas and goals that are embodied in their work.

   c. Developing a significant body of knowledge and skills sufficient for evaluation and a level of technical proficiency and/or scholarly competence in artistic and/or design applications that are observable in work acceptable for public exhibition or publication.

12. Evaluation mechanisms must be consistent with the goals defined for specific courses, projects, programs, or curricula, and to the collaborative approach(es) involved.

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