Technical College System of Georgia

Brian P. Kemp
Governor

Greg Dozier
Commissioner

Instructional Faculty Consortium Committee (IFCC)

Diagnostic Medical Sonography

Date: April 30th, 2021
Time: 9:00 am – 12:00 pm
Location: WebEx
Meeting Facilitator: Sasha Kahiga
Recorder: Jennifer Eiland

Attendees

1) Autumn Milburn - Clinical Coordinator, Augusta Technical College
2) Crista Resch - Clinical Coordinator, GA Northwestern Technical College
3) Dawn Irwin - Instructor, GA Northwestern Technical College
4) Jennifer Eiland - Program Director, Oconee Fall Line Technical College
5) Kim Strong - Program Director, Gwinnett Technical College
6) Kristen Buoy - Dean of Health Science, Gwinnett Technical College
7) Kristi Flowers - Program Director, Augusta Technical College
8) Leslie Mansell - Instructor, Columbus Technical College '
9) Nina Madden - Program Director, GA Northwestern Technical College
10) Rebecca Alexander -VPAA, Gwinnett Technical College
11) Regina Ridgley - Program Director, Columbus Technical College
12) Sasha Kahiga - Curriculum Program Specialist, TCSG

Agenda Topics/Discussion

Welcome
Sasha Kahiga welcomed all participants and asked everyone to sign in using the WebEx chat to ensure their attendance is captured and recorded. Sasha provided a PowerPoint overview, explaining how to navigate the WebEx button options.

Review of Agenda
Sasha reviewed the agenda and asked the group if other items needed to be added for discussion. The group agreed with the agenda.

Approval of Minutes

Sasha reviewed the minutes from the March 12th, 2021 IFCC meeting. Sasha stated that IFCC Co-Chair Jennifer Eiland reviewed the minutes and highlighted all the corrections that were needed. The group provided Sasha with modifications of the names and titles of those that attended. Sasha motioned the official acceptance of the minutes with no additional modifications. Kim Strong made the motion to approve the revised minutes. Jennifer Eiland seconded the motion. Sasha stated and noted that the minutes have been accepted and will be placed on the IFCC homepage.

https://intranet.tcsg.edu/teched/academic-affairs/ifcc/ifcc-meeting-minutes/

Curriculum Review/Revisions

Sasha stated to the group that she would hand over the meeting to the IFCC Chair & Co-Chair, and each course volunteer will present their proposed changes. Kim noted that the overall program standards were outdated and Sasha explained to the group that the IFCC is responsible for letting her know what changes needed to be made to the DMSO courses and the entire program. Sasha stated that they could provide her with the job description, educational programs, and other educational-related info. She will ensure to update the salary data using the EMSI reports.

Jennifer displayed the program standards for everyone to review. Kim asked Sasha if the program length could be updated to state 4 to 5 semesters. Sasha stated that the program length is calculated based on how the curriculum is laid out each semester, and the length is calculated at an exact numerical figure. Sasha further explained that programs can rearrange their semester courses based on program needs and can have their program completed within 4 or 5 semesters if they prefer. The group understood and began discussing the required courses.

MATH Requirement

Kim stated that the group would need to decide if the MATH 1127: Introduction to Statistics course will need to be removed. In response to Kim, Dawn said that Statistics could not be removed due to the national curriculum requiring the course. Dawn further stated that program accreditation could be jeopardized if the Statistics course is released. In response to Dawn's statement, Jennifer & Kim noted that the new JR-DMS standards dated for a start date of September 1st, 2021, only have MATH listed and do not specify the type of MATH course required. Kim further explained that the new National Education Curriculum has not been released and is unsure if a Statistics course will be required.

DMS3: Diagnostic Medical Sonography

Kim begin reviewing each section of the program standards with the group, and the following revisions were requested,

- The program length can remain as is at six semesters since each program can arrange their curriculum as they see fit.
- Within Occupational Trends, the 2018 data needs to be updated. Sasha stated that she would utilize EMSI reports to update all of the outdated data.
- Kim stated that she would like more time to review the overall standards since there is imperative information missing from the program description and job duties sections. Sasha stated that was fine and for the chairs to send her the updated information once reviewed. Sasha asked that they include the occupational analysis and program outcome sections for review as well. Jennifer stated that within the Program Outcomes, it would be best to list the AART requirement. The group agreed.
- Sasha asked the group to provide clarification from the last meeting discussion about the MATH 1127, ALHS 1040 & ALHS 1090 course. She asked the group what their decision was about removing the MATH 1127 and adding an "or" option for ALHS 1040 & ALHS 1090. The group asked if MATH 1111 is a pre-req to the MATH 1127 course. Sasha informed them that MATH 1111 is not an pre-req to MATH 1127, and they can decide how they would like to proceed.
    - Kim stated that MATH 1111 & MATH 1127 should not be an "or" option, and MATH 1111 is imperative to take for Physics. Kristen asked the group if the new standards dated for September 1st, 2021 had any significant changes that can't be addressed under the current curriculum that would prevent the group from moving forward with changes. In response, Kim stated that the new standards added abdomen extended, which are being taught within several classes.
    - Kim also stated that the new standards require programs to select their Abdomen, OBGYN, and/or Breast concentration. Kristen suggested waiting to update the curriculum if programs are already teaching to the upcoming September standards. Kim stated that she did not see an issue with that and asked Sasha to chime in. Sasha agreed but wanted the group to keep in mind that GA Piedmont is starting their program, and what is decided should not impact their accreditation process.
    - Jennifer is currently in the process since her program is brand new, and she will need to be following the September 1st standards. Kim noted that the accreditation agency would not hold any program accountable for the new national education curriculum since it has not been reviewed yet. Concerns were raised regarding when the Fall cohort is selected for their programs, it will be difficult to advise students whether MATH 1127 should or should not be taken. Also different start times for each program, can be a problem as well. Discussion was tabled until the end of the meeting to review the DMSO courses.
- Before moving on, Jennifer asked the group if the Program Resources/Equipment/Facilities sections could be reviewed and the outdated information such as darkroom be removed. Additionally, she stated that the 1500 completed examinations requirement for students at clinical sites should be removed since the new

standards do not specify numbers. Jennifer further noted that the statement prevents her from utilizing potentially clinical sites due to being in a rural area and the sites not having enough employees or patients to accommodate that many examinations; although overall, the number of hours would be an excellent experience for the students.

- Kim agreed and stated that the statement could be removed and replaced with the clinical examination statement listed within the September 2021 CAAHEP standards.
- Per the CAAHEP September 2021 standards, the statement is as follows (pg. 4), Clinical Affiliates must provide each student access to an adequate number and a variety of types of diagnostic medical examinations to develop clinical competency in both normal & abnormal findings for the learning concentration(s) being offered.
- Autumn pointed out that the KMS program standards state that the clinical site must be JCAHO accredited. She asked if the other hospital accreditation agencies are included in that as well. Kim noted that either everyone could review their clinical sites and provide the information of all accreditation agencies for each site or remove JCAHO and leave the statement to read, "The clinical site should be accredited and must have a copy of business license". The group agreed to remove the term JCAHO and make it more of a generic statement.

DMSO 1010: Foundations of Sonography

Jennifer Eiland presented and led the discussions on the following revisions.

- Within the course description, removal of the "basic sonographic physical & system, operation" statement since the majority of the programs cover this content within the DMSO 1080 course taken at the same time. The group agreed that it could be removed.
- Course Pre-req & Co-reqs remained as is.
- The course hours remained as is.
- Regular Lab course description should state "Lab" and not "Internship"
- Learning Outcome 5.1 was revised; Perform the correct procedures for taking and recording vital signs including assessment of skin color and integrity.
- Learning Outcome 5.9 was added; Demonstrate proper IV insertion and injection of simulated contrast in the DMS lab.
- Learning Outcomes 11.1 was revised; Define ergonomics, OSHA and industry standards and guidelines.
- Learning Outcome 11.7 was added; Discuss the role of Administration and the Sonographer in the prevention of MSI.
- Competency #12: Basic Sonographic Physical Principles & System Operation was removed, along with the learning outcomes;
    - Learning Outcome 12.1: Discuss the basic fundamentals of the physical principles of sound and the basic features of medical sonographic equipment, including operator controls and image processing.

- Learning Outcome 12.2: Observe the ARDMS faculty member demonstrate how the basic physical principles apply to sonographic equipment manipulation to produce images.
- Learning Outcome 12.3: Perform hands on practice utilizing scanning models or volunteers using the ultrasound systems with techniques demonstrated by faculty.
- Learning Outcomes 12.4: Describe the importance of performance, safety, and output measurements and standards.

- Jennifer stated that she removed the Sonographic Scanning Techniques competency #14 along with the learning outcomes and placed it within the DMSO 1020 course since it was performance-based on hands-on images that coincide with the DMSO 1020 course. She asked the group what their thoughts were.
    - Kim that the competency should remain to justify the "lab" hour requirement. The group agreed.

DMSO 1020: Sectional Anatomy & Normal Sonographic Appearance

Nina Madden presented and led the discussions on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Learning Outcome 14.3 was added: Obtain, evaluate, document, and communicate relevant information related to sonographic examinations.
    - Nina stated that she added to provide more details & relevant information in reference to the communication concept of the competency.
- The group agreed with the revisions.

DMSO 1040: Sonographic Physics and Instrumentation

Kristi Flowers presented and led the discussions on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Learning Outcome 4.4 was added: Review emerging technology that will be used in a clinical setting.
    - Kristi stated that although the faculty teach emerging technology, it should be noted within the KMS standards to align with the new CAAHEP standards as well.
    - The group agreed.
- Kristi stated that the new standards outlined a maintenance program with what parameters are being reviewed during PMs. The following learning outcomes were added to help students recognize what they're doing, the importance of keeping records on hand and knowing different storage techniques.

    - Learning Outcome 8.4 was added: Describe performance measures used to evaluate a machine for operation and maintenance with a phantom.
        - Jennifer asked the group if the Phantom should be added to the equipment list located on the overall DMS3 standards. In response, Kristi agreed that it would be a good idea.
    - Learning Outcome 8.5 was added: Recognize the importance of proper records maintenance with quality assurance programs.
    - Learning Outcome 8.6 was added: Discuss different image storage techniques.
- Learning Outcome 9.3 was added: Perform techniques to decrease the mechanical and thermal index.
    - Kristi stated that students must understand how to change mechanisms on a machine rather than relying on the presets.
- The group agreed with the revisions.

DMSO 1080: Sonographic Physics and Instrumentation Registry Review

Kristi Flowers presented and led the discussions on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Learning Outcome 1.4 was added: Explain the ALARA principle and how adjusting certain controls reduces patient exposure.
    - Kristi stated that everything listed within the new CAAHEP standards is covered within the course. The ALARA principle should be added to KMS, although it is being taught within the program.
- The group agreed with the revisions.

DMSO 1050: Abdominal Sonography I

Nina Madden presented and led the discussion on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Nina stated that Competency #2: Anatomy did not have any learning outcomes listed, and the following was added;
    - Learning Outcome 2.1 was added: Identify anatomy, relational anatomy, anatomic variants, and sonographic appearances of normal anatomic structures for abdominal organs and cavities, small parts, and MSK.
        - Nina stated that adding this learning outcome will satisfy the extension within non-vascular and soft tissue structure concepts.
- Nina stated that Competency #3: Protocols for All Abdominal Organs and Organ Systems and Non-Cardiac Chest did not have any learning outcomes listed, and the following was added;

- Learning Outcome 3.1 was added: Evaluate Scanning protocol and modifications (s) based on the sonographic findings and the differential diagnosis including: indications and contraindications, history and physical exam, related imaging, laboratory, and functional testing procedures, clinical differential diagnosis, contrast-enhancing imaging, role of sonography in patient management.
    - The group discussed when DMSO 2020 and DMSO 1050 were being taught. Since everyone offers the courses at different times throughout the year, the group discussed removing it. Nina asked which part of the learning outcome should be removed, and Kim stated small parts & MSK because it is within DMSO 2020.
    - Nina stated that under the CAAHEP standards, it has listed the abdominal and then the extended parts and asked the group if the standards are not following the same concept for the abdomen.
    - Jennifer stated that for the credit of accreditation, as long there is a class covering the information within your program, they should be sufficient. Kim agreed but stated that specifically putting the material within DMSO 1050 will be problematic for some of the programs. The group agrred that if it is listed within the DMSO 2020 course, programs can teach the material in any semester they see fit, and there is no need to add the information again to this course.
    - Based on the discussion, Nina revised Learning Outcome 2.1 to state the following; Identify anatomy, relational anatomy, anatomic variants, and sonographic appearances of normal anatomic structures for abdominal organs, vasculature and cavities.
- Nina stated that she revised a few more learning outcomes by adding the small parts & MSK material, but it should not be added to the others since it has been removed from the previous learning outcome.
    - The group agreed.

DMSO 1060: Clinical Sonography I

Autumn Milburn presented and led the discussion on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Learning Outcome 1.1 was revised to state the following, Recognize significant clinical information and historical facts from patient and medical records for abdominal and pelvic examinations and modify exam as needed.
    - Autumn stated that the CAAHEP standards require, Deviation from practice parameters for the demographic evaluation or examination as required by the patient history or initial findings. Adding the modified exam as needed will align with the standard.

- The group agreed.

- Learning 2.2 was revised to state the following, Adapt to the psychological and physical needs of the patient and respond if needed.
  - Autumn stated that the CAAHEP standards require, Anticipate and be able to respond to the needs of the patient. Adding the response if needed, will align with the standard.
  - The group agreed.
- Jennifer stated that Sasha had asked the group during the last meeting to think about the hours offered within the clinical courses and asked what the group thought about the hours listed.
  - Kim stated that she believed that Sasha was asking the group to consider if they wanted to add more classes, etc to help keep the program's total credit hours as is.
  - Sasha agreed with Kim and stated that since the number of cases/examinations requirement was removed, the IFCC can review the clinical hours and determine if the hours are sufficient or could be decreased to be moved somewhere else within the program. She further stated that they could leave the hours as is, and the decision is up to the group to decide.
  - The group decided to leave the clinical hours as is.

DMSO 1070: Pelvic Sonography and First Trimester Obstetrics

Regina Ridgley presented and led the discussion on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Regina stated that most of the revisions made were either added terminology to the learning outcomes listed or adding new learning outcomes so that the KMS standards align within the CAAHEP new standards.
  - Learning Outcome 1.1 was revised to state the following, Describe the embryology, anatomy, function and normal and abnormal sonographic appearance of the female pelvis. …to include the pelvic musculature, pelvic vasculature, peritoneal spaces, reproductive organs, and suspensory ligaments.
  - Learning Outcome 1.6 was added; Demonstrate knowledge and identify sonographic appearance of inflammatory processes.
  - Learning Outcome 1.7 was added: Demonstrate knowledge and identify sonographic appearance of benign and malignant uterine and adnexal masses.
  - Learning Outcome 2.4 was added: Correlate clinical presentation with sonographic findings.
  - Learning Outcome 4.5 was added: Discuss the role of the sonographer in performing sonohysterography, chorionic villus sampling, amniocentesis, and infertility procedures.

- Learning Outcome 4.6 was added: Discuss the role of the sonographer in the evaluation and measurement of the nuchal translucency.
- Learning Outcome 4.7 was added: Discuss the role of the sonographer in patient management.
- Learning Outcome 6.1 was a duplication to Learning Outcome 1.3. It has been revised to state the following, Identify the clinical indications and laboratory values associated with early pregnancy.
- Learning Outcome 7.5 was added: Identify contraindications for sonographic evaluation of the obstetrical patient.
- Learning Outcome 7.6 was added: Identify and correlate related imaging and functional testing procedures.
- Learning Outcome 8.3 was revised to state the following, Identify normal anatomic features and sonographic appearance of the uterus, cervix, pelvic spaces, and of the developing first trimester structures to include the gestational sac, embryonic pole, yolk sac, and early placenta.
  - Regina stated that the learning outcome needed to be more detailed of what structures were being identified since the new standards were more specific.
- Learning Outcome 8.8 was added: Identify and evaluate fetal cardiac activity.
- Learning Outcome 8.9 was added: Identify the normal sonographic appearance of multiple gestations in the first trimester.
- Learning Outcome 8.10 was added: Discuss criteria to determine embryonic/fetal viability.
- Learning Outcome 12.3 was added: Discuss modifications to scan protocol based on clinical history, physical exam and/or sonographic findings to account for differential diagnoses.

- Regina stated that the old CAAHEP standards were general while the new standards is more specific with verbiage. The group agreed.

DMSO 1090: Introduction to Vascular Sonography

Regina Ridgley presented and led the discussion on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Regina stated that there was not much within the course to change other than adding verbiage from the new standards for the abdomen section to the following competency & learning outcomes,
  - Competency #4 was revised to state, Vascular Imaging of the Abdomen to Include: Aorta and Primary Branches, Vena Cava, Portal & Hepatic Veins, Mesenteric Vessels, and Renal Arteries & Veins.

- Learning Outcome 4.5 was added: Perform an Abdominal vascular Doppler assessment to include the hepatic, mesenteric, and renal vessels.
- The group agreed.

- Jennifer asked if everyone was okay with the lab hours, and everyone agreed. Sasha did state to the group that the description for the regular lab category states "internship" and it should read "lab". She will update the description during her changes within KMS. Jennifer stated that DMSO 1070 has the exact description and will need to be updated. Sasha informed the group that she would update all of their courses if the lab description is incorrect.

DMSO 1100: Clinical Sonography II

Autumn Milburn presented and led the discussion on the following revisions.

- Learning Outcome 1.3 was added: Recognize examination findings that require immediate clinical response and notify the appropriate clinical affiliate.
  - Autumn stated that the learning outcome was added based on the CAAHEP standard requirement in reference to life-threatening situations & implementation of emergency care as permitted by the institutional policy.
  - Kim asked if the outcome should state clinical instructor instead of clinical affiliate. In response, Autumn stated that she was okay with changing it however, if it's an emergency situation, the student will notify whoever they can at the time. The group kept the verbiage as is.
- Learning Outcome 3.6 was added: Compare examination to previous study and note changes, if applicable.
  - Autumn stated that it was added due to the standards having a requirement about comparing to changes from a previous exam.
- Learning Outcome 4.4 was added: Compare examination to previous study and note changes, if applicable.
- Learning Outcome 5.4 was added: Compare examination to previous study and note changes, if applicable.
- The group agreed with the revisions.

DMSO 1101: Clinical Sonography II (Part A)

Kim Strong stated that she might be the only program that utilizes DMSO 1101 & DMSO 1102. She presented and led the discussion on the following revisions.

- Kim stated that DMSO 1101 & DMSO 1102 make up all the standards for DMSO 1100. She said that her revisions were based on utilizing the revised DMSO 1100 provided by Autumn and removing standards that she covers within DMSO 1102; leaving only the standards that she covers within DMSO 1101 rather than the courses to be exact duplications of DMSO 1100 and one another.
- The course description was revised to state the following; This course provides students with continued work experience in a hospital, clinic or other patient care setting. Students

conduct sonographic examinations under direct and indirect supervision while continuing to improve their communication, professionalism and critical thinking skills. Topics include: patient care issues; scanning techniques; normal anatomy and pathologic conditions of the abdomen; normal and abnormal anatomy and pathology of the female pelvis; normal and abnormal uterine and fetal development through the first trimester.

- Competency #1: Patient Care Issues was missing learning outcomes.
    - Learning Outcome 1.1 was added: Demonstrate progression of patient care skill, acquiring and recording patient history, locating pertinent lab values, and obtaining reports from related imaging procedures, while communicating effectively with the patient, physicians, and other healthcare professionals.
    - Learning Outcome 1.2 was added: Establish patient confidentiality according to HIPPA guidelines.
    - Learning Outcome 1.3 was added: Recognize examination findings that require immediate clinical response and notify the appropriate clinical affiliate.
- Competency #2 was revised to state: Scanning Techniques
    - Learning Outcome 2.3 was added: Demonstrate a progression of scanning skills.
- Learning Outcome 3.3: Demonstrate a progression of scanning skills, was removed.
- Learning Outcome 3.6 was added: Compare examination to previous study and note changes, if applicable.
- Competency #4: Normal and Abnormal anatomy and pathology of the male pelvis and its learning outcomes was removed.
    - Learning Outcome 4.1: Recognize normal and abnormal sonographic appearance of the male pelvis, was removed.
    - Learning Outcome 4.2: Differentiate abnormal sonographic and doppler patterns of disease processes, pathology and pathophysiology of the male pelvis
    - Learning Outcome 4.3: Compare Laboratory findings and clinical history
- Learning Outcome 5.4 was added: Compare examination to previous study and note changes, if applicable.
- Competency #7: Introduction to Vascular Sonography and it learning outcomes were removed.
    - Learning Outcome 7.1: Demonstrate the introductory skills of vascular sonography in imaging arterial and venous anatomy of the upper and lower extremities and cerebrovascular anatomy, was removed.
    - Learning Outcome 7.2: Demonstrate normal and abnormal flow characteristics and waveforms, was removed.
- The group agreed with the revisions.

DMSO 1102: Clinical Sonography II (Part B)

There were no learning outcomes listed within the course, and Kim used the remaining content from DMSO 1100 that is not covered within DMSO 1101.

- Learning Outcome 1.1 was added: Demonstrate progression of patient care skill, acquiring and recording patient history, locating pertinent lab values, and obtaining reports from related imaging procedures, while communicating effectively with the patient, physicians, and other healthcare professionals.
- Learning Outcome 1.2 was added: Establish patient confidentiality according to HIPPA guidelines.
- Learning Outcome 1.3 was added: Recognize examination findings that require immediate clinical response and notify the appropriate clinical affiliate.
- Learning Outcome 2.1 was added: Relate knowledge of system controls to minimize possible bio-effects to the patient.
- Learning Outcome 2.2 was added: Demonstrate system controls to optimize sonographic images.
- Learning Outcome 3.1 was added: Perform examinations of the abdomen following the JRC-DMS National educational curriculum.
- Learning Outcome 3.2 was added: Differentiate normal and pathologic conditions while performing sonographic procedures of the abdomen.
- Learning Outcome 3.3 was added: Demonstrate a progression of scanning skills.
- Learning Outcome 3.4 was added: Demonstrate clinical indications in laboratory values associated with abdominal pathology.
- Learning Outcome 3.5 was added: Correlate clinical presentation with sonographic findings.
- Learning Outcome 3.6 was added: Compare examination to previous study and note changes, if applicable.
- Learning Outcome 4.1 was added: Recognize normal and abnormal sonographic appearance of the male pelvis.
- Learning Outcome 4.2 was added: Differentiate abnormal sonographic and doppler patterns of disease processes, pathology and pathophysiology of the male pelvis.
- Learning Outcome 4.3 was added: Compare Laboratory findings and clinical history.
- Learning Outcome 4.4 was added: Compare examination to previous study and note changes, if applicable.
- Learning Outcome 5.1 was added: Recognize Normal and abnormal sonographic appearance of the female pelvis.
- Learning Outcome 5.2 was added: Demonstrate abnormal sonographic doppler patterns of disease process.
- Learning Outcome 5.3 was added: Establish clinical indications and laboratory values associated with sonographic findings.
- Learning Outcome 5.4 was added: Compare examination to previous study and note changes, if applicable.
- Learning Outcome 6.1 was added: Name the required AIUM images required for a first trimester obstetric sonogram.

- Learning Outcome 6.2 was added: Perform examinations of the obstetric patient following AIUM guidelines to demonstrate normal and abnormal uterine growth, presence of gestational sac, the embryo, growth during a normal embryonic period.
- Learning Outcome 6.3 was added: Compare fetal growth with known normal HCG levels.
- Learning Outcome 6.4 was added: Perform examinations of first trimester obstetric patients imaging accurate crown rump length and nuchal translucency measurements.
- Learning Outcome 6.5 was added: Correlate clinical presentation with sonographic findings
- Learning Outcome 6.6 was added: Understand sonographic findings associated with ectopic pregnancies.
- Learning Outcome 6.7 was added: Distinguish sonographic findings consistent with types of abortions
- Learning Outcome 7.1 was added: Demonstrate the introductory skills of vascular sonography in imaging arterial and venous anatomy of the upper and lower extremities and cerebrovascular anatomy.
- Learning Outcome 7.2 was added: Demonstrate normal and abnormal flow characteristics and waveforms.
- The group agreed with the revisions.

DMSO 2010: OB Second and Third Trimesters

Kristi Flower presented and led the discussion on the following revisions.

- Kristi stated that for reference, all of the revisions are based on the new standards documented on pg. 26 & 27 of the CAAHEP Standards.
- All revisions in "red" are those suggested by Regina and the "blue" revisions are those indicated by Kristi.
- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Learning Outcome 1.5 was revised to state the following: Demonstrate sonographic appearance of fetal anatomical structures for a complete fetal anatomic survey.
- Learning Outcome 1.6 was revised to state the following: Perform measurement techniques utilized in fetal gestational age and growth assessment to include assessment of fetal cardiac activity.
- Learning Outcome 2.7 was added: Describe how to assess the maternal adnexa and cervix to evaluate for abnormalities.
- Learning Outcome 4.2 was added: Discuss maternal conditions that make a pregnancy high risk.
- Learning Outcome 4.3 was added: Explain the role of fetal monitoring and biophysical profile when fetal abnormalities are present.

- Learning Outcome 5.1 was revised to state the following: Distinguish various fetal abnormalities and their sonographic appearances including the fetal face, neck, head and brain, spine, thorax, heart, abdomen, abdominal wall, gastrointestinal system, genitourinary system, musculoskeletal system, fetal pelvis, extremities and external genitalia.
- Learning Outcome 5.4 was added: Discuss the role of three-dimensional sonography in improving the visualization of abnormalities.
- Learning Outcome 5.5 was added: Distinguish normal and abnormal developments of the fetal heart.
- Learning Outcome 5.6 was added: Demonstrate fetal heart position, size, four-chamber view, left ventricular outflow, right ventricular outflow, three-vessel view and three-vessel trachea view.
- Learning Outcome 7.3 was added: Discuss the role of sonography in fetal therapy.
- The group agreed with the revisions.
- Regina asked the group if they experienced any of their clinical sites not utilizing the 3-vessel view & bio-physical profiles as a standard protocol.
    - In response, Kristi stated that her AIU accredited sites include it within their standard protocol due to the accreditation requiring it. Additionally, she said that for her non-accredited sites, it, not a requirement, and the students might not experience it. This is why she began teaching it within the classes.
    - Regina asked if Kristi already has or is planning to add a separate competency for bio-physical profiles. Kristi stated that she already has one. Kim stated that she has one as well. Kim noted that if the clinical site does not regularly complete certain protocols, she usually asks the site to complete a task with the students.

DMSO 2020: Specialized Sonographic Procedures

Autumn Milburn presented and led the discussion on the following revisions.

- Course description remained as is.
- Course Pre-req & Co-reqs remained as is.
- Course hours remained as is.
- Regular Lab course description should state “Lab” and not “Internship”
- Autumn indicated that the majority of the revisions are referencing the CAAHEP standards located on page 18.
- Learning Outcome 1.1 was revised to state the following: List clinical indications and contraindications for interventional procedures.
- Learning Outcome 1.4 was revised to state the following: Demonstrate the sonographic technique and transducer guidance for interventional procedures.
- Learning Outcome 1.10 was added: Discuss importance of informed consent during an interventional procedure.
- Learning Outcome 1.11 was added: Discuss importance of procedural time out.

- Learning Outcome 1.12 was added: Discuss and demonstrate how to set up a sterile tray for an interventional procedure.
- Learning Outcome 1.13 was added: Discuss importance of pre and post procedural documentation.
- Learning Outcome 6.1 was revised to state the following: List indications and contraindications for organ transplant.
- Learning Outcome 8.1 was revised to state the following: Describe the anatomy and variants of the breast, thyroid, parathyroid, prostate, scrotum, penis and musculoskeletal system.
- Learning Outcome 9.1 was revised to state the following: Describe the function of the breast, thyroid, parathyroid, prostate, scrotum, penis and musculoskeletal system.
- Learning Outcome 10.1 was revised to state the following: Describe the clinical indications, contraindications and laboratory values associated with the breast, thyroid, parathyroid, prostate, scrotum, penis, and musculoskeletal system.
- Learning Outcome 11.1 was revised to state the following: Describe the sonographic technique used to evaluate the breast, thyroid, parathyroid, prostate, scrotum, penis, and musculoskeletal system.
- Learning Outcome 11.2 was revised to state the following: Describe the sonographic procedure and protocol for imaging the breast, thyroid, parathyroid, prostate, scrotum, penis and musculoskeletal system.
- Learning Outcome 12.1 was revised to state the following: Describe the pathologic conditions associated with the breast, thyroid, parathyroid, prostate, scrotum, penis and musculoskeletal system.
- Learning Outcome 12.2 was revised to state the following: Identify the sonographic characteristics of abnormal findings in the breast, thyroid, parathyroid, prostate, scrotum, penis and musculoskeletal system.
- Learning Outcome 14.1 was revised to state the following: Recognize the laboratory values associated with the breast, thyroid, parathyroid, prostate, scrotum, penis and musculoskeletal system.
- Learning Outcome 18.1 was revised to state the following: Describe the clinical indications, contraindications and laboratory values associated with the pediatric hip and pylorus: neonatal brain and spine.
- Jennifer asked the group if they prefer to keep breast & MSK material within the class. Kim stated that it can remain and she is working on developing a breast course that other programs can use if they choose to do so. Regina agreed and stated that they would like to see the material stay within the course because they will continue to teach the concepts although they are not declaring a special concertation. Autumn agreed as well and stated that since her students rotate through a breast center, it is best to leave the material and continue to teach the students so that they are exposed to the material.
    - Kristi agreed with them all and stated that the same concept should apply to the pediatrics content.

- The group agreed with the revisions.

DMSO 2030: Clinical Sonography III

Leslie Mansell presented and led the discussion on the revisions

- Leslie stated the revisions were based on page 27 of the new CAAHEP standards.
- Within the course description, a few misspelled words were correct and will now read as: This course provides students with continued work experience in a hospital, clinic or other patient care setting. Students improve skills in performing sonographic procedures previously introduced. Topics include: normal uterine and fetal development through the three trimesters including placental grading; equipment manipulation for optimum resolution; manipulation of equipment to minimize biological effects; normal anatomy and pathologic conditions of the abdomen and female pelvis; fetal biometry including gestational sac size, crown-rump length, bi-parietal diameter and head circumference; ectopic pregnancies; normal anatomy of the venous and arterial systems of the body; abnormal conditions of the human vasculature system; patient care issues; and demonstration of significant progression of knowledge and scanning skills.
- Learning Outcome 2.2 was revised to state the following: Perform examinations of the obstetric patient following AIUM guidelines to demonstrate the cervix, adnexa, pelvic spaces, normal uterine growth, presence of gestational sac, the embryonic pole, yolk sac, placenta, fetal cardiac activity, and growth during a normal embryonic period in the first trimester.
- Learning Outcome 1.5: Create diagnostic images of fetal anatomy, including a biophysical profile, and FHR; was removed.
- Learning Outcome 1.5 was added: Perform examinations of the obstetric patient following AIUM guidelines to demonstrate the intracranial anatomy, face, thoracic cavity, fetal heart (including position and size, four-chamber view, LVOT and RVOT views, three-vessel view, and three -vessel tracheal views), abdomen, abdominal wall, spine, extremities, amniotic fluid, placenta, umbilical cord, fetal cardiac activity, maternal cervical length and maternal adnexa in the second and third trimesters.
- Learning Outcome 1.6 was added: Perform a Biophysical Profile.
- Learning Outcome 2.2 was revised to state the following: Use system controls to optimize images in grayscale, Doppler, and M-mode.
- Learning Outcome 3.2 was revised to state the following: Adapt system controls to minimize possible bio effects to the patient in keeping with the ALARA principle.
- Learning Outcome 4.1 was revised to state the following: Perform examinations of the abdomen and complete female pelvis to include the vagina, cervix, uterus, posterior and anterior cul-de-sac, and adnexa including the ovaries and fallopian tubes while following AIUM guidelines.
- The group agreed with the revisions.

DMSO 2031: Clinical Sonography III (Part A)

Kim Strong presented and led the discussion on the following revisions.

- Kim stated that she followed the same concept with the previous clinical courses she presented. She removed all of the learning outcomes that should not be taught within this course and left those that should remain.
- The course description was revised to state the following: This course provides students with continued work experience in a hospital, clinic or other patient care setting. Students improve skills in performing sonographic procedures previously introduced. Topics include: normal uterine and fetal development through the first trimester; equipment manipulation for optimum resolution; manipulation of equipment to minimize biological effects; normal anatomy and pathologic conditions of the abdomen and female pelvis; fetal biometry including gestational sac size, crown-rump length, bi-parietal diameter and head circumference; ectopic pregnancies; normal anatomy of the venous and arterial systems of the body; abnormal conditions of the human vasculature system; patient care issues; and demonstration of progression of knowledge and scanning skills.
- Competency #1 was revised to state the following: Normal Uterine and Fetal Development Through the First Trimester
    - Learning Outcome 1.1 was revised to state the following: Name the required AIUM images required for a first trimester obstetric sonogram.
    - Learning Outcome 1.2 was revised to state the following: Perform examinations of the obstetric patient following AIUM guidelines to demonstrate the cervix, adnexa, pelvic spaces, normal uterine growth, presence of gestational sac, the embryonic pole, yolk sac, fetal cardiac activity, and growth during a normal embryonic period.
    - Learning Outcome 1.4: Determine the location of the placenta and assign a placental grade by the sonographic appearance of the placenta; was removed.
    - Learning Outcome 1.5 was revised to state the following: Create diagnostic images of fetal anatomy and FHR.
- Learning Outcome 2.2 was revised to state the following: Use system controls to optimize images in grayscale, Doppler, Color and M-mode.
- Learning Outcome 3.2 was revised to state the following: Adapt system controls to minimize possible bio-effects to the patient in keeping the ALARA principle.
- Learning Outcome 4.1 was revised to state the following: Perform examinations of the abdomen and complete female pelvis to include the vagina, cervix, uterus, posterior and anterior cul-de-sac, and adnexa including the ovaries and fallopian tubes while following AIUM guidelines.
- Competency #5 was revised to state the following: Fetal Biometry, Including Gestational Sac Size, Crown-Rump Length, Bi-Parietal Diameter, Head Circumference
- The group agreed with the revisions.

DMSO 2032: Clinical Sonography III (Part B)

Kim Strong presented and led the discussion on the following revisions.

- Kim stated that she followed the same concept with the previous clinical courses she presented. She removed all of the learning outcomes that should not be taught within this course and left those that should remain.
- The course description was revised to state the following: This course provides students with continued work experience in a hospital, clinic or other patient care setting. Students improve skills in performing sonographic procedures previously introduced. Topics include: normal uterine and fetal development through the three trimesters including placental grading; equipment manipulation for optimum resolution; manipulation of equipment to minimize biological effects; normal anatomy and pathologic conditions of the abdomen and female pelvis; fetal biometry including gestational sac size, crown-rump length, bi-parietal diameter and head circumference; ectopic pregnancies; normal anatomy of the venous and arterial systems of the body; abnormal conditions of the human vasculature system; patient care issues; and demonstration of significant progression of knowledge and scanning skills.
- Course pre-req and co-req remain as is.
- The regular lab description should read be removed since the course does not have any designated hours for regular lab.
- Learning Outcome 1.2 was revised to state the following: Perform examinations of the obstetric patient following AIUM guidelines to demonstrate the cervix, adnexa, pelvic spaces, normal uterine growth, presence of gestational sac, the embryonic pole, yolk sac, placenta, fetal cardiac activity, and growth during a normal embryonic period in the first trimester and continued growth throughout the second & third trimesters.
- Learning Outcome 1.5 was removed.
- Learning Outcome 1.6 was added: Perform examinations of the obstetric patient following AIUM guideline to demonstrate the intracranial anatomy, face, thoracic cavity, fetal heart (including position and size, four-chamber view, LVOT and RVOT views, three-vessel view, and three -vessel tracheal views), abdomen, abdominal wall, spine, extremities, amniotic fluid, placenta, umbilical cord, fetal cardiac activity, maternal cervical length and maternal adnexa in the second & third trimesters.
- Learning Outcome 1.7 was added: Perform a Biophysical Profile.
- Learning Outcome 2.2 was revised to state the following: Use system controls to optimize images in grayscale, Doppler, and M-mode.
- Learning Outcome 3.2 was revised to state the following: Adapt system controls to minimize possible bio-effects to the patient in keeping with the ALARA principle.
- Learning Outcome 4.1 was revised to state the following: Perform examinations of the abdomen and complete female pelvis to include the vagina, cervix, uterus, posterior and anterior cul-de-sac, and adnexa including the ovaries and fallopian tubes while following AIUM guidelines.
- The group agreed with the revisions.

DMSO 2040: Comprehensive ABD and OB/GYN Registry Review

Kim Strong presented and led the discussion on the following revisions.

- The course title was revised to state the following: Comprehensive Registry Review for ABD-extended and/or OB/GYN and/or Breast Concentration(s).
    - Kim stated that she changed the name to ensure that all declared concentrations are listed within the title.
- The course description was revised to state the following: Provides a review of knowledge from previous courses and helps the student prepare for ARDMS national certification examinations for sonography. Information concerning test-taking skills is also reviewed. Topics include: Abdomen Extended: anatomy and physiology of abdominal structures, small parts, and superficial structures; patient preparation and protocols for sonographic examination of abdominal structure; clinical indications, pertinent related diagnostic imaging procedures and laboratory tests; sonographic technique and appearance of normal anatomic abdominal structures, small parts; characteristic sonographic features and/or patterns of pathology in the abdomen, small parts; and instrumentation; OB/GYN: patient care, preparation and technique; instrumentation, normal pelvic anatomy; abnormal pelvic anatomy; extra-pelvic pathology associated with gynecology; pediatric sonography; post menopause; infertility and endocrinology; first trimester; placenta, amniotic fluid, umbilical cord; second and third trimester; congenital fetal anomalies; complications during pregnancy; fetal demise; coexisting disorders; HIPPA and patient care techniques utilizing a professional sonographer; Breast: patient care, preparation and imaging technique, instrumentation, normal and abnormal anatomy, variants, sonographic appearance, organ development, infectious processes, BI-RADS, image optimization, invasive procedures, and treatment options.
    - Kim stated that she updated the course description to ensure that the extended concentration content is listed for all concentrations, including Breast. Jennifer asked Kim clarification that depending on a program's declared concentration is what they should be focusing on when teaching the course. In response, Kim stated yes.
- Learning Outcome 1.1 was revised to state the following: Describe sonographic examinations pertinent to the program's concentration(s).
- Learning Outcome 1.4 was revised to state the following: Discuss scanning techniques and their applications to the various sonographic examinations.
- Learning Outcome 1.6: Compare and Contrast transabdominal, translabial, and transvaginal pelvic sonography; was removed.
- Learning Outcome 1.6 was added: Anticipate and be able to respond to the needs of the patient.
- Learning Outcome 1.7 was added: Review HIPPA
- Learning Outcome 2.1 was revised to state the following: Discuss the physical principles of sonography and their application towards the performance of the sonographic examinations.

- Learning Outcome 2.4 was added: Discuss different transducer designs and applications.
- Learning Outcome 2.5 was added: Identify and differentiate ultrasound-imaging artifacts and apply them to diagnostic criteria.
- Learning Outcome 2.6 was added: Describe quality assurance programs and responsibilities.
- Kim stated that some of the competencies were out of order and the following revisions include the new order and applicable revisions to the learning outcomes, if needed. The revisions is based on content being taught in a sequential order.
    - Competency #3: Abnormal Pelvic Anatomy is now Competency #4.
        - Learning Outcomes remain as is.
    - Competency #4: Extra-Pelvic Pathology Associated with Gynecology is not Competency #5.
        - Learning Outcomes remain as is.
    - Competency #5: Pediatric Sonography is now Competency #15.
        - Learning Outcome #1 has been revised to state the following: Discuss conditions associated with pediatric sonographic imaging.
        - Learning Outcome #4 has been revised to state the following: Demonstrate sonographic techniques used to identify normal and abnormal pediatric findings.
    - Competency #6: Postmenopause remain as is.
        - Learning Outcomes remain as is.
    - Competency #7: Infertility and Endocrinology remain as is.
        - Learning Outcomes remain as is.
    - Competency #8: First Trimester remain as is
        - Learning Outcomes remain as is.
    - Competency #9: Placenta, Amniotic Fluid, Umbilical Cord is now Competency #14.
        - Learning Outcomes remain as is.
    - Competency #10: Second and Third Trimester is now Competency #11.
        - Learning Outcomes remain as is.
    - Competency #11: Congenital Fetal Anomalies is now Competency #13.
        - Learning Outcomes remain as is.
    - Competency #12: Complications During Pregnancy remain as is.
        - Learning Outcomes remain as is.
    - Competency #13: Normal Pelvic Anatomy is now Competency #3
        - Learning Outcomes remain as is.
    - Competency #14: Fetal Demise is now Competency #10.
        - Learning Outcomes remain as is.
    - Competency #15: Coexisting Disorders is now Competency #9.
        - Learning Outcomes remain as is.

- Competency #16: HIPPA and Patient Care Techniques Utilized by a Professional Sonographer was removed.
  - Learning Outcome #1: Review HIPPA, was removed.
  - Learning Outcome #2: Review patient care techniques utilized by a professional sonographer, was removed.
- Competency #17: Anatomy and Physiology of Abdominal Structures, Small Parts, and Superficial Structures is now Competency #16.
  - Learning Outcome #1 has been revised to state the following: Describe the anatomy and physiology of abdominal structures, small parts, and superficial structures to include: a) Abdominal wall, b) Adrenal glands, c) Aorta and branches, d) Biliary system, e) Gastrointestinal tract, f) Great vessels and branches, g) Liver, h) Lung/pleura, i) Lymphatic system, j) Pancreas, k) Peritoneal and retroperitoneal cavities, l) Spleen, m) Urinary tract, n) Extremity nonvascular, m) Infant hips, n) Neck, o) Neonatal/infant head, p) Neonatal/infant spine, q) Penis, r) Prostate, s) Scrotum, t) Superficial soft-tissue structures.
- Competency #18: Patient Preparation (if applicable) and Protocols for Sonographic Examination of Abdominal Structure is now Competency #17.
  - Learning Outcome #1 has been revised to state the following: Detail patient preparation (if applicable) and protocols for sonographic examination of abdominal structures, small parts, and superficial structures to include: a) Abdominal wall, b) Adrenal glands, c) Aorta and branches, d) Biliary system, e) Gastrointestinal tract, f) Great vessels and branches, g) Liver, h) Lung/pleura, i) Lymphatic system, j) Pancreas, k) Peritoneal and retroperitoneal cavities, l) Spleen, m) Urinary tract, n) Extremity non-vascular, m) Infant hips, n) Neck, o) Neonatal/infant head, p) Neonatal/infant spine, q) Penis, r) Prostate, s) Scrotum, t) Superficial soft-tissue structures.
- Competency #19: Clinical Indications, Pertinent Related Diagnostic Imaging Procedures, and Laboratory Tests, or Other is now Competency #18.
  - Learning Outcome #1 has been revised to state the following: List clinical indications, pertinent related imaging procedures, and laboratory tests, or other procedures associated to sonographic examinations of the abdominal structures, small parts, and superficial structures to include: a) Abdominal wall, b) Adrenal glands, c) Aorta and branches, d) Biliary system, e) Gastrointestinal tract, f) Great vessels and branches, g) Liver, h) Lung/pleura, i) Lymphatic system, j) Pancreas, k) Peritoneal and retroperitoneal cavities, l) Spleen, m) Urinary tract, n) Extremity non-vascular, m) Infant hips, n) Neck, o) Neonatal/infant head, p) Neonatal/infant spine, q) Penis, r) Prostate, s) Scrotum, t) Superficial soft-tissue structures.

- Competency #20: Technique and Appearance of Normal Anatomic Abdominal Structures, Small Parts, and Superficial Structures is now Competency #19.
  - Learning Outcome #1 has been revised to state the following: Describe the sonographic technique and appearance of normal anatomic of abdominal structures, small parts, and superficial structures including anatomic variants and normal doppler patterns to include: a) Abdominal wall, b) Adrenal glands, c) Aorta and branches, d) Biliary system, e) Gastrointestinal tract, f) Great vessels and branches, g) Liver, h) Lung/pleura, i) Lymphatic system, j) Pancreas, k) Peritoneal and retroperitoneal cavities, l) Spleen, m) Urinary tract, n) Extremity non-vascular, m) Infant hips, n) Neck, o) Neonatal/infant head, p) Neonatal/infant spine, q) Penis, r) Prostate, s) Scrotum, t) Superficial soft-tissue structures.
- Competency #21: Characteristic Sonographic Features and/or Patterns of Pathology in the Abdomen, Small Parts and Superficial Structures is now Competency #20.
  - Learning Outcome #1 has been revised to state the following: Discuss characteristic sonographic features and/or patterns of pathology in the abdomen, small parts, and superficial structures including abnormal doppler findings that include: a) Abdominal wall, b) Adrenal glands, c) Aorta and branches, d) Biliary system, e) Gastrointestinal tract, f) Great vessels and branches, g) Liver, h) Lung/pleura, i) Lymphatic system, j) Pancreas, k) Peritoneal and retroperitoneal cavities, l) Spleen, m) Urinary tract, n) Extremity non-vascular, m) Infant hips, n) Neck, o) Neonatal/infant head, p) Neonatal/infant spine, q) Penis, r) Prostate, s) Scrotum, t) Superficial soft-tissue structures.
- Competency #22: Instrumentation was removed.
  - Learning Outcome #1: Discuss the basic fundamentals of ultrasound physics and instrumentation, was removed.
  - Learning Outcome #2: Discuss different transducer designs and applications, was removed.
  - Learning Outcome #3: Identify and differentiate ultrasound imaging artifacts and apply them to diagnostic criteria, was removed.
  - Learning Outcome #4: Describe quality assurance programs and responsibilities, was removed.

- Kim stated that to meet the Breast concentration for pragmas declaring the content as their program concentration, the following competency & learning outcomes were added.
  - Competency #21: Breast anatomy
    - Learning Outcome #1: Discuss congenital and developmental variants, and sonographic appearances of normal breast structures.

- Learning Outcome #2: Identification of anatomical and relational structures 3. Differentiation of normal from pathological/disease process
- Learning Outcome #4: Discuss Image optimization techniques in grayscale and Doppler
- Learning Outcome #5. Implants

- Competency #22: Physiology and pathophysiology in both normal and abnormal breast structures.
  - Learning Outcome #1: Discuss Embryologic development and age-related development of the breast to involution
  - Learning Outcome #2: Identify Normal blood flow patterns within the breast and its components.
  - Learning Outcome #3: Identify and differentiate effects of normal and abnormal Lymphatic drainage
  - Learning Outcome #4: Discuss effects of pregnancy and lactation
  - Learning Outcome #5: Describe Infectious processes and possible treatment options.
- Competency #23: Sonographic technique, measurements, sonographic appearances, integration of data, and Doppler patterns in both normal and abnormal breast structures.
  - Learning Outcome #1: Describe Imaging techniques, Image optimization including effect and correction of artifacts
  - Learning Outcome #2: Discuss Image labeling and measurement accuracy.
  - Learning Outcome #3: Differentiate normal vs abnormal Lymph node assessment.
  - Learning Outcome #4: Describe Postoperative biopsy site
  - Learning Outcome #5: List and discuss BI-RADS assessment categories
  - Learning Outcome #6: Describe the importance of correlation of other imaging modalities.
  - Learning Outcome #7: Discuss Spectral, Color and Power Doppler of the vasculature related to a mass/lesion.
- Competency #24: Interventional and intraoperative procedures
  - Learning Outcome #1: Describe the role of sonographer in ultrasound-guided procedures and sentinel lymph node biopsy.
  - Learning Outcome #2: Discuss Pre-and post-procedural documentation, necessary clinical information and procedure guidelines
  - Learning Outcome #3: Identify proper sterile setup for patient, sonographer and physician
  - Learning Outcome #4: Describe sonography-assisted procedures
- Competency #25: Scanning protocol and modification(s) based on the sonographic findings and the differential diagnoses.

- Learning Outcome #1: List Indications and contraindications for sonographic breast examinations.
- Learning Outcome #2: Discuss patient history collection and the breast physical examination
- Learning Outcome #3: Describe related imaging, laboratory, and functional testing procedures including elastography and three-dimensional imaging.
- Learning Outcome #4: Discuss the correlation with mammography, MRI, and Nuclear medicine
- Learning Outcome #5: Discuss BIRADS
- Learning Outcome #6: List clinical differential diagnosis
- Learning Outcome #7: Discuss the role of sonography in patient management

  - Competency #26: Treatment Options
    - Learning Outcome #1: Describe medical, surgical and brachytherapy treatment

- The group agreed with the revisions.

DMSO 2050: Clinical Sonography IV

Leslie Mansell presented and led the discussion on the following revisions.

- Leslie stated that most of the content is covered within the other clinical courses, and there was a minor update.
- Course description remain as is.
- Course pre-req & co-reqs remain as is.
- Course hours remain as is.
- Learning Outcome 1.1 was revised to state the following: Apply physics and theory to produce optimum sonographic images incorporating techniques in grayscale, Doppler, and M-mode.
- The group agreed with the revisions.

Conclusion/Action Items

Sasha thanked the group for their hard work, and based on the revisions made to the courses, she will be creating a new version for the classes and the program. She explained that the new version program creation would require that the program undergoes the PROBE process. However, she needed the group to provide her with their final thoughts on the MATH 1127, ALHS 1090 & ALHS 1040 course. Sasha asked the group if the current course layout within the program can remain as is until the national accrediting agency provides final details of curriculum changes.

Regina stated that the students are successful within the program due to the faculty having to incorporate a lot of foundational content within the DMSO courses, and the courses are not intended to cover the foundational concepts such as medical terminology. Regina further stated that students having that basic/foundational knowledge of medical terminology and introduction to healthcare allows them not to feel so overwhelmed at the beginning of the program.

Jennifer agreed with Regina and asked the group if they decided to add Pharmacology & IV insertion to DMSO content. Kim stated that it should be placed within DMSO 1010 due to the vagueness of the required content provided within the new CAAHEP standards. However, the course already had learning outcomes for the content. Regina asked if it will remain as didactic content to cover. As far as she knows, Kim stated it would remain didactic since many of her sites do not perform contrast studies. The group agreed that none of their sites do contrast as well.

Dawn asked the group if any of them have the students start an IV. The group stated no. Dawn stated that within ECHO, a guest nurse instructor teaches the students how to start an IV. Dawn continued to explain to the group that within Echocardiography, IVs must be started since they use contrast on approximately 90% of their patients. Kim stated that the DMSO sonographers usually remove the IVs from patients but do not normally start them. Kim noted that the new standards regarding the IV insertion are didactic and not demonstration/application. However, contrast is content that is covered within the physics course taught within the program. Additionally, Kim stated that the content within the DMSO 1010 course is vague due to more details possibly being provided within the National Education Curriculum. The group agreed.

Sasha informed the group that the DMSO 1010 course she provided to them was an older version listed on the DMS3 standards; however, she searched the curriculum database, and there is a 2015 version; that has some of the content that Jennifer stated was missing and she had to add. Sasha noted that she would send Jennifer the 2015 version of the course to review and make revisions. Sasha asked Jennifer that once she has completed the modifications, upload it within the OneDrive folder for final review & approval of the group. Jennifer stated that she would review the latest version of the course compared to the new CAAHEP standards.

Sasha revisited the curriculum discussion once more with the group and ask that they provide her with a statement on why adding an “or” option for ALHS 1040 and ALHS 1090 is imperative. She stated that adding the “or” option will increase the program's overall hours, and an explanation must be provided to College & TCSG administration. The group agreed upon the following statement for an explanation;

Effective September 1st, 2021 the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Standards and Guidelines for the Accreditation of Educational Programs in Diagnostic Medical Sonography (DMS) requires that all DMS programs include within the

DMS course Pharmacology, IV insertion & injection, and ergonomic. Additionally, all DMS programs must declare a specialized concentration within Extend-Abdomen, OB/GYN, or Breast. Due to these changes, the DMSO courses no longer have the required time to provide the foundational concepts taught within ALHS 1040: Introduction to Healthcare and ALHS 1090: Medical Terminology.

Sasha thanked the group for the statement and informed them that based on the previous discussion, she would keep the MATH courses as they are listed within the DMS3 standards and provide an "or" option for the ALHS 1040 & ALHS 1090 courses. She further explained that it would increase the overall credit hours to at least 80 hrs and hopefully, with the explanation, the program will go through the PROBE process successfully. In response, Jennifer presented the group with the CAAHEP standards for General Education Curriculum. The standard stated the following:

1. General Education Curriculum
    - Basic medical science and interpersonal communication education is required as a foundation for the clinical role of the diagnostic medical sonographer. The following must be at the post-secondary/college-level education courses:
        - a. Communication
        - b. Human anatomy and physiology
        - c. Mathematics
        - d. Physics
            - The program and sponsor may determine which mathematics and physics, including applied physics, courses will meet its needs and yield the outcomes desired of their graduates.

Sasha stated that based on the statement, she understood that MATH 1127 could be removed, or the MATH courses could be placed as "or" options of one another. She asked the group why some might be apprehensive of making that change. Dawn stated that MATH 1127 helps promote critical thinking, and removing the course from the curriculum will prevent students with the necessary skills needed if they aspire to become lead techs or supervisors. Furthermore, physics is related to statistics as well; overall, statistics help build the foundation. Additionally, Dawn stated that as an IFCC, they were told that the hours had to be reduced, and the ALHS 1090 course was removed; although the IFCC would like it to stay. She would prefer for the program to keep the MATH 1127 course and add the ALHS 1090 course.

Kim stated that since the new national curriculum has not been released and the current national curriculum has more Algebra-based content listed and having an "or" option for the MATH courses will not be a good idea. Sasha & Rebecca agree that if the current national curriculum has College Algebra content listed, the courses should remain as is. Sasha stated that she would move forward with the original plan of adding an "or" option for ALHS 1040 & ALHS 1090, resulting in an increase of 2 credit hours for the program. The group agreed with this approach.

Regina asked if a student from the University System has both sections of the Introduction to Physics course will it be sufficient to credit acceptance for the Conceptual Physics. The group stated that they have the registrar and Physics instructors compare the curriculum and determine if the courses can be accepted for the Conceptual Physics credit.

On another note, Regina stated that they had required their students to take Conceptual Physics; however, many students are asking if Introduction to Physics is an acceptable course replacement for Conceptual Physics. She asked the group what they all use. The group stated that Conceptual Physics is the required course that they accept due to some of the content needed for the program is not covered within Introduction to Physics. Kristi stated that Conceptual Physics is a course specific to the Technical System, and students coming from the University System will have to take 2 Physics classes to earn credit for Conceptual Physics. The group agreed.

Sasha thanked the group once more for all their hard work. She explains to them that she will keep them informed of each step of the PROBE process and described in detail what each step of the PROBE process entails. Sasha provided the group with the PROBE webpage link to help them keep up with the documentation & process.

https://intranet.tcsg.edu/teched/academic-affairs/probe-notices-and-information-tickets/probe-reports/

She asked the group to ensure that the final revised version of the courses is within the folder titled “Revised DMSO Courses” located within their OneDrive folder. She asked the group if there were any additional comments or questions. The group did not have any further questions. Sasha thanked the group again for their hard work, participation, and valued feedback. Sasha concluded the meeting.

Meeting adjourned at 11:30am

Meeting Notes submitted by Jennifer Eiland

Meeting Minutes submitted by Sasha Kahiga