

Joint Review Committee on Education in
Diagnostic Medical Sonography (JRC-DMS)

Commission on Accreditation of Allied Health
Education Programs (CAAHEP)

Diagnostic Medical Sonography (DMS) Standards Interpretation Guide (SIG)

Introduction

The Standards Interpretation Guide (SIG) contains the CAAHEP **Standards and Guidelines for the Accreditation of Educational Programs in Diagnostic Medical Sonography** with explanations adopted by JRC-DMS (Committee on Accreditation or CoA). **Standards** are non-italicized and constitute the prescriptive requirements that all programs seeking accreditation are evaluated on. **Guidelines** are *italicized* and provide interpretation and elaboration on the mechanisms of compliance with the Standards.

In the past, programs have struggled in understanding the meaning of each Standard and determining what evidence or examples were required to submit in support of each Standard. The purpose of the SIG is to provide clarification of each Standard's intent and suggested proof of compliance with evidence. The SIG is **separate** from the CAAHEP *Standards and Guidelines* and subject to change by the JRC-DMS Board and Executive staff.

The **Self Study document** that all programs use to complete initial and continuing accreditation applications contains all evidentiary requirements for program compliance for each Standard. It was determined that including the required documents that support compliance with each Standard was duplicative and not included in the SIG. It will be necessary for each program to use both the SIG and the Self Study document to assist in the completion of the accreditation process.

Policy revisions may occur, so this document should be reviewed frequently to ensure the most current version is referenced. Please refer to the Glossary for the definition of terms. The Glossary will also be subject to updating as the SIG evolves into subsequent versions. Questions regarding the interpretations can be directed to the JRC-DMS Executive Office.

Description of the Profession

Diagnostic medical sonography (DMS) is a multi-specialty occupation comprised of abdominal-extended sonography, adult cardiac sonography, breast sonography, musculoskeletal sonography, obstetrics and gynecology sonography, pediatric cardiac sonography, vascular sonography, and other emerging clinical areas or concentrations.

These concentrations all use a comprehensive knowledge of ultrasound technology in their daily work. The trained technologist is an individual who provides patient care services applying ultrasound technology in the performance of diagnostic and/or therapeutic exams and procedures. As an occupational prerequisite, the diagnostic medical sonographer must be **educationally prepared** and **clinically competent**. Demonstration and maintenance of competency through **certification** by a **nationally recognized credentialing organization** is the Standard of practice in sonography. Maintenance of certification in all areas of practice is endorsed.

The diagnostic medical sonographer functions as a **delegated agent** of the physician and does not practice independently. Diagnostic medical sonographers are committed to enhanced patient care and continuous quality improvement that increases knowledge and technical competence. Diagnostic medical sonographers use independent, professional, and ethical judgment and critical thinking to perform diagnostic procedures safely.

The diagnostic medical sonographer generally performs the following:

- Obtains, reviews, and integrates pertinent patient history and supporting clinical data to facilitate optimum diagnostic results;
- Performs appropriate procedures and records anatomic, pathologic, and/or physiologic data for interpretation by a physician;
- Records, analyzes and processes diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician;
- Exercises discretion and judgment in the performance of sonographic and/or related diagnostic services;
- Demonstrates appropriate communication skills with patients and colleagues;
- Acts in a professional and ethical manner;
- Facilitates communication and education to elicit patient cooperation and understanding of expectations and responds to questions regarding the sonographic examination.

As a multi-specialty occupation, these Standards apply to the following learning concentrations:

- **Abdominal - Extended Sonography**
- **Adult Cardiac Sonography**
- **Breast Sonography**
- **Musculoskeletal Sonography**
- **Obstetrics and Gynecology Sonography**
- **Pediatric Cardiac Sonography**
- **Vascular Sonography**

Steps for the Self-Study Process

(See JRC-DMS Policy 206 and CAAHEP Policy 206)

It is recommended that the program interested in accreditation download the most current version of the following documents:

- **CAAHEP Standards and Guidelines for Diagnostic Medical Sonography** (www.caahep.org or www.jrcdms.org/standards.htm);
- **JRC-DMS (CoA) Policies and Procedures** (www.jrcdms.org or www.jrcdms.org/policies.htm);
- **CAAHEP Policies and Procedures** (www.caahep.org);
- **Documents available at the JRC-DMS website under "Get Started on JRC-DMS Self Study"** (www.jrcdms.org/getstarted.htm)

The above-listed documents will be cited often throughout the SIG and should be available for consultation. The following is a brief overview of what your program will need to accomplish in the accreditation process.

1. **Program initiates accreditation process** through JRC-DMS (CoA) with **Accreditation Services Form** submitted electronically to the CAAHEP website, which is forwarded to CoA (JRC-DMS). CoA sends appropriate materials and internet links to the program.
2. **Complete and submit a Self-Study, using the Self Study document.**
3. **Review** of the **Self-Study** by CoA assigned personnel (**reviewer**).
4. **Site Visit** Team Leader (On-site or Virtual); reviews Self-Study findings, completes **Site-Visit** and reports recommendations to CoA personnel for generation of **findings letter**.
5. **Program's response to findings** and citations returned to CoA with supporting narrative and corrective actions taken.
6. **Accreditation recommendation determined by CoA** is made by the original review or designee of the Self-Study with summary assessment for a board presentation, discussion, and action.
7. If necessary, a **special procedure for recommendation requiring due process** (withhold/withdraw/probationary accreditation) will be initiated by the CoA to the program.
8. **Accreditation status decision** made by CAAHEP Board of Directors based on the recommendations of the CoA.
9. **Continuous quality review** is required of all programs for effective compliance with published criteria.

Self-study documents are available at the [JRC-DMS.org](http://www.jrcdms.org) website under "Get Started on JRC-DMS Self Study"

Table of Contents

Standard I: Sponsorship

- I.A. - Sponsoring Institution
- I.B. - Consortium Sponsor
- I.C. - Responsibilities of Sponsor

Standard II: Program Goals

- II.A. - Program Goals and Outcomes
- II.B. - Appropriateness of Goals and Learning Domains
- II.C. - Minimum Expectations

Standard III: Resources

- III.A. -Type and Amount
 - 1. Program Resources
 - 2. Clinical Affiliations
- III.B. - Personnel
 - 1. Program Director
 - 2. Clinical Coordinator(s)
 - 3. Concentration Coordinator(s)
 - 4. Medical Advisor
 - 5. Faculty/Instructional Staff
 - 6. Clinical Instructor(s)
- III.C. - Curriculum
- III.D. - Resource Assessment

Standard IV: Student and Graduate (Outcomes) Evaluation/Assessment

- IV.A. - Student Evaluation
 - 1. Frequency and purpose
 - 2. Documentation
- IV.B. - Outcomes Assessment
 - 1. Outcomes Assessment
 - 2. Outcomes Reporting

Standard V: Fair Practices

- V.A.1-4 - Procedures and Disclosures
- V.B. - Lawful and Non-Discriminatory Practices
- V.C. - Safeguards
- V.D. - Student Records
- V.E. - Substantive Changes
- V.F. - Agreements

Glossary of Terms

Appendix A

Appendix B – Curricular Requirements

Standard I: Sponsorship

Standard I.A. - Sponsoring Institution

A sponsoring institution must either award credit for the program or have an articulation agreement with an accredited post-secondary institution, and must be at least one of the following:

1. A post-secondary academic institution accredited by an institutional accrediting agency that is recognized by the U.S. Department of Education and authorized under applicable law or other acceptable authority to provide a post-secondary program, which awards a minimum of a certificate/diploma at the completion of the program.
2. A hospital, clinic or medical center that is institutionally accredited and authorized under applicable law or other acceptable authority to provide healthcare, which awards a minimum of a certificate/diploma at the completion of the program.
3. A branch of the United States Armed Forces or other Federal agency, which awards a minimum of a certificate/diploma at the completion of the program.

Interpretation of Standard I.A.

Currently, in the United States (U.S.) the Council for Higher Education Accreditation (CHEA) and the U.S. Department of Education (USDE) recognize colleges and universities as well as programmatic accrediting organizations for assurance and maintenance of quality standards. For a current listing of accrediting agencies, access the USDE website, Regional and National Accrediting Agencies: www2.ed.gov/admins/finaid/accred/accreditation_pg6.html

The sponsoring institution shall provide evidence of institutional accreditation and State program approval (if indicated) as part of the supporting documentation. The sponsoring institution must submit this during the Self-Study process. An On-Site Evaluation [OSE] (site visit) or Virtual Site Visit [VSV] (off-site) will NOT be conducted until institutional accreditation is obtained, active, and current.

A sponsoring institution must either award **credit** for the program or have an articulation agreement with an accredited post-secondary institution and award a minimum of a certificate/diploma at the completion of the program.

If **academic credits** are not granted during the program offered in the accredited academic institution, there must be an articulation agreement for those who complete the program.

Under certain conditions, a hospital, clinic, or medical center may be a program sponsor. It must be accredited by the Joint Commission or recognized equivalent, authorized by the state to provide health care and award a minimum of a certificate/diploma at the completion of the program. ***The sponsor may consider establishing an articulation agreement with a post-secondary institution.*** The entity must ensure all criteria associated with the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Standards and Guidelines are met.

The U.S. Armed Forces or other Federal agencies may be program sponsors. The sponsor must be authorized to provide educational programs and award a minimum of a certificate/diploma at the completion of the program. Compliance with State educational programs may be an additional requirement along with Armed Forces or Federal mandates.

CAAHEP will require that a program seeking accreditation demonstrate compliance with the most current Standards.

With respect to institutional characteristics, operations, fair business practices, and autonomy, it is the responsibility of the institution, and specifically, the program, to assure that all accreditation requirements, where applicable, meet all state, regional, and federal standards. **JRC-DMS Policy 105; CAAHEP Policy 104, 107, 115.A., 115.B., 115.C.**

Suggested Evidence of Compliance for Standard I.A.

See Self Study document for required evidence of compliance for this Standard.

Standard I.B. - Consortium Sponsor

1. A consortium sponsor is an entity consisting of two or more members that exists for the purpose of operating an educational program. In such instances, at least one of the members of the consortium must meet the requirements of a sponsoring institution as described in I.A.
2. The responsibilities of each member of the consortium must be clearly documented as a formal affiliation agreement or memorandum of understanding, which includes governance and lines of authority.

Interpretation of Standard I.B.

Consortia consist of two or more institutions that, through contract, affiliation agreement, or memorandum of understanding (MOU), collaborate to offer educational courses leading to completion of a program of study in Diagnostic Medical Sonography (DMS). Consortium members must clearly delineate each members' role in the education process clarifying general, basic science, and DMS-specific courses. This may require an organizational chart depicting all member roles and responsibilities. ***At least one of the consortia members must meet the requirements of a sponsor in Standards I.A.*** Meaning, one of the members must be a post-secondary academic institution, a hospital, clinic, or medical center, or a branch of the Armed Forces or other Federal agency.

The DMS program within a consortium is a separate educational program in which all members have agreed to meet requirements for the award of diploma, certificate, or degree.

Determination of the primary institution that grants the award is determined within the contract, agreement, or MOU. Consortium members may elect to award a separate diploma, certificate, or degree based on the same contract, agreement, or MOU document governing the administration of the program.

The consortium is recognized as a separate "program of study" and is subject to the same accreditation actions as other programs.

Clinical affiliation agreements between programs and hospitals, imaging centers, and physician's offices **do not** constitute the formation of a consortium.

Suggested Evidence of Compliance for Standard I.B.

See Self Study document for required evidence of compliance for this Standard.

See **JRC-DMS Policy 106** referencing **CAAHEP Policy 115 - A (Sponsoring Institution) and B (Consortium)** at www.caahep.org/ for additional information.

Standard I.C. - Responsibilities of the Sponsor

The Sponsor must assure that the provisions of these **Standards and Guidelines** are met.

Interpretation of Standard I.C.

The sponsoring institution's key administrative personnel (President, Chief Executive Officer, Chief Operating Officer, Campus Director) is/are responsible for assuring that the DMS program demonstrates compliance with CAAHEP Standards. To accomplish compliance, both summative annual reporting and graphic presentation of organizational structure are key elements in the ongoing demonstration of Sponsor responsibilities.

The **Annual Report** is a comprehensive summary of the program demographics, outcomes, clinical affiliate demographics, and supporting documents.

Currently, the JRC-DMS utilizes a program portal collaboratively constructed with ARMATURE Corporation, an accreditation management software company (ARMATURE Fabric), to enable direct, secure, and interactive capabilities of updating relevant program information. The following information will be required for annual report updating at the JRC-DMS Armature Portal for programs continuing accreditation.

1. **Information (Program Demographics)**
2. **Outcomes (Retention & Job Placement)**
3. **Outcomes (Credentialing success)**
4. **Outcomes (Graduate & Employer Surveys)**
5. **Clinical Affiliates (Demographics)**
6. **Supporting Documents**

The **organizational table** is required and should clearly demonstrate the chain of communication between all key administrative personnel of the sponsoring institution (or consortium), their relationship to the DMS program, which includes the DMS Program Director, faculty, clerical and non-clerical support personnel, and other key personnel, including names and titles of all individuals. **CAAHEP 107.A.1.**

Suggested Evidence of Compliance for Standard I.C.

See Self Study document for required evidence of compliance for this Standard.

Additional JRC-DMS and CAAHEP Policies in support of this Standard.

JRC-DMS Policy 202; CAAHEP Policy 202, 204 outlines actions taken regarding notification of programmatic accreditation status.

JRC-DMS Policy 203; CAAHEP Policy 203 addresses the interval of time between accreditation and the process for 10-year accreditation.

JRC-DMS Policy 207 Transfer of Sponsorship; CAAHEP Policy 207:

Accreditation cannot be transferred from one program to another. However, sponsorship of an accredited program may be transferred from one educational institution to another, and such transfer may or may not affect the accreditation status of the program.

JRC-DMS Policy 209; CAAHEP Policy 209: Provides an overview of distance education and branch or satellite entities.

JRC-DMS Policy 807: This policy outlines the process when there is a change in the program's administration and key personnel.

CAAHEP Policy 115 Requirements for Institutions Sponsoring Accredited Programs: CAAHEP requires institutions applying for the accreditation of health science education programs to be institutionally accredited by a recognized accrediting body or by a body otherwise acceptable to CAAHEP. CAAHEP may accredit post-secondary programs sponsored by a consortium or by a secondary educational institution.

Standardized Program Personnel Data Forms are available online at www.jrcdms.org

Standard II: Program Goals

Standard II.A. - Program Goals and Outcomes

There must be a written statement of the program's goals and learning domains consistent with and responsive to the demonstrated needs and expectations of the various communities of interest served by the educational program. The communities of interest that are served by the program must include, but are not limited to, students, graduates, faculty, sponsor administration, employers, physicians, and the public.

Program-specific statements of goals and learning domains provide the basis for program planning, implementation, and evaluation. Such goals and learning domains must be compatible with the mission of the sponsoring institution(s), the expectations of the communities of interest, and nationally accepted standards of roles and functions. Goals and learning domains are based upon the substantiated needs of health care providers and employers, and the educational needs of the students served by the educational program.

Interpretation of Standard II.A.

The DMS program must have written goals, student learning outcomes, and the learning domains statement(s). **ALL** programs must begin with the overarching goal statement in the preparation of career entry sonographers. Working from this goal statement, the program develops and aligns program goals and student learning outcomes to meet the needs of their communities of interest. These communities of interest must include but are not limited to students, graduates, faculty, sponsor administration, employers, physicians, and the public.

In planning the DMS program, consideration should be given to developing, executing, and analyzing a comprehensive needs assessment of the communities of interest. Development and refinement of the program's mission and goals should be a result. Periodic reassessment of the communities' needs may be warranted due to the dynamic nature of the sonographic imaging environment, adjusting program goals and requirements as appropriate. Programs must determine sufficient resources available for students' clinical placement, cohort size and frequency, student/faculty ratio, student/clinical instructor ratio, and available resource capacity of all participating entities.

A program **overview or historical narrative** should include responses to the following statements:

- Discuss the **historical development** of the program. For programs that are currently accredited, please provide any changes that have occurred since the last accreditation review process.
- Describe **special considerations** that impact your program characteristics (e.g., student population, financial constraints, availability of clinical experiences, national and /or state regulations for your education system).
- State **program goals** defining minimum expectations, support of institution mission, and includes a verbatim statement (i.e., "To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains" for the _____ Sonography concentration).
- State, **the mission** of the sponsoring organization. Narrate how the program mission or philosophy aligns with the institutional mission; and
- State program goals and student learning outcomes for each concentration or curricular track.

The program shall include an **Advisory Committee table/roster** according to **JRC-DMS Policy 806** with names and titles of each member as well as copies of meeting schedules, minutes, and attendees.

Outcomes must be documented in accordance with **JRC-DMS Policy 902** and publicly reported. Publicly reported outcomes included: student retention, job placement, and credential success rates. Additional outcomes reported to the JRC-DMS as a component of the program's annual report include Graduate surveys and Employer surveys. **JRC-DMS Policy 902** provides minimum thresholds for meeting outcome requirements. Outcomes should be comprehensively reported in the Annual Report and in **Standard IV.A.1&2 and Standard IV.B.1&2**.

Migrating re-entry or transfer students into appropriate **cohorts** is determined by the program based on program-established criteria without encumbering any given cohort with an excess of students. The program must assure that institutional resources and clinical resources/availability will accommodate additional student(s) within a cohort.

The JRC-DMS defines a **cohort** as a group of students who begin on the same date, follow a similar education plan, and share a designated completion date. Cohorts can be separated based on designated groupings (i.e., day cohort, evening cohort) or by selected concentration areas (i.e., Abdominal-Extended/OB-GYN, Abdomen/Vascular, OB-GYN/Breast, etc.). (**See JRC-DMS Policy 902.B and Glossary of Terms**)

Suggested Evidence of Compliance for Standard II.A.

See Self Study document for required evidence of compliance for this Standard.

Standard II.B. - Appropriateness of Goals and Learning Domains

The program must regularly assess its goals and learning domains. Program personnel must identify and respond to changes in the needs and/or expectations of its communities of interest.

An advisory committee, which is representative of at least each of the communities of interest named in these **Standards**, must be designated, and charged with the responsibility of meeting at least annually, to assist program and sponsor personnel in formulating and periodically revising appropriate goals and learning domains, monitoring needs and expectations, and ensuring program responsiveness to change.

Interpretation of Standard II.B.

This Standard requires that a program have an active assessment plan in place. Assessment plans vary in structure; however, they should reflect an annual assessment cycle that analyzes outcomes and evaluation of learning domains related to the program's goals.

Assessment should be a routine activity undertaken by the program to demonstrate a continuous monitoring and improvement process (if so determined) that measures each program goal. The program should establish thresholds to be met, action plans, if necessary, for improvement and additional monitoring and measurement of the action plan's objectives.

Learning domains should be evaluated and monitored similar to program goals.

Cognitive, affective, and psychomotor skills require individual assessment of course work; therefore, it is encouraged that each course delivered be assessed for its contribution to student

and program success. Comprehensive evaluation techniques shall be determined by the institution, program, and communities of interest.

The program, in addition to its stakeholders, is responsible for annually monitoring the assessment plan to evaluate feedback, program outcomes data, and curricular issues. Assessment may require revision of program goals, learning domains, and resources. A summary assessment of JRC-DMS required program outcomes should be included.

The JRC-DMS requires that the program maintain advisory committee member listings, copies of all advisory committee meeting minutes that clearly provide evidence of annual review and assessment of program goals, all required program resources, and all JRC-DMS established outcomes. See **JRC-DMS Policy 806** Advisory Committee Composition.

CAAHEP Standards require an advisory committee, whose membership reflects at least one representative for each of the communities of interest named in Standard II.A. The committee must be designated and charged with the responsibility of meeting at least annually to assist program and sponsor personnel in formulating and periodically revising appropriate goals and learning domains, monitoring needs and expectations, and ensuring program responsiveness to change.

The committee should review all aspects of program administration to include review of Standards compliance, measurable competency requirements, goal and outcomes analysis, action plans assessment, annual report submissions, as well as institutional, programmatic, or other quality assurance measures required as a component of assessment.

Committee composition must include at least one representative for all the identified communities of interest in Standard II.A and additional as determined by the program. These may include but are not limited to current student(s), student graduate(s), faculty member, administrator of sponsoring institution, representatives of clinical affiliates, employer(s), physician(s), practicing sonographer representing each concentration offered by the program, and a public member.

The **Public Member** serves with the purpose that program actions shall be in the best interests of the public. The individual must be familiar with but not currently or previously employed in the field of sonography or industry-relevant or related to the profession. They cannot be a spouse/parent/partner/dependent of any member of the committee and cannot be currently or previously employed by the institution.

Suggested Evidence of Compliance for Standard II.B

See Self Study document for required evidence of compliance for this Standard.

Standard II.C. - Minimum Expectations

The program must have the following goal defining minimum expectations: To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the following concentration(s) it offers:

1. Abdominal sonography - Extended
2. Adult cardiac sonography
3. Breast sonography
4. Musculoskeletal sonography
5. Obstetrics and gynecology sonography
6. Pediatric cardiac sonography
7. Vascular sonography.

Programs adopting educational goals beyond entry-level competence must clearly delineate this intent and provide evidence that all students have achieved the basic competencies prior to entry into the field.

Interpretation of Standard II.C.

The program **must have** the following **verbatim** goal(s) defining minimum expectations: To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the concentration(s) it offers. See the following examples:

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Abdominal Sonography-Extended** concentration."

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Adult Cardiac Sonography** concentration."

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Breast Sonography** concentration."

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Musculoskeletal Sonography** concentration."

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Obstetrics and Gynecology Sonography** concentration."

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Pediatric Cardiac Sonography** concentration."

"To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the **Vascular Sonography** concentration."

The above statement(s) should appear in the form of publications on websites and information provided to prospective and enrolling students. Nothing in this Standard restricts programs from formulating goals beyond entry-level competence.

How the program accomplishes the mission, goals, and objectives inherent within program administration is completely under the purview of the program. Programs may elect to include **multiple concentrations** in the minimum expectations statement. If so, then reporting outcomes for the specific statements must be assessed and reported in **Standard IV**. For example: "To prepare competent entry-level Abdominal - Extended and Obstetric and Gynecologic sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains." The program would report on all students completing this combined concentration addressing all aspects of outcomes assessments and reporting found in **Standard IV**.

Alignment with accepted Learning Theory [i.e., Cognitive Learning Theory, Behaviorism, Constructivism, Humanism, and Connectivism, etc.] provides guidance for the program to develop, monitor, and demonstrate effective program outcomes. The program must clearly define and describe the goals in support of the institutional mission to be accomplished in each of the learning domains. The learning domains (**cognitive, psychomotor, affective**) should have a clear course, learning, and lesson plan objectives for all program requirements.

Program-specific goals should be developed that include the three domains of learning:

Cognitive – Basic and advanced knowledge of occupation requirements.

Psychomotor – Practical application of learned skills in a laboratory and clinical setting.

Affective – Professional interactions, behaviors, and conduct in didactic and clinical environments.

Ultimately, the program's goal statement and learning objectives should be representative of how the program will produce competent entry-level sonographers within the context of the above learning domains.

Learning objectives, course objectives, and lesson plan objectives are developed to support the program's goals. These terms may be defined and characterized by other names within the program as deemed consistent with institution and program requirements. However, the terms should be similar in context to be recognized by program evaluators and meet the requirements of the Standards.

Learning objectives are broad in nature and based on higher-level taxonomy classifications such as analysis, complex motor skills demonstration, and/or valuing professional behaviors.

Course objectives and **lesson plan objectives** become more narrow in focus and are based on lower level taxonomy classifications such as discussion, identification, and demonstration.

Goals and objectives commonly use action verbs which can be developed from Bloom's, Anderson's, or Krathwohl's taxonomy on educational objectives and should address the needs of the three primary communities of interest- students, educators, and practitioners.

Example Program Goal:

The goal of the DMS program is to prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the specified educational concentration.

Example Learning Objectives:

Upon program completion, the graduate will be able to:

- Correlate the knowledge of general, basic, and program-specific course topics to the role of a diagnostic medical sonographer.
- Demonstrate a safe and professional level of knowledge and practice in their role as a diagnostic medical sonographer.
- Acquire an understanding of inter-professional and patient care activities' ethical, legal, moral, and medical values.

Example Bloom's Taxonomy for Developing Learning Objectives:

Cognitive Domain (simple to complex):

Knowledge = recalling information

Comprehension = restating information

Application = use information in a new way

Analysis = separates concepts into understandable parts

Synthesis = creating new patterns

Evaluation = making judgements regarding concepts

Psychomotor Domain (simple to complex):

Perception = uses sensory cues to guide skill performance

Set = readiness to demonstrate a skill

Guided Response = early skills practice using imitation

Mechanism = intermediate skills practice with some confidence and proficiency

Complex Overt Response = skills demonstrating complex movement patterns

Adaptation = modification of skills to meet special requirements

Origination = creating new skills patterns

Affective Domain (simple to complex):

Receiving = paying attention

Responding = active participation

Valuing = acceptance and commitment

Organization = comparing, relating, and synthesizing values

Internalizing Values = consistent and predictable demonstration of a value

In the event that a program has chosen to define minimum expectations that exceed that of preparing career entry sonographers, then the program goals and learning outcomes should clearly demonstrate evidence of a plan of achievement of entry-level competencies, as well as any other minimum expectations defined by the program. The program's goal statement should be representative of how minimum expectations of the program will be achieved through educational activities in the cognitive, affective, and psychomotor learning domains.

Suggested Evidence of Compliance for Standard II.C.

See Self Study document for required evidence of compliance for this Standard.

Standard III: Resources

Standard III.A. - Type and Amount

1. Program Resources

Program resources must be sufficient to ensure the achievement of the program's goals and outcomes. Resources must include, but are not limited to: faculty, clerical and support staff; curriculum; finances; offices; classroom, laboratory, and ancillary student facilities; clinical affiliates; equipment; supplies; computer resources, instructional reference materials, and faculty/staff continuing education.

2. Clinical Affiliates

Clinical affiliates must provide each student access to adequate numbers and a variety of types of diagnostic medical examinations to develop clinical competency in both normal and abnormal findings for the learning concentrations(s) being offered.

Interpretation of Standard III.A.1-2.

Standard III.A.1. Program Resources must be sufficient to ensure the achievement of the program's goals and outcomes. Resources must include, but are not limited to:

Budget = must demonstrate funding for salaries, capital equipment, professional development, and program maintenance.

Faculty = must meet all minimum qualifications for the respective positions held.

Faculty office and computer resources = available for administration, program development, student counseling, communication, and records and materials security.

Faculty/staff continuing education = professional development opportunities must be afforded faculty and staff specific to developing, updating, and maintaining an effective education program.

Clerical and administrative support = should be available to assist program personnel in executing all aspects of the program.

Maximum enrollment capacity = is determined by program resources, clinical resources and availability, and institutional support.

Curriculum = encompasses the breadth of educational course content, assessment, and requirements for program completion.

Instructional reference materials = specific to the program and include all forms of materials to support successful learning opportunities.

Library materials and resources = physical and electronic resources available to faculty, staff, and students.

Classroom and laboratory space = physical space that supports the delivery of didactic and laboratory instruction.

Equipment and supplies = include all necessary materials to support and sustain all learning aspects of the program. The program is responsible for having the essential equipment and supplies to ensure the safety of the personnel, students, and any public volunteers.

Student computer resources = computer services should be available for student access at various campus locations, clinical sites, and remotely if necessary.

Ancillary student support facilities and resources = include campus physical resources and facilities for student access as well as off-campus communication connectivity associated with program deliverables.

Clinical affiliates/resources = must be adequate, safe, and equitable in support of the program's learning objectives.

Support staff = should be available to provide counseling or referral for problems that may interfere with the student's progress through the program. Guidance should be available to assist students in understanding course content and in observing program policies and practices.

Changes in program key personnel must be communicated with JRC-DMS according to **JRC-DMS Policy 807**.

Standard III.A.2. Clinical Affiliates. Programs must have adequate clinical affiliate resources to ensure similar clinical experiences for all students. The program should ensure that all clinical support facilities have the appropriate quantity of exams and procedures to afford the student the opportunity to secure clinical competence based on program requirements. Simulation of sonographic examination competence, at this time, is not an option for programs to fulfill clinical competency requirements.

Clinical affiliate agreements, articulation agreements, or memorandum of understanding (MOU) must be obtained for all clinical sites used for student placement. These contracts should be current and include termination clauses and termination language with signatories of institution/program officials and the clinical institution. **(See Standard V.F.)**

- A. Additional clinical affiliates from accredited programs may only be submitted with the annual report, self-study, or findings response and must include the current JRC-DMS clinical affiliate spreadsheet, signed affiliation agreement, and verification of clinical instructor credentials.
- B. The program may use clinical sites prior to recognition by JRC-DMS if the site satisfies the criteria outlined in the Standards and Guidelines. If a site is used prior to recognition, it must be submitted with the next annual report, self-study or findings response, whichever is sooner. Failure to submit clinical sites for recognition may result in an adverse action. If the clinical site is not recognized by JRC-DMS, the student(s) must be removed and placed at an alternate clinical site that immediately satisfies the CAAHEP Standards upon notification from JRC-DMS.
- C. If a clinical site is deactivated, reactivation will require submission of the current affiliation agreement, and verification of appropriately credentialed clinical instructor(s). **(See JRC-DMS Policy 804)**

The program must ensure a variety and adequate numbers of diagnostic sonographic examinations to develop clinical competency in both normal and abnormal findings for all individual learning concentration(s) offered. Examination participation, assessment, and management of a variety of patient conditions associated with the below concentrations are critical for competent skill development. See **Appendix B** for specific concentration requirements.

- **Abdominal Sonography – Extended**
- **Adult Cardiac Sonography**
- **Breast Sonography**
- **Musculoskeletal Sonography**
- **Obstetrics & Gynecology Sonography**
- **Pediatric Cardiac Sonography**
- **Vascular Sonography**

Minimum competency requirements are determined by the program specific to the concentrations offered.

The program will establish guidelines and criteria outlining a plan for identifying, developing, and executing competency-based clinical education. If no specific number of competencies are required, then a clearly identified plan for determining readiness for competency assessment must be written.

The number of students assigned to the clinical affiliate should be determined by a student/clinical staff ratio that ensures equitable experiences and successful outcomes.

Clinical Rotation Matrix

The role of the matrix is to ensure that each student has the opportunity to actively participate in scanning to develop and document competency in each concentration offered by the program. All enrolled students must be included. All clinical rotations for each student must be listed. Each cohort must be listed independently. If your program starts multiple cohorts, please refer to the JRC-DMS policy on cohorts and the definition of cohorts found in the Glossary of Terms.

For the students listed, an official cohort roster for the clinical course(s) must be generated for review. Each cohort needs to be listed on a separate form. Use the initials AB (abdominal - extended), AE (adult echocardiography), B (Breast), MSK (Musculoskeletal), OB/GYN (OB/Gyn), PE (pediatric echocardiography), V (vascular technology) to denote the type of clinical exams and competencies the students will have opportunity to complete at each rotation. **(See Self-Study document)**

Clinical Resources

Maximum student enrollment should be commensurate with the volume and variety of sonographic procedures, equipment, and personnel available for educational purposes. The number of students assigned to the clinical affiliate should be determined by a student/clinical staff ratio that ensures equitable experiences and outcomes are met. Program clinical personnel must be appropriately credentialed in the concentration evaluated (i.e., Abdomen, Ob/Gyn, Breast, Vascular, Adult Cardiac, etc.) in order to supervise sonographic examinations and competencies properly.

Programs should provide students with a variety of patient care settings in which sonographic procedures are performed on in-patients, outpatients, and across the breadth of the patient population (newborn to geriatric). These settings may include the following: ambulatory care facilities, specialty centers, emergency/trauma, intensive/critical/coronary care, surgery, and various locations within the facility that provides patient care.

Each learning concentration affiliate or clinical education center should include the production of permanent records and reports, per year, per student equivalent. The overall volume of procedures in which students participate throughout the program is determined by the program's goal and outcomes criteria.

Suggested Evidence of Compliance for Standard III.A.1-2

See Self-Study Guide for required evidence of compliance for this Standard.

Standard III.B.1. - Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

1. Program Director

The program director must hold an academic degree and be an appointed faculty member or institutional equivalent with the sponsor.

a. Responsibilities

The program director must be responsible for:

- 1) the structure and daily operation of the program;
- 2) the organization, administration, periodic review and evaluation, continued development, and effectiveness of program curricula; and
- 3) ensuring the effectiveness of all clinical affiliates is maintained.

b. Qualifications

The program director must:

- 1) possess a minimum of a Baccalaureate degree;
- 2) possess the appropriate credential(s) specific to one or more of the concentration(s) offered;
- 3) have documented experience in supervision, instruction, evaluation, student guidance and in educational theories and techniques; and
- 4) have a minimum of two years of clinical experience as a registered sonographer in the professional sonography field.

Interpretation of Standard III.B.1.

The Program Director must possess at a minimum a **Bachelor's degree**, awarded by an academic institution accredited by a recognized agency acceptable to the United States Department of Education (USDE) or meets a foreign equivalency requirement (report by an acceptable educational credential evaluator used to determine U.S. educational equivalency of college or university degree). A clear job or position description of responsibilities and qualifications must be included in the self-study submission. *A Master's degree is preferred.*

The appropriate credential(s) specific to one or more of the concentrations(s) offered must be current and active, not retired or lapsed.

Documentation of experience in educational theories and techniques may include completed college courses, seminars, or in-service sessions on topics including, but not limited to, learning theory, curriculum design, test construction, teaching methodology, or assessment techniques. Ensuring the effectiveness of **ALL** aspects of the program may be, but is not limited to, demonstration through overseeing, monitoring, and communicating with key personnel regarding student progress, clinical rotations, number of cases, and completion of required courses and competencies by all students.

The Program Director cannot serve in the same capacity as that of the Clinical Coordinator.

Suggested Evidence of Compliance for Standard III.B.1.

See Self Study document for required evidence of compliance for this Standard.

Standard III.B.2. - Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

2. Clinical Coordinator(s)

Programs must have a faculty member or institutional equivalent designated as the Clinical Coordinator.

The Clinical Coordinator(s) must be an appointed faculty member or institutional equivalent with the sponsor.

a. Responsibilities

The clinical coordinator(s) must:

- 1) be responsible for coordinating clinical education with didactic education as assigned by the program director;
- 2) evaluate and ensure the effectiveness of clinical experiences for the concentration(s) students are enrolled in; and
- 3) provide clinical instruction and document the evaluation and progression of clinical performance leading to clinical competence.

b. Qualifications

The clinical coordinator(s) must:

- 1) possess an academic degree no lower than an Associate degree and at least equal to that for which the graduates are being prepared;
- 2) possess the appropriate credential(s) specific to the concentration(s) that s/he coordinates;
- 3) have documented experience in supervision, instruction, evaluation, student guidance and in educational theories and techniques; and
- 4) have a minimum of two years of clinical experience as a registered sonographer in the professional sonography field. Programs must have a faculty member or institutional equivalent designated as the Clinical Coordinator.

Interpretation of Standard III.B.2.

The Clinical Coordinator must possess a minimum academic degree **no lower than the Associate's degree** must be awarded by an academic institution accredited by a recognized agency acceptable to the USDE or meets a foreign equivalency requirement (report by an acceptable educational credential evaluator used to determine U.S. educational equivalency of college or university degree).

The appropriate credential(s) specific to one or more of the concentrations(s) that s/he coordinates must be current and active, not retired or lapsed.

Documentation of experience in educational theories and techniques may include completed college courses, seminars, or in-service sessions on topics including, but not limited to, learning theory, curriculum design, test development, teaching methodology, or assessment techniques. A clear job or position description of responsibilities and qualifications must be included in the self-study submission.

The Clinical Coordinator may also serve as the Concentration Coordinator for concentration(s) for which the Program Director does not possess an appropriate credential.

Suggested Evidence of Compliance for Standard III.B.2.

See Self-Study Guide for required evidence of compliance for this Standard.

Standard III.B.3. - Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

3. Concentration Coordinator(s)

The Concentration Coordinator(s) must be appointed faculty member or institutional equivalent with the sponsor.

a. Responsibilities

Concentration Coordinator(s) report(s) to the Program Director and must be designated and responsible for the coordination of concentration(s) for which the Program Director does not possess the appropriate credential.

b. Qualifications

Concentration Coordinator(s) must:

- 1) possess an academic degree no lower than an Associate degree and at least equal to that for which the graduates are being prepared;
- 2) possess the appropriate credential(s) specific to the concentration(s) that s/he is designated to coordinate;
- 3) have documented experience in supervision, instruction, evaluation, student guidance and in educational theories and techniques; and
- 4) have a minimum two years of clinical experience as a registered sonographer in the professional sonography field.

Interpretation of Standard III.B.3.

The Concentration Coordinator must possess at a minimum an academic degree **no lower than the Associate's degree** must be awarded by an academic institution accredited by a recognized agency acceptable to the USDE or meets a foreign equivalency requirement (report by an acceptable educational credential evaluator used to determine U.S. educational equivalency of college or university degree).

The appropriate credential(s) specific to one or more of the concentrations(s) that s/he is designated to coordinate must be current and active, not retired or lapsed.

Documentation of experience in educational theories and techniques may include completed college courses, seminars, or in-service sessions on topics including, but not limited to, learning theory, curriculum design, test construction, teaching methodology, or assessment techniques. A clear job or position description of responsibilities and qualifications must be included in the self-study submission.

The Concentration Coordinator may also serve as the Clinical Coordinator for concentration(s) for which the Program Director does not possess an appropriate credential.

Suggested Evidence of Compliance for Standard III.B.3.

See Self Study document for required evidence of compliance for this Standard.

Standard III.B.4. - Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

4. Medical Advisor

a. Responsibilities

The medical advisor must provide guidance that the medical components of the didactic and clinical curriculum meet current acceptable performance standards.

b. Qualifications

The medical advisor must be a licensed physician, certified by the American Board of Medical Specialties (ABMS), with relevant experience and knowledge in diagnostic medical sonography.

Interpretation of Standard III.B.4.

The medical advisor should participate in goal determination, curriculum development, and outcomes assessment. The role must be defined in writing by the program. Examples of the medical advisor's role may include lecturer, Advisory Committee member; liaison between the physician community and program; and participant, as appropriate, in clinical experiences and activities to promote ongoing program evaluation. The medical advisor should be a practitioner from the community who understands the role and function of diagnostic medical sonographers.

The medical advisor may be certified by the American Osteopathic Board of Radiology.

Suggested Evidence of Compliance for Standard III.B.4.

See Self Study document for required evidence of compliance for this Standard.

Standard III.B.5. - Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

5. Faculty/Instructional Staff

All faculty must be familiar with program goals, and be able to demonstrate the ability to develop an organized plan of instruction and evaluation.

a. Responsibilities

Faculty/Instructional Staff must be responsible for providing instruction, evaluation of students, documentation of progress, and periodic review of course content.

b. Qualifications

Faculty/Instructional Staff must:

- 1) be qualified by education and experience, and be effective in teaching the subjects assigned; and
- 2) possess appropriate credential(s) for the learning concentration s/he are providing instruction and performing student evaluations.

Interpretation of Standard III.B.5.

Instructional Faculty includes paid or unpaid part-time or adjunct faculty, instructional staff, laboratory instructors, or any other title associated with the individual responsible for the student's supervision and/or assessment.

The appropriate credential(s) for the learning concentration s/he are providing instruction and performing student evaluations must be current and active, not retired or lapsed.

Suggested Evidence of Compliance for Standard III.B.5.

See Self Study document for required evidence of compliance for this Standard.

Standard III.B.6. - Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program's stated goals and outcomes.

6. Clinical Instructor(s)

A clinical instructor must be identified for each clinical affiliate.

a. Responsibilities

A clinical instructor must be available to students whenever a student is assigned to a clinical setting, provide appropriate clinical supervision, and be responsible for student clinical evaluation.

b. Qualifications

Clinical instructors must have the appropriate credential in the concentration(s) for which they evaluate student performance and document required clinical competencies.

Interpretation of Standard III.B.6.

JRC-DMS Policy 805 states: CAAHEP Standards and Guidelines require that all clinical instructors providing student training possess the appropriate credential applicable to the exams they are instructing.** Any of the following credentials from ARDMS, ARRT, and CCI, are accepted for clinical instructors in the following areas:

- Abdominal - Extended: RDMS (AB), RT(S)
- Adult Echocardiography: RDCS (AE), RCS
- Breast: RDMS (BR)
- Musculoskeletal: RDMS (RMSKS, RMSK)
- Obstetrics & Gynecology: RDMS (OB), RT(S)
- Pediatric Cardiac: RDCS (PE), RCCS
- Vascular: RVT, RVS

**For clarification, no clinical instructor should evaluate the student who does not possess the appropriate credential for the examination/procedure for which competency is being determined.

The appropriate credential in the concentration(s) for which they evaluate student performance and document required clinical competencies must be current and active, not retired or lapsed.

Suggested Evidence of Compliance for Standard III.B.6.

See Self Study document for required evidence of compliance for this Standard.

Standard III.C - Curriculum

The curriculum must ensure the achievement of program goals and learning domains. Instruction must be an appropriate sequence of the classroom, laboratory, and clinical activities. Instruction must be based on clearly written course syllabi that include a course description, course objectives, methods of evaluation, topic outline, and competencies required for graduation.

The program must demonstrate by comparison that the curriculum offered meets or exceeds the content and competencies specified in Appendix B.

Interpretation of Standard III.C.

In DMS program's structured learning involves didactic, laboratory, and clinical experience. All curriculum content should be documented through course syllabi, objectives, lesson plans, supplemental instructional materials, textbooks, reference materials, etc., which contribute to accomplishing program goals and outcomes. The program **MUST** demonstrate, by comparison, that the curriculum offered meets or exceeds the content and competencies specified in **Appendix B**. National Education Curriculum criteria and outlines for DMS can be found at www.jrcdms.org/nec.htm and used as a guide for curriculum development; however, it is not required.

Appendix B.1.a-d. = General Education Curriculum

Appendix B.3.a-f. = Abdominal - Extended Sonography Concentration

Appendix B.4. = Adult Cardiac Sonography Concentration

Appendix B.5.a-g. = Breast Sonography Concentration

Appendix B.6. = Musculoskeletal Sonography Concentration

Appendix B.7.a-g. = Obstetrics & Gynecological Sonography Concentration

Appendix B.8. = Pediatric Cardiac Sonography Concentration

Appendix B.9.a-l. = Vascular Sonography Concentration

The program must evaluate and document student progress throughout the delivery process. The program should demonstrate comprehensive progression from general core knowledge to basic sonography knowledge and understanding to laboratory application of preliminary skills to clinical demonstration of exam competence. The assessment system should represent best practices in education, as determined by the program, in the measurement and documentation of the cognitive, psychomotor, and affective domains.

Comprehensive curriculum includes general education courses and DMS-specific curriculum as identified in Appendix B. Organization to ensure compliance to a comprehensive curriculum is achieved through course syllabi, objectives or student learning outcomes and lesson plans. General course and DMS syllabi must demonstrate course designation, the course title, description, clock hours or credit hours, and time increment of instruction (e.g., quarter, semester, etc.).

Course syllabus is considered a contract between the program and the student. It is developed for all didactic, laboratory, and clinical courses. Course syllabi should include but may not be limited to: those items listed in the previous paragraph and course faculty, schedule, overview, objectives, methods of instruction, content, outline, assessment methods, and grading criteria.

Lesson plans or **modules** detail the requirements, activities, and outcomes inherent in each course. Lesson plans provide the most detailed aspect of the course and how the student will navigate the content and material used to meet overall course objectives, goals, and learning domain requirements.

Suggested Evidence of Compliance for Standard III.C.

See Self Study document for required evidence of compliance for this Standard.

Standard III.D. - Resource Assessment

The program must, at least annually, assess the appropriateness and effectiveness of the resources described in these **Standards**. The results of resource assessment must be the basis for ongoing planning and appropriate change. An action plan must be developed when deficiencies are identified in the program resources. Implementation of the action plan must be documented, and results measured by ongoing resource assessment.

Interpretation of Standard III.D.

Assessment of the program's resources must be performed annually. The program must have written procedure(s) regarding the process undertaken to assess resources necessary to achieve stated goals and outcomes. Benchmarks or thresholds should be established and must include, at a minimum, the JRC-DMS required outcome measures according to **JRC-DMS Policy 902**. Resource assessment tools may contain, but are not limited to, areas to be assessed, tool or measure used, the time interval for data collection and assessment, benchmark criteria, a summary of the assessment, and action plan for identified deficiencies. A review of findings should be a component of the annual Advisory Committee meeting.

Suggested Evidence of Compliance for Standard III.D.

See Self Study document for required evidence of compliance for this Standard.

Self-Study documents are available at the JRCDMS.org website under "Get Started on JRC-DMS Self Study"

All Resource assessments must align with JRC-DMS documents found in the Self-Study requirements or available at the JRCDMS.org website.

Standard IV: Student and Graduate (Outcomes) Evaluation/Assessment

Standard IV.A. - Student Evaluation

1. Frequency and purpose

Evaluation of students must be conducted on a recurrent basis and with sufficient frequency to provide both the students and program faculty with valid and timely indications of the students' progress toward and achievement of the competencies and learning domains stated in the curriculum.

2. Documentation

Records of student evaluations must be maintained in sufficient detail to document learning progress and achievements.

Records indicating the number and type of diagnostic medical examinations performed by the student, the examination findings, the extent of student supervision, and the level of involvement of the student in scanning/performance must be maintained. Official records or electronic equivalent used to document the progression of learning and achievements must include name, credentials, and signature of the supervising sonographer.

Interpretation of Standard IV.A.

The purpose of this Standard is to ensure that student evaluations are regular, recurring, and sufficient to document progress in achieving competencies and learning requirements.

Evaluation of students is expected to occur frequently through assessment, advising, and direct or indirect observation. Communication must occur with clinical instructors to evaluate student progress and achievement of clinical competencies. Written documentation of student progress, advising, and counseling is expected to be kept in individual student files or program records.

Programs are required to maintain detailed documentation of all aspects of student learning. It may be helpful for the program to use a clinical management software in support of maintaining ongoing monitoring of multiple areas of learning. Utilizing each minimum requirement listed in Standard IV.A.2 is essential.

Suggested Evidence of Compliance for Standard IV.A.

See Self Study document for required evidence of compliance for this Standard.

Standard IV.B. – Outcomes

1. Outcomes Assessment

The program must periodically assess its effectiveness in achieving its stated goals and learning domains. The results of this evaluation must be reflected in the review and timely revision of the program.

- a. Outcomes assessments must include, but are not limited to: national credentialing examination(s) performance, programmatic retention/attrition, graduate satisfaction, employer satisfaction, job (positive) placement and programmatic summative measures. The program must meet the outcomes assessment thresholds.

2. Outcomes Reporting

The program must periodically submit to the JRC-DMS the program goal(s), learning domains, evaluation systems (including type, cut score, and appropriateness), outcomes, its analysis of the outcomes, and an appropriate action plan based on the analysis.

- a. Programs not meeting the established thresholds must begin a dialogue with the JRC-DMS to develop an appropriate plan of action to respond to the identified shortcomings.

Interpretation of Standard IV.B.

Standard IV.B.1. Outcomes Assessment: (Also see JRC-DMS Policy 902.C)

The program outcomes assessment process requires collecting and analyzing data pertinent to the area listed below. JRC-DMS uses several criteria for outcome measures, which include, but is not limited to, placement rate, employer surveys, graduate surveys, and student retention. JRC-DMS also requires the program to evaluate the number of graduates taking and passing national credentialing exams. ****The currently accepted credentials include RDMS (AB, BR, OB, RMSKS, RMSK), RVT, RDCS (AE, PE), RT(S), RCS, RCCS, and RVS. (See JRC-DMS Policy 902)**

Outcomes Thresholds: JRC-DMS Policy 902.C. has established the following outcomes thresholds that programs must meet/maintain for accreditation.

National credentialing examination(s) performance: Credentialing Success, see JRC-DMS Policy 902.C.4

Credentialing Pass Rate Calculation (JRC-DMS Policy 902.C.4.i.)

Credentialing success is demonstrated by the number of graduates attempting and successfully obtaining a credential, as outlined below.

To determine this number, the following formula must be used.

Number of Graduates Passing Exam
Total Number of Graduates Attempting Exam

Student Retention

Student retention/attrition is calculated at 70%. Please see additional information below regarding programs with < 9 enrolled students.

Total enrollment per cohort:

- Should not fall below **70% of total enrollment** (including attrition due to personal, financial, behavioral, academic withdrawal, academic dismissal, and others).

For programs with low student enrollment per year < **9**, the table below can be used to adjust the number of students required to meet the criteria resulting in an adjusted retention rate:

- Total Number of Students Enrolled
- Minimum Number of Students Retained **JRC-DMS Policy 902.C.2a.**

Re-entry students who withdraw from a cohort are counted as part of the retention/attrition for the cohort in which the student started. Upon re-entry into the program, the student is counted in the cohort the student joined.

Total Number of Students Enrolled	2	3	4	5	6	7	8	9
Minimum Number of Students Retained	1	2	3	3	4	5	6	6
Adjusted Retention Percentage	50%	67%	75%	60%	67%	71%	75%	67%

Graduate Satisfaction Surveys (within one-year post-graduation):

Graduate satisfaction is a measure of how well the program met student expectations. Its use of a 5-point Likert scale survey instrument and requires an average score of 3 to meet threshold requirements. Anything below this requires program action to identify, explain, and institute corrective action.

Must have a **50% return rate**; and Composite score of three or greater on a five-point rating scale. **Example:** 10 total graduates = Must have a minimum of five returned surveys (50%) for each graduating cohort. EACH QUESTION should have an average **composite score of three or greater** on the five-point Likert scale. **JRC-DMS Policy 902.C.1.a.**

Employer Satisfaction Surveys (within one-year post-graduation):

Employer satisfaction is a measure of employer perception regarding the quality of career-entry graduates. This survey uses a 5-point Likert scale to assess if the program succeeded in producing a competent sonographer.

Must have at least a **50% return rate**; and Composite score of three or greater on a five-point rating scale. **Example:** 10 total graduates = Must have a minimum of five returned surveys

(50%) for each graduating cohort. EACH QUESTION should have an average **composite score of three or greater** on the five-point Likert scale. **JRC-DMS Policy 902.C.1.b.**

Job (Positive) Placement: Number of Graduates Employed in a Relevant Setting

At least **75% of graduates** must be employed as sonographers, continuing their education, or in the military in one of the program's accredited specialties **within six months** of graduation. **JRC-DMS Policy 902.C.3**

Individual Concentration Assessments:

Abdominal - Extended Concentration Only (JRC-DMS Policy 902.C.4.a.)

60% overall take and pass rate within one year of graduation and earn the abdomen credential. Currently accepted credentials for the Abdominal - Extended concentration:

ARDMS: RDMS (AB)
ARRT: RT(S)

Adult Cardiac Concentration Only (JRC-DMS Policy 902.C.4.b.)

60% overall take and pass rate and earn a credential within one year of graduation. Current accepted credentials for the Adult Cardiac concentration:

ARDMS: RDCS (AE)
CCI: RCS

Breast Concentration Only (JRC-DMS Policy 902.C.4.c)

60% overall take and pass rate within one year of graduation and earn the breast credential. Currently accepted credentials for the Breast concentration:

ARDMS: RDMS (BR)

Musculoskeletal Concentration Only (JRC-DMS Policy 902.C.4.d.)

60% overall take and pass rate within one year of graduation and earn the musculoskeletal credential. Currently accepted credentials for the general concentration:

ARDMS: (RMSKS, RMSK)

Obstetrics & Gynecologic Concentration Only (JRC-DMS Policy 902.C.4.e.)

60% overall take and pass rate within one year of graduation and earn the OB/GYN credential. Currently accepted credentials for the OB/GYN concentration:

ARDMS: RDMS (OB/GYN)
ARRT: RT(S)

Pediatric Cardiac Concentration Only (JRC-DMS Policy 902.C.4.f.)

60% overall take and pass rate and earn a credential within one year of graduation. Current accepted credentials for the Pediatric Cardiac concentration:

ARDMS: RDCS (PE)
CCI: RCCS

Vascular Concentration Only (JRC-DMS Policy 902.C.g.)

60% overall take and pass rate and earn a credential within one year of graduation. Currently accepted credential for the vascular concentration:

ARDMS: RVT
CCI: RVS

Multiple Concentration Programs (JRC-DMS Policy 902.C.4.h.)

60% overall take and pass rate and earn a credential within one year of graduation. At some point during the accreditation cycle, the program must demonstrate that some graduates have been successful obtaining in all of the credentials the curriculum is designed to teach.

ARDMS: RDMS (AB, OB/GYN, BR), RVT (VT), RMSKS, RMSK, RDCA (AE, PE)

ARRT: RT(S)

CCI: RCS, RCCS, and RVS

JRC-DMS Policy 902.C.4.j. Failure to Meet Established Thresholds (Corrective Action Plan)

Failure to meet the cut-points during a program review, including the annual report, will require an action plan. An action plan should explain and provide documentation regarding the root cause of the problem and how deficiencies will be corrected. Inability to correct deficiencies over three years of reporting data may trigger an unscheduled comprehensive review (self-study and site visit), progress report, or a change in the program's accreditation status. A change in accreditation status may include a recommendation of probationary accreditation or withdrawal of accreditation.

Suggested Evidence of Compliance for Standard IV.B.1.

See Self Study document for required evidence of compliance for this Standard.

Standard IV.B.2. Outcomes Reporting: (See JRC-DMS Policy 902.A)

Outcomes reporting is required according to **CAAHEP Standard V.A.4.** Fair Practices, Publications, and Disclosures, "The sponsor must maintain, and make available to the public current and consistent summary information about student/graduate achievement that includes the results of one or more of the outcomes assessments required in these Standards."

The program must submit an active link to its published outcome in its annual report. At a minimum, the JRC-DMS will require the following outcomes to be publicly published:

Student Retention.

Job Placement; and

Credential Success Rates.

Job Positive Placement = the graduate is employed full or part-time in the profession or in a related field or continuing his/her education or serving in the military. A related field is one in which the individual is using cognitive, psychomotor, and affective competencies acquired in the educational program.

National credentialing examinations are those accredited by the National Commission for Certifying Agencies (NCCA), American National Standards Institute (ANSI). Participation and pass rates on national credentialing examination(s) performance may be considered in determining whether or not a program meets the designated threshold, provided the credentialing examination(s), or alternative examination(s) offered by the same credentialing organization, is (are) available to be administered prior to graduation from the program. Results

from said alternative examination(s) might be accepted if designated as equivalent by the organization whose credentialing examination(s) is (are) so accredited.

The data to be published should be consistent with the most recent Annual Report filed by the program and updated annually.

Suggested Evidence of Compliance for Standard IV.B.2.

See Self Study document for required evidence of compliance for this Standard.

Standard V: Fair Practices

Standard V.A. - Publications and Disclosure

1. Announcements, catalogs, publications, and advertising must accurately reflect the program offered.
2. At least the following must be made known to all applicants and students: the sponsor's institutional and programmatic accreditation status as well as the name, mailing address, web site address, and phone number of the accrediting agencies; admissions policies and practices, including technical standards (when used); policies on advanced placement, transfer of credits, and credits for experiential learning; number of credits required for completion of the program; tuition/fees and other costs required to complete the program; policies and processes for withdrawal and for refunds of tuition/fees.
3. At least the following must be made known to all students: academic calendar, student grievance procedure, criteria for successful completion of each segment of the curriculum and graduation, policies for student leave of absence, exposure to blood borne pathogens, communicable diseases, and pregnancy, and policies and processes by which students may perform clinical work while enrolled in the program.
4. The sponsor must maintain, and make available to the public, current and consistent summary information about student/graduate achievement that includes the results of one or more of the outcomes assessments required in these Standards.

Interpretation of Standard V.A.1-4.

The purpose of this Standard is to ensure that all program information is made available to prospective and enrolled students.

A review of **CAAHEP Policy 300**, Policies and Procedures Governing Communications with the Public is critical in understanding the institution's/program's guidelines for notifying the public of program status (**Policy 301**), public use of CAAHEP Accreditation status (**Policy 302**) and use of CAAHEP Logo (**Policy 303**).

The sponsor should develop a means of communicating to the communities of interest the achievement of students/graduates (e.g., through a website or electronic or printed documents). Each of the 4 categories in this Standard must be addressed separately within the self-study.

Supporting evidence must be included or electronically linked to each listed below.

V.A.1. Announcements, catalogs, publications, and advertising must accurately reflect the program offered.

Information Provided to **Prospective Students**

Provided information should include, but not be limited to:

- Accurate Announcements and Advertising
- Admissions Policies & Procedures
- Institutional Tuition, Fees, Expenses
- Financial Aid Information-Institutional
- Advanced Placement Options (if applicable)
- Prerequisite Coursework Requirements
- Essential Functions (ADA Technical Standards) for the Profession
- Application Requirements
- Admission Criteria/Process for the Program

V.A.1. Announcements, catalogs, publications, and advertising must accurately reflect the program offered.

Information Provided to **Enrolling Students**

Provided information should include, but not be limited to:

- Program Application Packet
- Student Costs
- Financial Aid Information (relating to program)
- Published Policies of Student Withdrawal and Tuition/Fee Refunds
- Prerequisite Course Requirements
- Advanced Placement Options
- Minimum Grade Point Average
- Program Policies & Procedures
- Non-discriminatory Recruitment, Admission, Employment Practices
- Defined and Published Grievance Procedures
- Policy for Student Performing Service Work
- Academic Advising
- Counseling Services
- Health Services
- All Support Services available to students
- Library Resources

V.A.2. At least the following must be made known to all applicants and students: the sponsor's institutional and programmatic accreditation status as well as the name, mailing address, website address, and phone number of the accrediting agencies; admissions policies and practices, including technical standards (when used); policies on advanced placement, transfer of credits, and credits for experiential learning; number of credits required for completion of the program; tuition/fees and other costs required to complete the program; policies and processes for withdrawal and for refunds of tuition/fees.

Programs are required to publish their policies and practices so that students and the public (prospective students) are aware of the institution's and program's policies. All published policies and practices of the program and institution should outline program administration from admission to graduation. Criteria for successful completion of the curriculum and graduation must be included. **NOTE:** According to CAAHEP Policy 302, once CAAHEP Initial Accreditation

is awarded (*but not before*), publications should include the following: *Accurate information on the name, address, and phone number of the Commission on Accreditation of Allied Health Education Programs (CAAHEP).*

A program should maintain a listing of required policies and procedures. This listing should include the name of the policy/procedure, where it is published — the document and page number, and the last date of revision.

V.A.3. At least the following must be made known to all students: academic calendar, student grievance procedure, criteria for successful completion of each segment of the curriculum and graduation, policies for student leave of absence, exposure to bloodborne pathogens, communicable diseases, and pregnancy, and policies and processes by which students may perform clinical work while enrolled in the program.

Programs are required to provide students with access to or a copy of the Program's Policy and Procedure manual. This may mirror the institution's Policy catalog but must include program-specific criteria as listed above. This information must be made available to the students and within the self-study.

V.A.4. The sponsor must maintain, and make available to the public, current and consistent summary information about student/graduate achievement that includes the results of one or more of the outcomes assessments required in these Standards.

In accordance with **CAAHEP Standard V.A.4.- Fair Practices, Publications, and Disclosures**, as stated above, the program should provide URL(s) containing this information. Inclusion in the program's self-study is required.

The program must submit an active link to its published outcomes in its annual report. The data to be published should be consistent with the most recent Annual Report filed by the program and updated annually. **(JRC-DMS Policy 902.A.)**

At a minimum, the JRC-DMS will require the following outcomes to be publicly published:

Student Retention; **JRC-DMS 902.C.2**

Job Placement; **JRC-DMS 902.C.3**

Credential Success Rates. **JRC-DMS 902.C.4.a-g.**

Suggested Evidence of Compliance for Standard V.A.1-4

See Self Study document for required evidence of compliance for this Standard.

Standard V.B. - Lawful and Non-discriminatory Practices

All activities associated with the program, including student and faculty recruitment, student admission, and faculty employment practices, must be non-discriminatory and in accordance with federal and state statutes, rules, and regulations. There must be a faculty grievance procedure made known to all paid faculty.

Interpretation of Standard V.B.

A procedure should be established for determining that a student's health will permit them to meet the documented **technical standards** of the program. Programs are required to follow the laws and regulations [municipal, state, and federal] in the community(ies) where they conduct the business of education. Policies and practices that affect students and faculty should be published. The policies and practices of an accredited institution should be non-discriminatory regarding race, color, gender, national origin, age, religion, creed, disability, veteran's status, sexual orientation, gender identity, or gender expression.

Student and faculty recruitment and admissions practices should be non-discriminatory. Publications should include, but are not limited, to the following:

An institutional policy on non-discrimination

A faculty grievance policy

A faculty grievance procedure

Equal Opportunity Employment regulations/Non-discrimination statement(s) should be included in institutional publications and are followed when employing faculty.

Guidelines and legislation regulating non-discrimination in employment practices in education, including Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and The Department of Education Section 504 regulations, can be found on the U.S. Department of Education website at: www.ed.gov/about/offices/list/ocr/docs/hq53e8.html

Suggested Evidence of Compliance for Standard V.B.

See Self Study document for required evidence of compliance for this Standard.

Standard V.C. Safeguards

The health and safety of patients, students, and faculty, and other participants associated with the educational activities of the students must be adequately safeguarded.

All activities required in the program must be educational and students must not be substituted for staff.

Diagnostic medical sonography students must be readily identifiable to patients and clinical co-workers as diagnostic medical sonography students.

The program must ensure voluntary and prudent use of students or other human subjects for non-clinical scanning. Students' grades and evaluations must not be affected by participation or non-participation.

Interpretation of Standard V.C.

The program should provide evidence of **health and safety training and education** in the didactic/classroom, laboratory, and clinical components of the program. Students shall **never be substituted** for staff during their education. All students must be **identified** as diagnostic medical sonography **students** to patients and clinical staff.

Methods in which students are identified to patients may include, but are not limited to, self-introduction, being introduced by the supervising sonographer, name tag with program name, or program-specific uniforms with program or institution's name.

Voluntary participation, as a scanning subject, **will not affect student grades or evaluations.**

The program should maintain records indicating that student and faculty health is assessed prior to and during student clinical affiliation site rotations, as appropriate.

Safety issues include, but are not limited to:

- Policy for the Use of Human Subjects for Educational Purposes (can be in program handbook or P & P);
- Annual Affiliate Compliance Training;
- OSHA Bloodborne Pathogens / Standard Precautions education;
- Body mechanics (Ergonomics);
- Sharps safety;
- Biohazardous materials;
- Mechanical, chemical, thermal, and radiation occupational exposure and injury prevention;
- Infectious diseases and the infectious process;
- Emergency preparedness/All Hazards Preparation education; and
- Other affiliate or institutional requirements as deemed necessary.

Clinical affiliation agreements may also require the following:

- CPR certification;
- Criminal background check;
- Random drug screening; and
- Clinical facility orientation.

The program should provide evidence that health requirements specified in clinical affiliation site agreements are being maintained.

Suggested health requirements may include the following:

- Physical examination;
- TB testing;
- Hepatitis B vaccination.

Other standardized immunizations, such as polio, DPT (diphtheria, pertussis, tetanus), MMR (measles, mumps, and rubella), varicella (Chickenpox), or meningitis; and other affiliate or institutional requirements as deemed necessary.

The program is required to publish a Student Work Policy that includes, at a minimum, the following:

The clinical component of the program shall be educational in nature. The student shall not be substituted for personnel during the clinical component of the program.

Scan Consent

A requirement must be in place to address scan consent for all volunteers, students, and the public, if applicable.

Strict adherence to ultrasound safety standards and prudent use of said technology is applied to all volunteers as stipulated in ALARA guidelines, included within the program's education plan. The consent form must include the stipulation that an examination is for educational use ONLY and not diagnostic. Voluntary participation, as a scanning subject, will not affect student grades or evaluations. **(Source JRC-DMS Policy 803.A.5-7).**

If, in the course of an educational examination, incidental pathology is noted, confirmation should be obtained from the supervising faculty, and if warranted, a recommendation to follow up with a Primary Care Physician (PCP) should be suggested. The development of an incidental findings policy is strongly encouraged.

Suggested Evidence of Compliance for Standard V.C.

See Self Study document for required evidence of compliance for this Standard.

Standard V.D. - Student Records

Satisfactory records must be maintained for student admission, advisement, counseling, and evaluation. Grades and credits for courses must be recorded on the student transcript and permanently maintained by the sponsor in a safe and accessible location.

Interpretation of Standard V.D.

The program is required to maintain student records in retrievable formats (hard-copy or electronic). These should be accessible and available as needed if requested. Permanent records should be stored in a safe and accessible location. A master listing of student record contents should be developed and included with each file. The program should have a formal plan to assess student records for accuracy and completeness.

Programmatic student records and samples of all program evaluation and assessment tools, including revisions, should be retained by the program for a period determined by the sponsoring institution, institutional accreditor, and/or state approval agency.

Student records that are retained electronically should be immediately available and **accessible by the On-Site or Virtual Evaluators** (site visitors). The documentation should be organized by cohort, by academic year, and by student name to permit ease in review for verification of program compliance.

Before converting student records into an electronic format or determining what form of permanent retention is optimal, the program should verify the records retention policy requirements of the institution (school), institutional accreditor, and/or state approval agency. Records should be secured in a safe and damage-resistant environment.

Records commonly maintained for each applicant and/or student may include the following:

- Education transcripts (high school, college)
- High School diploma or GED
- Admissions examinations
- Admissions applications and other required admissions documentation
- Selection interview records
- Attendance records
- Health records
- Completed student assessment tools - tests, assignments
- Completed clinical assessment tools - assignments, evaluations
- Clinical experience logs and summaries
- Advising documentation
- Counseling documentation
- Student grades, grade books, and final transcripts

Suggested Evidence of Compliance for Standard V.D.

See Self Study document for required evidence of compliance for this Standard.

Standard V.E. Substantive Change

The sponsor must report substantive change(s) as described in Appendix A to CAAHEP/JRC-DMS in a timely manner. Other substantive change(s) to be reported to JRC-DMS within the time limits prescribed include:

1. Added or deleted learning concentrations
2. Change in award (certificate, diploma, degree) granted at the completion of the program
3. Change in clock or credit hours for completion of a program
4. Change in the length of a program
5. Change in location or method of delivery of curriculum (ex: satellite campus, distance education)

Interpretation of Standard V.E.

Programs are required to report any **substantive changes** that occur within the program, satellite, consortium, or distance education component in a timely manner. **(See JRC-DMS Policy 807)**

Substantive changes should be reported in a timely manner. **(See JRC-DMS Policy 807)**. These include:

- Key Personnel (e.g., Program Director, Concentration Coordinator, Clinical Coordinator, and/or Medical Advisor)
- Administration directly related to the program (President/CEO and/or Dean or comparable appointment)
- Change in program status
- Change in sponsor status (Transfer of Sponsor)
- Added or deleted learning concentrations
- Change in the award (certificate, diploma, degree) granted at the completion of the program
- Change in clock or credit hours for completion of a program
- Change in the length of a program
- Change in location or method of delivery of curriculum (ex: satellite campus, distance education)

Suggested Evidence of Compliance for Standard V.E.

See Self Study document for required evidence of compliance for this Standard.

Standard V.F. - Agreements

There must be a formal affiliation agreement or memorandum of understanding between the sponsor and all other entities that participate in the education of the students describing the relationship, role, and responsibilities between the sponsor and that entity.

Interpretation of Standard V.F.

Affiliation agreements or memorandum of understanding (MOU) delineate and differentiate the roles of participants in the education of students and should include student supervision, benefits, liability, and financial arrangements if any. The agreement should include a clause to protect students and to ensure due process.

Agreements or MOU should:

- Include the names of the clinical affiliate and sponsoring institution [school]
- Clearly specify that they are applicable to the DMS program.
- Include a clear termination clause or termination language
- Include verification signatures by representatives of the clinical affiliate and sponsoring institution [school].

An affiliate is an institution having adequate resources to provide a broad range of appropriate clinical education opportunities for students.

Moreover, a clinical education center is a department, division, or other designated part of a clinical affiliate having adequate resources to provide clinical education opportunities for students. Multiple clinical education centers may be identified within a clinical affiliate.

The program is required to demonstrate a current, signed, and dated clinical affiliation agreement, articulation agreement, or MOU between the sponsoring institution (school) and each clinical affiliate.

Suggested Evidence of Compliance for Standard V.F.

See Self Study document for required evidence of compliance for this Standard.

SIG Glossary of Terms

Academic Credit – A semester credit hour is the amount of credit a student earns for successful completion of one contact hour and two preparation hours per week for a semester. One semester hour equals 15-16 contact hours per semester, regardless of the duration of the course.

Accreditation – A process of external quality assessment and review used by higher education to evaluate colleges, universities, and educational programs for quality assurance and quality improvement (**See JRC-DMS Policy and Procedure Section 200**) CAAHEP states accreditation is granted when a program is in substantial compliance with the accreditation Standards and remains in effect until due process has demonstrated cause for its withdrawal. (**CAAHEP Policy 204 Status of Accreditation**)

Action Plan – Should explain and provide documentation regarding the root cause of an identified problem and how deficiencies will be corrected. Plans of action are specific and should include implementation timelines with initiatives/practices that the program will implement in an attempt to improve outcomes or correct deficiencies. The process involves a series of steps based on analysis of the problem associated with a non-compliant Standard. An analysis of root cause (**See Root Cause Analysis**) will generate a detailed action plan that describes the problem, the sequence of steps necessary to achieve resolution or progress towards corrective action(s), a projected timeline for accomplishing action plan steps, and fulfillment of objective(s) that permits the program to demonstrate compliance with the Standards. The program is required to submit evidence regarding the fulfillment of each part of the action plan. (**JRC-DMS Template available**)

Administrative Probation – A temporary status imposed when a program has not complied with administrative requirements. (**CAAHEP Policy 204 Status of Accreditation**)

Annual Report – An annual outcomes-based assessment of a program's ability to demonstrate compliance with the Standards and Guidelines; includes the following sections:

- Current Program Information for the current academic year
- Program Outcomes [retention and credentialing exam results]
- Graduate Outcomes [graduate placement, Employer Surveys, and Graduate Surveys] (**See Section 900: Annual Report**)

Articulation Agreement – An understanding between an educational institution and a training facility to provide college credit to individuals completing the training program. This agreement may be composed as a memorandum of understanding, transfer agreement, or another suitable instrument, as long as the requirements of articulation are met. (**Source: Emergency Medical Services [EMS]**)

Assessment – Educationally, the process consists of observation of learning, describing, collecting, recording, scoring, and interpreting information about a student's learning. Assessment is an episode in the learning process, part of reflection and understanding of progress, which should result in a discussion, decision, and actions based on data analysis.

Assessment Plan – (**Source: Surgical Technology [ST]**) Strategies developed to document the assessment processes of a program. The assessment plan should be revised annually based on the previous year's assessment process. Assessment plans should include, but are not limited to, the following:

1. Description of program
2. Description of the role of the graduate in professional practice
3. Institutional mission statement
4. Program goals statement
5. Program outcomes
6. How the program outcomes relate to the mission of the institution
7. Tracking of program outcomes (didactic, clinical experience, etc.)
8. Assessment tools
9. Schedules for assessment
10. Timelines
11. Thresholds
12. Criteria and activities
13. Description of the data collection process
14. Description of the data analysis process
15. Identification and participation of members of the communities of interest
16. Evaluation of assessment tools and activities

Attestation Form(s) – A comprehensive attestation statement covers all aspects of the Self-Study submission and demonstration of program officials’ understanding of their responsibilities in complying with all CAAHEP Standards and Guidelines. Documentation to provide evidence of compliance should be retained by the program and will be submitted for verification upon request or verified during On-Site or Virtual Evaluation.

Certification – professional credentials attesting to minimum knowledge and skill levels; **ARDMS**: RDMS (AB, OB/GYN, BR, RMSKS, RMSK), RVT (VT), RDCS (AE, PE); **ARRT**: RT(S); **CCI**: RCS, RCCS, RVS.

Clearance – Documentation required for a student to qualify for participation in didactic classes and clinical rotations and typically includes health & background clearance, drug screening, etc., per institutional requirements.

Clinical Management System (CMS) – A reporting software system used to track key elements of the clinical experience necessary for demonstration of compliance with the Standards. (i.e., exam logs, competency/assessment forms, attendance log, etc.)

Clinically Competent – The demonstration of knowledge, skills, abilities and personal attributes that meet minimum requirements for the performance of specific patient-focused exams or procedures accomplished within the clinical setting based on medically requested examinations.

Cohort – A group of students who begin on the same date, follow a similar education plan and share a designated completion date. A cohort is further defined based on designated groupings, such as, but not limited to, program track, multi-campus group, and/or award at completion. **Examples** of designated groupings include but are not limited to: multi-campus group, day cohort, evening cohort, diploma, Certificate, AS degree, BS degree) or by selected concentration areas (i.e., Abdomen/OB-GYN, Adult Cardiac/Vascular, etc.)

Committee on Accreditation (CoA) – An organization that serves as content experts in a given allied health profession and works in cooperation with CAAHEP to manage documentation related to accreditation and makes recommendations regarding accreditation actions.

Communities of Interest – Also known as stakeholders. Individuals or groups of people that are served by the program or have a stake in the program and/or its graduates. In DMS, numerous stakeholders may be represented and include but are not limited to:

- Institutional representatives - including school faculty and administration
- Affiliate representatives - including administrative and clinical staff
- Learner representatives - including students and program graduates
- Practice representatives - including employers, physicians, sonographers
- Public representative

Competency – A process of formal structured assessment leading to the ability to perform a skill with minimal supervision. The combination of observable and measurable knowledge, skills, abilities, and personal attributes contribute to enhanced student performance.

(Source: <https://hr.unl.edu/compensation/nuvalues/corecompetencies.shtml/>)

Consortium – A contract, agreement, or memorandum of understanding (MOU) between two entities to provide governance of a program. The members of the consortium set up a separate Board to establish and run an educational program. The governance, lines of authority, roles of each partner must be established in the agreement and have an organizational chart. (Source: EMS, ST)

Continuing Accreditation – Granted to a program when it is re-evaluated at specified intervals. (CAAHEP Policy 204 Status of Accreditation)

Credit – Unit of assessment corresponding to the number of contact hours assigned to a course or course of study. One credit equals one contact hour in class and two additional preparation hours each week that take place out-of-class.

A **semester school** consists of 3 semesters per year: fall, spring, and summer (optional), each semester lasting 15-16 weeks and equating to 45-48 contact hours per credit hour or 135-144 contact hours for a 3-credit course.

A **quarter school** consists of 4 terms per year: fall, winter, spring, and summer term (optional), each lasting 11-12 weeks and equating to 33-36 contact hours per credit or 99-108 contact hours for a 3-credit course. The difference is the number of weeks in class. 1 semester credit = 1.5 quarter credits.

A program that does not have an articulation agreement with a credit awarding institution (College or University) **MUST document** the number of contact hours assigned to each didactic and clinical course and **verify** these contact hours with student attendance/participation records.

Delegated Agent – A subordinate individual entrusted and authorized to act as representative to accomplish a task or responsibility for which they have been educated and trained to perform.

Direct Measurement of Learning – Form of assessment where the student produces a product or demonstrates learning through knowledge evaluation or performance that is measurable. Examples include competency checkoffs, capstone projects, papers, and oral presentations.

Distance Education – The delivery of a program that allows the completion of the entire curriculum without the need to attend any instruction on a campus location. Travel may be required to complete laboratory or clinical segments of a program. **CAAHEP. (See CAAHEP Policy 209.A. for a complete explanation of Distance Education Programs)**

Educationally Prepared – Successful completion of a course of instruction and demonstration of applied skills that adheres to accepted occupational and professional practice requirements.

Formative Assessment – Used to evaluate student learning to build, change, or revise the instructional design of a course or curriculum throughout the learning and teaching process and monitor student progress. Examples include questioning, surveys, quizzes, and discussion.

(Source: ST)

Indirect Measurement of Learning – Form of assessment where someone other than the student (Employer, Supervisor, Advisory Committee feedback) measures learning or performance.

Initial Accreditation – First status of accreditation granted to a program that has demonstrated substantial compliance with CAAHEP Standards. Initial accreditation remains in place until another action is taken by the CAAHEP Board. **(CAAHEP Policy 204 Status of Accreditation)**

Institutional Equivalent – Refers to the institution's prerogative to demonstrate similitude for position and title of officials (faculty, other designated staff), within the institution and program, ensuring that descriptions, qualifications, and responsibilities meet applicable Standard(s).

Learning Domains:

Cognitive Domain – Mental skills (Knowledge): Acquisition of intellectual skills (knowledge) through instruction, recall, understanding, application, analysis, and synthesis is effective in promoting cognitive learning critical to mastery of achievement. Cognitive learning plays a key role in the other learning domains as well.

Psychomotor Domain – Manual or physical skills (skills) Hands-on direct practice and active clinical experiences develop skills in the psychomotor domain.

Affective Domain – Growth in feeling and emotional area (attitude or self): Learning the behaviors and norms of a specific area of study. Progress in this area leads to awareness, understanding, and value adoption of the occupation.

Learning Management System (LMS) – Software application for the administration, documentation, tracking, reporting, automation, and delivery of educational courses, training programs, or learning and development programs.

Learning Objective – A short term, specific measurement or requirement that a learner should be able to perform as a result of the educational process.

Lesson Plan(s) – Or modules, detail the requirements, activities, and outcomes inherent in each course. Lesson plans provide the most detailed aspect of the course and how the student will navigate the content and material used to meet overall course objectives, goals, and learning domain requirements.

Mission Statement – Statement of why an organization exists, its overall operational goals, the service(s) provided, its primary constituency, and geographical region of operation.

Multi-Campus/Satellite – Off-campus location(s) that are advertised or otherwise made known to individuals outside the sponsor. In this multi-campus/satellite model, the accredited DMS program is offered by a single sponsoring institution, provides sequenced delivery of the curriculum to all students by program faculty who meet the CAAHEP Standards and Guidelines

for DMS programs (Standard III, Resources), and offers identical educational experiences and ensures adequate resources and services across multiple campuses. **(JRC-DMS Policy 209). (See CAAHEP Policy 209.B)**

National Credentialing Examinations – Are those accredited by the National Commission for Certifying Agencies (NCCA) or American National Standards Institute (ANSI). Participation and pass rates on national credentialing examination(s) performance may be considered in determining whether or not a program meets the designated threshold, provided the credentialing examination(s), or alternative examination(s) offered by the same credentialing organization, is (are) available to be administered prior to graduation from the program. Results from said alternative examination(s) might be accepted if designated as equivalent by the organization whose credentialing examination(s) is (are) so accredited.

Organizational Table – (Institution, Consortium, & Program as applicable)

Graphically portrays the administrative relationships under which the program operates, the role, title, responsibility, and reporting obligation of all personnel involved with the program to include administrative officers; program key personnel and faculty; administrative support; anyone named in the self-study; and any other persons who have direct student contact except support science faculty.

Outcome Indicators – Assessment tools (data collection and measurement tools) that are standardized (the same for all who use them) and used to measure assessment results or “outcomes.” Indicators should be linked to an aspect of the program, curriculum, and its planning process. Indicators should be standardized, or they do not measure the same thing among programs or graduates. Data reflected in these indicators gathered over a period of time is called trending. The CAAHEP established assessment outcome indicators are retention, graduate placement (employment), outcomes assessment exam results, graduate surveys, and employer surveys. **(Source: ST)**

Outcomes-Based Assessment/Accreditation – Accreditation and assessment that measures a program’s quality and compliance with accreditation standards based on outcomes indicators after initial process-based evaluation has occurred. The premise is that there is more than one way to administer a program; the end result (graduate knowledge, skills, and behaviors) and periodic verification of data through on-site or virtual evaluation will reflect whether a program is meeting its program goals. **(Source: ST)**

Positive Placement – The graduate is employed full or part-time in the profession or in a related field or continuing his/her education or serving in the military. A related field is one in which the individual is using cognitive, psychomotor, and affective competencies acquired in the educational program.

Probationary Accreditation – A temporary status of accreditation imposed when a program does not continue to meet accreditation Standards but should be able to meet them within the specified time. **(CAAHEP Policy 204 Status of Accreditation)**

Proficiency – A pre-clinical application used for students to demonstrate skills for which there are limited or no clinical resources for developing competence. It may be used as a pre-clinical competency technique or tool to ensure the student is prepared for clinical experiences.

Program Goals – A list (varies by program prerogative) that defines the knowledge (cognitive), skills (psychomotor), and behaviors (affective) that will be reflected by the graduate of the program. Should be written beginning with “The graduate will...” Program goals and outcomes are not to be confused with programmatic/ strategic planning administrative goals. CAAHEP

requires that a program goal statement should, at minimum, include preparing entry-level graduates in the cognitive, psychomotor, and affective learning domains.

Program Goals Statement – A statement of the goals of the program with regard to the preparation of its graduates. This is not a list and should not be confused with the program goals/outcomes. CAAHEP requires that a program goal statement should, at a minimum, include preparing entry-level graduates in the cognitive, psychomotor, and affective learning domains. Program objectives or student learning outcomes should reflect the more specific skills to lend to the Goals Statement. **(Source: ST)**

Program Planning – An institutional strategic plan should be in place in order to carry out program planning. The program plan involves relating the program decisions and actions to the overall strategic plan of the institution. In addition, it is the means by which a program looks to the future and documents its goals, initiatives, and their respective measurement criteria, such as timelines and thresholds. Program planning is directly linked to assessment, as decisions should be data-driven; assessment is part of the planning process as it provides much of the data related to program operations. **(Source: ST)**

Re-Entry students – Students who withdraw from a cohort, are counted as part of the retention/attrition for the cohort in which the student started. Upon re-entry into the program, the student is counted in the cohort the student joined.

Root Cause Analysis (RCA) – A method or technique used for [problem solving](#) used when identifying faults or problems associated with a specific deficiency. Below is the suggested JRC-DMS template to develop an action plan.

1. Analysis of Root Cause(s)
 - a. Narrative
 - b. Evidence or measurements (metrics) reviewed in the analysis process

2. Development of action plan
 - a. Departments and/or personnel who will be responsible for implementing and monitoring the action plan
 - b. List objectives or individual areas that have been identified from the analysis of root causes that need modification to improve the current status of the outcome.
 - c. List resources needed.
 - d. Timeline of a timeframe in which the activities will occur.

Tools used in the improvement plan or for assessment

Root Cause Objective(s)	Metrics	Team Members / Department	Timeline or Due Date
Objective 1			
Objective 2			
Objective 3			
Objective 4			

3. Review and communication of action plan

- a. Describe the frequency of monitoring and to whom the information will be shared to analyze the results for determination of the effectiveness of action plan(s).
- b. Describe how the plan will be updated based on a review of metrics.

Satellite – According to **CAAHEP Policy 209.B** states satellite or off-campus locations that are advertised or otherwise made known to individuals outside the sponsor. The off-campus location(s) must offer all the professional didactic and laboratory content of the program. Satellite(s) are included in the CAAHEP accreditation of the sponsor and function under the direction of the Key Personnel of the program. Committees on Accreditation may establish additional requirements that are consistent with CAAHEP Standards and policies. CoAs must inform CAAHEP of the addition of an approved satellite.”

Scanning Lab – Scheduled and required experiences; scan laboratories are student scanning exercises in a controlled laboratory setting; scan laboratories must be under personal supervision by appropriately credentialed faculty at all times; scan laboratories may be conducted in a classroom setting or in a clinical setting if the program’s equipment or space is insufficient; scan laboratories may be conducted on volunteer models, such as other students; policies must be in place that ensures that models understand the purpose is educational, not diagnostic; and scan laboratories cannot take the place of clinical education in a hospital or office setting on real patients, but can be used to enhance scanning experience in certain limited settings. **JRC-DMS Policy 803**

Self-Study – A formal process during which an educational institution or program critically examines its structure and substance, judges the program’s overall effectiveness relative to its goals and learning domains, identifies specific strengths and deficiencies, and indicates a plan for necessary modifications and improvements. The process should include an assessment of the extent to which the program is in compliance with established accreditation Standards, appropriateness of program goals and learning domains to the demonstrated needs and expectations of the various communities of interest served by the program, and the program’s effectiveness in meeting set thresholds for established outcomes. **(Source: CAAHEP) See JRC-DMS Policy 801-802. CAAHEP Policy 206.A.**

Simulation – A [model](#), process, or application of a [real activity](#), [created](#) for [training purposes](#) or to [solve a problem](#) **(Source: Cambridge Dictionary)**

Low fidelity simulators are often static and lack the realism or situational context. They are usually used to teach novices the basics of technical skills. An example of a low-fidelity simulator is the intravenous insertion arm. **(Source: Shah et. Al. Simulation in Medical Education. International Journal of Basic and Applied Physiology 2012;Vol 1 (1):167-170)**

Moderate fidelity simulators give more resemblance to reality with such features as pulse, heart sounds, and breathing sounds but without the ability to talk, and they lack chest or eye movement. They can be used for both the introduction and deeper understanding of specific, increasingly complex competencies. An example of a moderate fidelity simulator is the “Harvey” cardiology simulator. **(Source: Shah et. Al. 2012)**

High fidelity simulators combine part or whole-body manikins to carry the intervention with computers that drive the manikins to produce physical signs and feed physiological signs to monitors. They are usually designed to resemble reality. They can talk, breathe, blink, and respond either automatically or manually to physical and pharmacological interventions. **(Source: Shah et. Al. 2012)**

Standardized Assessment – An objective measure is given and scored in a uniform manner. The purpose of standardization is to ensure that all students are assessed under the same conditions so that their scores have the same meaning and are not influenced by differing conditions. Standardized assessment tools commonly include rubrics to assist in the continuity of assessment from student to student. **(Source: ST)**

Standards and Guidelines – A **Standard** is a requirement that educational programs must meet to be accredited; a **Guideline** is a description, example, or recommendation that elaborates on the **Standard** and assists with the interpretation of the **Standard** but are not required to be in compliance with a **Standard**.

Substantive Changes – A change which has the potential to directly affect the educational program offered or a sponsoring institution's demonstration of compliance with CAAHEP Standards; JRC-DMS substantive changes include: change in key personnel directly related to the educational program [President/CEO, Dean, and Program Director], program goals, facilities, and curriculum. **(JRC-DMS Policy 807)**

Summative Assessment – Used to evaluate student competency after completion of a measured segment of instruction (end of term/quarter/semester) and the effectiveness of the learning and instructional process. Assessment may lead to revision or change in a program or processes related to student learning. Examples are the outcomes assessment exam, capstone projects, employer and graduate surveys, retention, and graduate placement. **(Source ST)**

Syllabus – Considered a contract between the program and the student. It is developed for all didactic, laboratory, and clinical courses. Course syllabi should include but may not be limited to those items listed in the previous paragraph and course faculty, schedule, overview/description, objectives, methods of instruction, content, outline, assessment methods, and grading criteria. **(Source: ST)**

Taxonomy – Or taxonomies, are classification systems based on an organizational strategy to include carefully defined terms, arranged from simple to complex and from concrete to abstract. It simply provides a framework of categories into which educational goals can be classified. As an example, **Bloom's taxonomy** is a system of classification across a specific range of criteria to develop learning objectives used to determine the course or program outcomes and divides educational objectives into “**domains**” or foci, including the **cognitive (knowledge), psychomotor (hands-on skills) and affective (behaviors, conduct)** domains. Learning objectives that incorporate these three foci create a holistic or well-rounded learning experience.

Technical Standards (Essential Functions) – Address individual physical and mental capabilities regarding strength, motor coordination, manual dexterity, emotional, mental, and physical health in a variety of work environments, situations, and circumstances.

Virtual Site Evaluation – Uses web-based audio and visual connection to facilitate face-to-face interaction with institutional administration, program faculty, medical advisor, and students. The JRC-DMS uses a CAAHEP provided web conferencing system to facilitate the virtual site visit.

Withdrawal of Accreditation – An action taken when a program is no longer in compliance with the accreditation Standards. **(CAAHEP Policy 204 Status of Accreditation)**

Withhold – An action taken when a program seeking initial accreditation is not in compliance with the accreditation Standards. **(CAAHEP Policy 204 Status of Accreditation)**