



Accredited by the Accrediting Bureau of Health Education Schools (ABHES)

Kentucky

Licensed by the Kentucky Council on Postsecondary Education

Florence Campus

16 Spiral Drive

Florence, Kentucky 41042

SUMMER 2020 ADDENDUM

TO THE

2019-2020

CATALOG

This Addendum is an integral part of the College's Catalog. Unless otherwise indicated, all information published herein becomes or remains effective 7/14/2020. In the event of any conflict between the Catalog or its Addenda, and other sources of information, the Catalog and the Addenda will prevail. All interpretations of the material within the Catalog and the Addenda are at the discretion of the College, not the reader.

Questions regarding this document should be addressed to compliance@beckfield.edu

TUITION, FEES, AND OTHER COSTS OF ATTENDANCE

TUITION

Baccalaureate Degree in Nursing (RN to BSN)	\$12,000 [^]
Diploma, Practical Nursing	\$15,750
Associate of Applied Science, Diagnostic Medical Sonography	\$38,766
Diploma, Medical Massage Therapy	\$13,725

[^] Students may only take those courses that are scheduled and offered during each academic term.

All other programs \$355 per credit hour

Quarterly tuition for all programs may vary, depending upon the number of credit hours for which the student is enrolled in each quarter.

COSTS AND FEES APPLICABLE TO ALL PROGRAMS

Registration Fee*(Florence campus)	\$150 upon initial enrollment
Student Resource and Technology Fee	\$165 per quarter
Course Challenge Testing Fee	\$90 (each test attempted)
Graduation Fee	\$100 (each credential awarded)
Transcript Fee	\$5 (each official transcript issued)
Replaced Student Identification Badge	\$5 (each replacement)

* Charged to a continuing student who does not complete registration by the end of the previous quarter.

COSTS AND FEES APPLICABLE TO SPECIFIC PROGRAMS

Laptop Computer	\$550 upon enrollment
Liability Insurance (Allied Health and Nursing)	\$16 per year
ATI Assessment Fee (Practical Nursing)	\$1,700 (program fee)
ATI Assessment Fee (Associate's Degree Nursing)	\$2,400 (program fee)
ATI Assessment Fee (3-Year BSN Nursing)	\$2,700 (program fee)
Nursing Activity Fee (Nursing)	\$340 (per quarter)
First Quarter Nursing Fee (Nursing, except BSN)	\$245
Laboratory Fee (Allied Health)	\$30 per course with laboratory
Pinning and Photo Fee (Nursing, except BSN)	\$140 (each credential awarded)

Certain non-institutional costs may be incurred by students for specific expenses, such as those for uniforms, vaccinations, licensing and certification tests, and background inquiries and insurance required by externship and clinical sites. Such costs will vary, and students will be advised if the costs apply. When a change in listed tuition, costs or fees occurs, students will be notified at least 30 days before the increase becomes effective. Any change normally becomes effective upon the start of the quarter following the announcement of the increase, provided that at least 30 days have elapsed since the announcement. Costs of required textbooks, netbooks, laptops, and other course materials, equipment, and supplies may vary with price adjustments made by publishers and vendors. Many of these costs can only be estimated, and, since variable costs are not within the College's control, 30-day advance notification to students may not be possible. However, current estimated costs of such items are available from the Office of Student Financial Services.

SCHOLARSHIPS AND OTHER AWARDS

Nightingale Scholarship

The College is offering a \$10,000 scholarship to students who meet certain criteria for a need-based scholarship. Students interested should meet with a financial aid advisor for more information. The scholarship will be awarded in the student's final financial aid award year. This scholarship offer may not be combined with any other institutional scholarships or grants.

Eligibility Requirements:

1. Meet with a financial aid advisor to determine need
2. Meet the general admission requirements

Continued Eligibility: Recipients of the scholarship are expected to adhere to the requirements below for continued eligibility. Scholarship recipients who fail to meet any of the following requirements may be subject to dismissal from the scholarship program. Any student who is dismissed from the scholarship program will be charged tuition for any remaining academic terms, at the published tuition rate listed in the Beckfield College Catalog.

1. Continuous enrollment†
2. Maintain a cumulative G.P.A. of 2.9
3. Remain in good academic standing
4. Adhere to the Beckfield College Catalog and Nursing Student Handbook
5. No student conduct issues that result in disciplinary action taken by the College or any clinical site.

LEAVE OF ABSENCE

Approved Leave of Absence (LOA)

A leave of absence may be granted to a currently enrolled student when unavoidable circumstances occur which would adversely affect the student's attendance and/or academic progress. To request a leave, the student must address a written, signed, and dated application for a leave of absence to the Registrar or Assistant Registrar. This application must provide an explanation of the student's need for a leave of absence, accompanied by verifiable documentation, if requested by the College. In order to approve a leave of absence, the College must have a reasonable expectation that the student will return by or before the end of the leave. Students receiving Title IV funds are also required to meet with the Office of Student Financial Services before beginning or returning from a leave of absence. If an event beyond the student's control prevents the student from requesting the leave in advance, the College will determine the beginning date of the leave to have been the first date on which the student was unable to attend classes as the result of that event.

No more than 180 calendar days of leave will be approved for a student during any twelve-month period. If a student's absence will exceed 180 calendar days, the student must withdraw from the College and re-apply for admission in order to return. A student who fails to return from a leave by or before the end date of the leave will be regarded as having withdrawn from the College (see WITHDRAWAL FROM THE COLLEGE). The date of withdrawal will be determined to have been the student's last date of attendance, and all policies pertaining to withdrawal will apply. A leave of absence will not be approved for any student who has violated the attendance policy (see ATTENDANCE) or whose enrollment in the College has been suspended or terminated for any other reason.

If a student's program undergoes modifications during the leave of absence, the student may be subject to the requirements of those modifications upon his or her return.

Unapproved Leave of Absence (LOA)

Beckfield College may grant a student an LOA that does not meet the conditions to be an approved LOA for Title IV

purposes (for example, for academic reasons). However, **an LOA that does not meet all of the conditions for an approved LOA** is considered a withdrawal for Title IV purposes. The student's withdrawal date is the student's last day of attendance. **An unapproved LOA may not be treated as an unofficial withdrawal.** An unofficial withdrawal is one where Beckfield has not received notice from the student that the student has ceased or will cease attending the school. If Beckfield has granted a student an unapproved LOA, the student has ceased attendance for Title IV purposes and the specified withdrawal date in the R2T4 calculation.

To request a leave, the student must address a written, signed, and dated application for a leave of absence to the Registrar or Assistant Registrar. This application must provide an explanation of the student's need for a leave of absence, accompanied by verifiable documentation, if requested by the College. In order to approve a leave of absence, the College must have a reasonable expectation that the student will return by or before the end of the leave. Students receiving Title IV funds are also required to meet with the Office of Student Financial Services before beginning or returning from a leave of absence. If an event beyond the student's control prevents the student from requesting the leave in advance, the College will determine the beginning date of the leave to have been the first date on which the student was unable to attend classes as the result of that event.

If a student's program undergoes modifications during the leave of absence, the student may be subject to the requirements of those modifications upon his or her return.

Occupational Diploma: Massage Therapy

The Diploma program in Medical Massage Therapy provides instruction in anatomy, physiology, myology, kinesiology and pathophysiology as the theoretical foundation for training in specific therapeutic techniques. Students will learn hands-on massage techniques, such as Swedish, deep tissue and neuromuscular massage. In addition, students will gain experience with specialized modalities, including hot stone massage, sports massage, and body wraps and exfoliation. Students will put their training into practice during the supervised student clinic. Courses in professional development, business and marketing, and ethical and professional standards further prepare the graduate for employment in the field. The curriculum meets or exceeds the standards set by the Ohio Medical Board, and graduates are eligible to sit for the Federation of State Massage Therapy Boards' (FSMTB) Massage and Bodywork Licensing Examination (MBLEx) certification exam.

Program Length: 48 weeks Contact Hours: 900 Delivery: residential

This program has specific academic requirements for admission (please see ADMISSION).

COURSE NUMBER AND TITLE			Clock Hours
MMT	102	Anatomy and Physiology for Massage – Chemistry & Function	60
MMT	104	Anatomy and Physiology for Massage – System & Structure	60
MMT	106	Anatomy and Physiology for Massage – Neurology	60
MMT	108	Anatomy and Physiology for Massage – Circulatory	60
MMT	120	Swedish Massage for the Therapist	60
MMT	125	Palpation for Massage Therapist	60
MMT	130	History, Ethics and Professional Practice	60
MMT	145	Myology and Kinesiology for Massage	60
MMT	170	Deep Tissue and Sport Massage	60
MMT	175	Client Assessment and Treatments	60
MMT	180	Pathology for Massage Therapist	60
MMT	190	Special Applications	60
MMT	291	Capstone Science & Clinical Massage Practice	90
MMT	293	Capstone Practical & Clinical Massage Practice	90
Total Clock Hours Required			900

Occupational Diploma: Medical Assisting

The Diploma program in Medical Assisting prepares graduates to assist physicians with medical procedures, such as recording vital signs, collecting and processing specimens, applying aseptic procedures and infection controls, and preparing and administering medications and immunizations. In response to industry demand for trained personnel, the Medical Assisting diploma program provides graduates with specialized clinical training and administrative skills.

Program Length: 33 weeks Contact Hours: 900 Delivery: Blended

COURSE NUMBER AND TITLE			Quarter Credit Hours
HCD	100A	Medical Terminology/Anatomy & Physiology	1.5
HCD	100B	Medical Terminology/Anatomy & Physiology	1.5
HCD	100C	Medical Terminology/Anatomy & Physiology	1.5
HCD	100D	Medical Terminology/Anatomy & Physiology	1.5
HCD	100E	Medical Terminology/Anatomy & Physiology	1.5
HCD	100F	Medical Terminology/Anatomy & Physiology	1.5
HCD	110	Office Billing & Collections	2.3
HCD	115	EHR	2.0
HCD	120	Introduction to Insurance	1.5
HCD	125	Introduction to Coding	1.5
HCD	130	Professionalism and Resume Building	1.5
HCD	135	Microsoft Word	2.0
HCD	140	Microsoft Excel	2.0
MAD	100	Administrative Practices & Procedures	3.0
MAD	105	Introduction to Lab Procedures	1.0
MAD	110	Universal Precautions	1.0
MAD	115	Introduction to Clinical Procedures (Vitals)	2.0
MAD	120	Urinalysis	1.0
MAD	125	Cardiopulmonary Office Procedures	2.0
MAD	130	Pharmacology	3.0
MAD	135	Advanced Clinical Procedures	1.0
MAD	140	CPR/First-Aid for Healthcare Professionals	1.0
MAD	145	Phlebotomy	3.0
MAD	200	Externship	9.0
MTH	110	Mathematics for Medical Assistants	1.5

Total Quarter Credit Hours Required _____ **50**

Information about this program's costs, graduation rate, career placement, and employment opportunities is available through the College's website at <http://www.beckfield.edu/disclosures/>.

Occupational Diploma: Medical Billing and Coding Administration

The Diploma program in Medical Billing and Coding Administration program prepares graduates to assist physicians with medical procedures, such as recording vital signs, collecting and processing specimens, applying aseptic procedures and infection controls, and preparing and administering medications and immunizations. In response to industry demand for trained personnel, the Medical Assisting diploma program provides graduates with specialized clinical training and administrative skills.

Program Length: 33 weeks Contact Hours: 1,090 Delivery: Blended

COURSE NUMBER AND TITLE			Quarter Credit Hours
BIO	145	Anatomy & Physiology	4
CAP	101	Introduction to Business Applications	4
MBC	107	Basic ICD-10 PCS In-Patient Coding	4
MBC	101	Introduction to Medical Billing and Coding	4
MBC	100	Introduction to Medical Insurance	4
MBC	250	Basic ICD-10 CM Diagnostic Coding	4
MBC	220	Pathophysiology I	4
MBC	102	Basic CPT/HCPCS Coding	4
MBC	105	EHR Management – Medical Records	3
MBC	225	Pathophysiology II	4
MBC	104	Physician Office Billing	4
MBC	106	Medical Billing and Coding Externship I	3
MBC	140	Law and Ethics for Healthcare	3
MBC	200	Medical Billing and Coding Capstone	6
MBC	201	Medical Billing and Coding Externship II	3
MED	111	Medical Terminology	4
MBC	109	Pharmacology	4
Total Quarter Credit Hours Required			66

Information about this program's costs, graduation rate, career placement, and employment opportunities is available through the College's website at <http://www.beckfield.edu/disclosures/>.

Associate of Applied Science: Diagnostic Medical Sonography

Beckfield College Diagnostic Medical Sonography program is a highly specialized, comprehensive training course for ultrasound that includes an in-depth analysis of the anatomy, physiology, pathology and pathophysiology of the human body and the application of ultrasound to prepare Beckfield College graduates to accurately and efficiently aid physicians in the diagnosis of disease. Beckfield College aims to create job opportunities and promote the use of ultrasound by offering advanced Sonography Training to employ very well qualified Ultrasound Technologists with the highest standards in ultrasound and patient care.

Program Length: 88 weeks Contact Hours: 1,560 Delivery: Blended

Gen Ed	22 Quarter Credit Hours	
SOC 105	Interpersonal Communications	4
MTH 115	Mathematics for Healthcare Professionals	4
BIO 151	Anatomy & Physiology I	4
PHY 101	General Physics	4
BIO 152	Anatomy & Physiology II	4
HUM 101	Ethics*	2
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CONCENTRATION	81 Quarter Credit Hours	
DMS 101	Echocardiography	2
DMS 102	Vascular Applications In Echocardiography	2
DMS 103	Echocardiography Mastery	2
DMS 104	Echocardiography Externship	3
DMS 105	Cardiovascular Externship	4
DMS 110	Abdominal & Pelvic Sonography	2
DMS 111	Abdominal Vascular Sonography	2
DMS 112	Vascular Applications in Pelvic Sonography	2
DMS 113	Diagnostic Medical Sonography Mastery	1.5
DMS 114	Diagnostic Medical Sonography Research	2
DMS 115	Abdominal Vascular Externship	3
DMS 116	Diagnostic Medical Sonography Externship	2
DMS 120	Vascular Technology	2
DMS 121	Vascular Technology Mastery	1.5
DMS 122	Cardiovascular Sonography Research	2
DMS 123	Vascular Technology Externship	7
DMS 130	Superficial Structures Sonography	2
DMS 131	Vascular Sonography in Oncology	2
DMS 132	Superficial Structures Sonography Mastery	1.5
DMS 133	Superficial Structures Sonography Externship	6
DMS 134	Introduction to Pediatric Sonography	2
DMS 135	Introduction to Musculoskeletal Sonography	2
DMS 140	Obstetrics Sonography	2
DMS 141	Vascular Sonography in Obstetrics	2
DMS 142	Fetal Echocardiography	1.5
DMS 143	Obstetrics Sonography Mastery	2
DMS 144	Obstetrics Sonography Externship	6
DMS 150	Diagnostic Medical Sonography Externship I	3
DMS 151	Diagnostic Medical Sonography Externship II	2
DMS 152	Vascular Sonography Externship	3
DMS 153	Cardiac Sonography Externship	2
DMS 154	Sonography Credentialing Preparation	2

Total Quarter Credit Hours Required _____103

Information about this program's costs, graduation rate, career placement, and employment opportunities is available through the College's website at <http://www.beckfield.edu/disclosures/>.

SCHOLARSHIPS AND OTHER AWARDS

HUM 102 ETHICS in ALLIED HEALTH (2 credits/20 hrs)

An introduction to ethical theories, human conscience, and the process of moral decision-making. Morality and immorality, natural law, values and ideals are addressed. Philosophical views are applied to contemporary settings. Prerequisite: None

HCD100A MEDICAL TERMINOLOGY/ANATOMY & PHYSIOLOGY (1.5 credits/15 hrs) (7.5 Outside Hours)

A discussion of the structures and function of the body, including cells and tissues, organs, systems, and the body as a whole, including a study of body cells and types of tissues. Students will be introduced to anatomical position and direction, as well as body function balance, which includes homeostasis, feedback loop, negative and positive feedback. Students will also learn root words, combining forms, prefixes and suffixes related to tissues, organs, system body cavities, and the body as a whole.

HCD100B MEDICAL TERMINOLOGY/ANATOMY & PHYSIOLOGY (1.5 credits/15 hrs) (7.5 Outside Hours)

A discussion of the structure and function of the integumentary, skeletal, and urinary systems of the body, including root words, combining forms, prefixes and suffixes related

- to:
- Integumentary system – appendages, integument, and membranes, synovia and synovial fluid, skin damage by burns and the classes of burns, and skin disorders, functions, and infections.
 - Skeletal system – the names, functions, and types of bones, microscopic structures of bones and cartilage, formation and growth of bones, normal and abnormal sine curves, differences of male and female skeleton, joints and movement of joints, range of motion, and skeletal disorders
 - Urinary system – the location, microscopic and internal structure and function of the kidneys, urinalysis, urine formation, ureters, bladder and urethra, micturition, renal and urinary disorders such as obstructive disorders, UTI's, acute and chronic glomerulonephritis, and renal failure.

HCD100C MEDICAL TERMINOLOGY/ANATOMY & PHYSIOLOGY (1.5 credits/15 hrs) (7.5 Outside Hours)

A discussion of the structure and function of the muscular and digestive systems of the body, including the root words, combining forms, prefixes and suffixes as follows:

- Muscular system – includes an introduction to and discussion of disorders and types of muscle movement as well as the distinction between skeletal, cardiac, and smooth muscle.
- Digestive system – as introduction to the alimentary canal, gastrointestinal tract, digestion, absorption and metabolism. Introduces the mouth, palates, uvula, teeth, and salivary glands, liver, gallbladder, pancreas, and intestines. A discussion of nutrition and nutritive deficiency diseases are also covered.

HCD100D MEDICAL TERMINOLOGY/ANATOMY & PHYSIOLOGY (1.5 credits/15 hrs) (7.5 Outside Hours)

A discussion of the structure and function of the heart, blood and blood vessels and the respiratory system of the body, including the root words, combining forms, prefixes and suffixes related to the heart, blood and blood vessels, and the respiratory system. Specific areas of study will include the chambers of the heart, layers of the heart, heart action, heart valves, heart sounds, blood flow, coronary circulation, pulmonary and systematic circulation, the lungs, trachea, larynx, pharynx, and nasal cavity, and the two basic functions of air distribution and gas exchange, as well as cardiopulmonary procedures, and disorders.

HCD100E MEDICAL TERMINOLOGY/ANATOMY & PHYSIOLOGY (1.5 credits/15 hrs) (7.5 Outside Hours)

An introduction to the structure and function of the endocrine and reproductive systems of the body, including the regulation of hormone secretion, hormone glands (pituitary, thyroid, parathyroid, adrenal glands, pancreas, and the male and female hormones and sex glands) and their functions, as well as male and female reproductive organs, their structural plan, function, disorders, and diseases. Also includes the root words, combining forms, prefixes and suffixes related to the endocrine and reproductive systems of the body.

HCD100F MEDICAL TERMINOLOGY/ANATOMY & PHYSIOLOGY (1.5 credits/15 hrs) (7.5 Outside Hours)

A discussion of the structures and functions of the special senses and nervous system of the body, including classification of sense organs and receptors, structure of the eye and structure of the ear. The senses of the taste and smell are examined. Also included the root words, combining forms, prefixes and suffixes related to the nervous system and special senses of the body.

HCD110 OFFICE BILLING & COLLECTIONS (2credits/30hrs) (10 Outside Hours)

A practical application of insurance billing procedures, including completion of insurance claims forms, tracking claims, and extracting information from medical records are included. Basic insurance terminology to include the total patient encounter, revenue cycle, and various insurance plans for claims submissions are discussed.

HCD115 EHR (2 credits/30 hrs) (10 Outside Hours)

This course provides the student with the practical application of electronic medical records for the administrative and clinical office. The course will cover clinical applications of EHR, to include the total patient encounter and revenue cycle. Student will also study HIPAA as it is applied to electronic patient information.

HCD120 INTRODUCTION TO INSURANCE (1.5 credits/15 hrs) (5 Outside Hours)

This course provides the student with a practical application the revenue cycle and how various insurance plans apply. Basic insurance terminology to include the total patient encounter and revenue cycle and various insurance plans including Medicare, Medicaid, Worker's Compensation, Tricare, Blue Cross/Blue Shield, HMOs, and private insurance

claims submissions are discussed.

**HCD 125 INTRODUCTION TO CODING (1.5 credits/15hrs)
(5 Outside Hours)**

This course provides the student with a practical application the revenue cycle and how various insurance plans apply. Basic insurance terminology to include the total patient encounter and revenue cycle and various insurance plans including Medicare, Medicaid, Worker's Compensation, Tricare, Blue Cross/Blue Shield, HMOs, and private insurance claims submissions are discussed.

**HCD 130 PROFESSIONALISM AND RESUME BUILDING
(1.5 credits/20 hrs) (10 Outside Hours)**

A comprehensive course to help the students develop confidence and independent job seeking skills. Includes preparation of resume and cover letter, interviewing techniques, job search and follow-up, and discussion of employer-employee relations. Covers the responsibilities of health care providers and the need for effective communication in a medical office.

HCD 135 MICROSOFT WORD (2 credits/30 hrs) (7.5 Outside Hours)

This course provides the student with the basic knowledge of the uses of productivity application software and the role of computers in database and information management. Emphasis on Microsoft Office Word applications.

HCD 140 MICROSOFT EXCEL (2 credits/30 hrs) (7.5 Outside Hours)

This course provides the student with the basic knowledge of the uses of productivity application software and the role of computers in database and information management. Emphasis on Microsoft Office Excel applications.

**MAD 100 ADMINISTRATIVE PRACTICES & PROCEDURES
(3 credits/45 hrs) (15 Outside Hours)**

The study of administrative duties in a medical office environment, including records management systems, appointment scheduling, receptionist duties, telephone techniques, managed practice routines and procedures. Students will also study cultural and ethnic sensitivity as it applies to patient interaction.

**MAD 105 INTRODUCTION TO LAB PROCEDURES
(1 credit/15 hrs) (3.75 Outside Hours)**

This course provides the student with the fundamental principles of the stages of infection and the proper and safe handling of microbial specimens. The course covers familiarization with various laboratory departments, lab safety, and working as a liaison with a medical lab. OSHA and CLIA regulations and guidelines are emphasized.

**MAD 110 UNIVERSAL PRECAUTIONS (1credit/15hrs)
(5 Outside Hours)**

This course provides the student with fundamental principles of microbial control with emphasis on the mechanism of disease, familiarization with various techniques and procedures used to prohibit and maintain

medical and surgical asepsis. This course also covers Bloodborne pathogens, and other potentially infectious materials.

**MAD 115 INTRODUCTION TO CLINICAL PROCEDURES
(2 credits/30 hrs) (10 Outside Hours)**

This course provides the student with the basic routine of the clinical office. The course covers skills relative to patient physical examination, including charting, measuring vital signs, obtaining a medical history, and assisting the physician with examinations. A grade of C (70%) is the minimum passing grade in this course.

MAD 120 URINALYSIS (1 credit/15 hrs) (5 Outside Hours)

This course provides the student with instruction in the basic study of urinalysis. The course covers types of urine collection, proper handling of urine specimens, utilizing universal precautions, chemical and physical analysis, along with patient education. A grade of C (70%) is the minimum passing grade in this course.

**MAD 125 CARDIOPULMONARY OFFICE PROCEDURES
(2 credits/30 hrs) (10 Outside Hours)**

This course provides the student with the basic applications of cardiopulmonary procedures. The course covers the cardiac cycle as it relates to ECGs, including the use of the ECG machine as a diagnostic tool. The student will perform PFTs using the spirometer as a diagnostic tool, pulse oximetry, and nebulizer as a therapeutic tool.

MAD 130 PHARMACOLOGY (3 credits/45 hrs) (15 Outside Hours)

This course provides the student with an introduction to administration, prescription, and dispensing of medications, along with the common routes of administration. The course will cover administration of oral, topical, intradermal, subcutaneous, intramuscular medications. A grade of C (70%) is the minimum passing grade in this course.

**MAD 135 ADVANCED CLINICAL PROCEDURES
(1 credit/15 hrs) (5 Outside Hours)**

This course provides the student with the basic knowledge of medical and surgical asepsis. The course will cover sanitization, chemical disinfection of instruments, and sterilization procedures. A grade of C (70%) is the minimum passing grade in this course.

**MAD 140 CPR/FIRST-AID FOR HEALTHCARE
(1 credit/15 hrs) (5 Outside Hours)**

This course prepares the students to perform CPR and First-Aid. The course will cover adult, child, and infant cardiopulmonary resuscitation, and automatic external defibrillator with emphasis on wound care.

MAD 145 PHLEBOTOMY (3 credits/40hrs) (12.5 Outside Hours)

This course provides the student with the fundamental principles of the stages of infection and the proper and safe handling of microbial specimens. The course covers

familiarization with various laboratory departments, lab safety, and working as a liaison with a medical lab. OSHA and CLIA regulations and guidelines are emphasized.

MAD 200 EXTERNSHIP (9 credits/210 hrs)

Students are placed in an appropriate healthcare organization in order to provide them the opportunity to apply the skills and knowledge acquired in their collegiate course work. Students must complete at least 180 clock hours of practical experience. A grade of C (70%) is the minimum passing grade in this course. Prerequisite is departmental approval.

MTH 110 MATHEMATICS FOR MEDICAL ASSISTANTS (1 credits/15 hrs) (3.75 Outside Hours)

Practical application of fundamental mathematical concepts as applied to the medical office. Topics include fractional values, calculations, conversions, ratios, and proportions, as well as critical analysis of numerical data and statistical reports.

MBC 100 Introduction to Medical Insurance (4 credits/40 hrs) (10 Outside Hours)

An introduction to the health insurance industry, major insurance programs, federal health legislation, medical coding, and medical billing. Topics will include the responsibilities of the health professional, legal issues, health insurance basics, procedural and diagnostic coding, and insurance claim processing. Prerequisite: None

MBC 101 Introduction to Medical Billing and Coding (4 credits/40 hrs) (10 Outside Hours)

This course is designed for undergraduates to gain the basic understanding of the medical billing and coding field. This course will study the area of healthcare involving the completion of paperwork outlining patients' billing histories and submissions of them to the individual's insurance company for reimbursement. The course will also provide a basic understanding of how medical coding plays a role in the billing process.

MBC 102 Basic CPT/HCPCS Coding (4 credits/40 hrs) (20 Outside Hours)

Principles and basic rules of the Current Procedural Terminology (CPT) and the Healthcare Common Procedural Coding Systems (HCPCS) coding manuals. Some topics included in this course are guidelines, general coding, and modifiers. Evaluation and Management Codes, Anesthesia, Surgery, Radiologic Procedures, and Pathology and Laboratory CPT Codes as applied from physician and facility perspectives are studied. Compliance and ethical coding issues are emphasized. Prerequisite or co-requisite: MOA 120

MBC 103 Basic ICD-10 CM Diagnostic Coding (4 credits/40 hrs) (20 Outside Hours)

Principles and guidelines of the International Classification Disease Coding (ICD) manual. Topics include the coding and sequencing of diagnoses for providers and ambulatory

facilities and the principles for the application of codes for the inpatient setting. Prerequisite or co-requisite: MOA 120

MBC 104 Physician Office Billing (4 credits/40 hrs) (20 Outside Hours)

This course provides the student with a comprehensive review of the revenue cycle, charge capture, submissions and management, patient statement process, payment and denial posting process, insurance follow-up, patient collection process, and contract and reimbursement management process within the physician's office.

MBC 105 EHR Management – Medical Records (3 credits/40 hrs) (15 Outside Hours)

An introduction to various office applications, with emphasis on integrated applications designed for electronic health records and medical account management. Clinical medical records, scheduling, billing, insurance claims submission, letters, and reports are some of the areas addressed in this course. Prerequisite: MOA 120

MBC 106 Medical Billing and Coding Externship I (4.5 credits/105 hrs)

Students are placed in an appropriate healthcare organization in order to provide them the opportunity to apply the skills and knowledge acquired in their collegiate coursework. Students must complete at least 180 clock hours of practical experience. A grade of C (70%) is the minimum passing grade in this course. Prerequisite: Departmental approval

MED 111 Medical Terminology (4 credits/40 hrs) (10 Outside Hours)

This course prepares the student to create medical forms, reports, and letters, and to communicate with medical personnel by the study of the basic structure of medical terminology through prefixes, suffixes, word roots, and combining forms. The course includes pronunciation, spelling, definitions of medical terms, and medical abbreviations. Prerequisite: None

MBC 140 Law and Ethics for Health Care (3 credits/30 hrs) (15 Outside Hours)

An overview of the ethical and legal challenges that face the health care community. The course addresses ethical issues related to the delivery of patient care and the legal considerations associated with health information. The role of the allied health care professional will be emphasized throughout the course. Prerequisite: None

MBC 150 Medical Administrative Procedures (4 credits/50 hrs) (20 Outside Hours)

The study of administrative duties in a medical office environment, including traditional and managed care settings. Topics to be covered in the course include Oral communication, records maintenance, financial practices, office management, and information processing. Managed care topics include the implications of managed care contracts on financial aspects of practices, referrals and collection techniques. This course will satisfy the MED 101

requirement in the Medical Assisting programs.
Prerequisite: None

MBC 200 Medical Billing and Coding Captstone
(6 credits/60 hrs) (30 Outside Hours)

This course is designed for undergraduates to gain the basic understanding of the medical billing and coding field. This course will study the area of healthcare involving the completion of paperwork outlining patients' billing histories and submissions of them to the individual's insurance company for reimbursement. The course will also provide a basic understanding of how medical coding plays a role in the billing process.

MBC 201 Medical Billing and Coding Externship II
(4.5 credits/105 hrs)

Students are placed in an appropriate healthcare organization in order to provide them the opportunity to apply the skills and knowledge acquired in their collegiate coursework. Students must complete at least 180 clock hours of practical experience. A grade of C (70%) is the minimum passing grade in this course Prerequisite: Departmental approval

MBC 220 Pathophysiology I
(4 credits/40 hrs) (20 Outside Hours)

This course provides the student with the foundation for basic disease concepts including neoplasms, inflammation and infection. The etiology, treatment, Pharmacology, and prognosis of diseases associated with the body systems are studied. Prerequisite: BIO 145 and MOA 111

MBC 225 Pathophysiology II
(4 credits/40 hrs) (20 Outside Hours)

A continuation of Pathophysiology of Human Diseases I. Basic disease concepts, including neoplasms, inflammation and infection, are further examined. The etiology, treatment, pharmacology and prognoses of diseases associated with the body systems are studied. Prerequisite: HIT 220

MED 109 A&P for the Allied Health Professional
(4 credits/40 hrs) (20 Outside Hours)

Anatomy and Physiology for the Healthcare Professional is a survey of general principles of human anatomy and physiology with an emphasis on medical applications. This course introduces the student to the basic concepts of anatomy (the structure) and physiology (the function) of the human body. The course is designed for students wishing to pursue careers in health care. This course will include a study of the structure and function of body systems and organs to develop an overall knowledge of human anatomy and physiology. The structure and function of cells, tissues, organs, and systems are covered. Among the systems studied are the skeletal, muscular, nervous, sensory, circulatory, immune, respiratory, digestive, urinary, reproductive, and endocrine.

SOC 105 Interpersonal Communications)
(4 credits/40 hrs)

An examination of the practices and principles of interpersonal communication. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Prerequisite: None

MTH 115 Mathematics for Healthcare Professionals
(4 credits/40 hrs)

Instruction and practice in mathematical concepts relevant to health care professions. Topics include fractional values, calculations, conversions, ratios, and proportions, as well as critical analysis of numerical data and statistical reports. Review and practice of basic mathematical operations is provided as needed. A grade of C (70%) is the minimum passing grade in this course. Prerequisite: MTH 090 or placement

BIO 151 Anatomy & Physiology I
(4 credits/50 hrs)

The basic structure and function of body systems and organs are studied to develop a basic knowledge of human anatomy and physiology. The structure and function of organs, and systems are covered. Among the systems studied are the integumentary, skeletal, muscular, nervous, endocrine and sensory. A grade of C (78%) is the minimum passing grade for this course. Prerequisite: None

PHY 101 General Physics
(4 credits/40 hrs)

Focuses on the conceptual principles of mechanics of solids, liquids, gases, heat, and sound using some algebra.

BIO 152 Anatomy & Physiology II
(4 credits/50 hrs)

The structure and function of body systems and organs are studied to develop a basic knowledge of human anatomy and physiology. The structure and function of organs and systems are covered. Among the systems studied are the cardiovascular, respiratory, digestive, urinary and reproductive. A grade of C (78%) is the minimum passing grade for this course. Prerequisite: BIO 151

HUM 101 Ethics
(2 credits/20 hrs)

An introduction to ethical theories, human conscience, and the process of moral decision-making. Morality and immorality, natural law, values and ideals are addressed. Philosophical views are applied to contemporary settings. Prerequisite: None

DMS 101 Echocardiography
(2 credits/30 hrs)

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of echocardiography. It introduces the diagnostic foundations of echocardiography as it pertains to the heart and related great vessels including terminology,

pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal cardiac anatomy in the long, short, apical and oblique planes with correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the cardiac patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and echo protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the heart and related great vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic echocardiograms as competent allied health practitioners in the field of diagnostic echocardiography. Prerequisite: None

**DMS 102 Vascular Applications in Echocardiography
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice of vascular applications of echocardiography including abdominal aorta duplex, IVC duplex and cerebrovascular duplex. It introduces the diagnostic foundations of vascular applications in echocardiography as it pertains to the aorta, IVC and carotid vessels including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal vascular anatomy relative to vascular applications in cardiac examinations in the long, short, apical and oblique planes with correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the echovascular patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and vascular protocols relative to echocardiography laboratories. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the aorta, IVC and cerebrovascular vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic vascular exams performed in echocardiography labs as competent allied health practitioners in the field of diagnostic echocardiography. Prerequisite: None

**DMS 103 Echocardiography Mastery
(2credits/30 hrs)** This is an intermediate-level course directed towards the practical principles, techniques, and

skills of echocardiography for echocardiography students. It includes the diagnostic protocol for practical echocardiography as it pertains to the heart and related great vessels focusing on the normal cardiac anatomy in the long, short, apical and oblique planes with correlated images. Emphasis will be placed on the advanced comprehension of the echocardiography examination for students to practice and master scanning skills pertaining to the heart and related great vessels with elevated proficiency and efficiency. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic echocardiograms as competent allied health practitioners in the field of diagnostic echocardiography. Prerequisite: DMS 101

**DMS 104 Echocardiography Externship
(3 credits/90 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday clinical practice and application of echocardiography. The echocardiography clinical includes exposing the students to observation, participation and hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the cardiac patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and echo protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the heart and related great vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic echocardiograms as competent allied health practitioners in the field of diagnostic echocardiography. Prerequisite: DMS 103

**DMS 105 Cardiovascular Externship
(4 credits/120 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday clinical practice and application of cardiovascular sonography. The cardiovascular sonograph clinical includes exposing the students to observation, participation and hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the cardiovascular patient, professionalism, related clinical H&P, interpretation of normal and abnormal

sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and echo protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the heart and related great vessels, with an emphasis on the vascular applications in echocardiography. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic echocardiograms as competent allied health practitioners in the field of diagnostic cardiovascular sonography and echocardiography. Prerequisite: DMS 102

**DMS 110 Abdominal & Pelvic Sonography
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of abdominal sonography. It introduces the diagnostic foundations of abdominopelvic anatomy as it pertains to the liver, pancreas, kidneys, spleen, gallbladder, stomach, appendix, intestine, peritoneum, retroperitoneum and related great vessels, as well as the female pelvis, including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal abdominal anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the abdominal patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and abdomen protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the abdomen and related great vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic abdominal sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: None

**DMS 111 Abdominal Vascular Sonography
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of abdominal vascular sonography. It introduces the diagnostic foundations of abdominal vasculature and related anatomy as it pertains to the aorta, IVC, liver, pancreas, kidneys, spleen, gallbladder, stomach, appendix, intestine, peritoneum and retroperitoneum as well as liver, kidney and pancreas transplants including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships,

normal abdominal anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the abdominal vascular patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and abdominal vascular protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the abdomen, abdominal transplants and related great vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic abdominal vascular sonograms as competent allied health practitioners in the field of diagnostic medical sonography and vascular technology. Prerequisite: None

**DMS 112 Vascular Applications in Pelvic Sonography
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of pelvic vascular sonography. It introduces the diagnostic foundations of pelvic vasculature and related anatomy as it pertains to the pelvic aorta branches, gonadal arteries including the ovarian artery and testicular arteries, uterine arteries and other pelvic vascular, including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal abdominal anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the pelvic vascular patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and pelvic vascular protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the male and female pelvis, and related vasculature. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic pelvic vascular sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: None

**DMS 113 Diagnostic Medical Sonography Mastery
(1.5 credits/30 hrs)**

This is an intermediate-level course directed towards the practical principles, techniques, and skills of abdominopelvic sonography for diagnostic medical sonography students. It includes the diagnostic protocol for practical abdominal sonography as it pertains to liver, pancreas, kidneys, spleen, gallbladder, stomach, appendix, intestine, peritoneum,

retroperitoneum and related great vessels, as well as the female pelvis focusing on the normal abdominopelvic anatomy in the longitudinal, cross sectional and coronal planes with correlated images. Emphasis will be placed on the advanced comprehension of the abdomen and the female pelvis sonogram for students to practice and master scanning skills pertaining to the abdomen, pelvis and related vasculature with elevated proficiency and efficiency. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, abdominal and female pelvis sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: None

**DMS 114 Diagnostic Medical Sonography Research
(2 credits/30 hrs)**

This is an intermediate-level course with emphasis on innovations in practice and clinical research related to sonographer practice in internal medicine, obstetrics and gynecology, superficial structures and/or oncology. This includes an interesting case or protocol improvement project. At the completion of this course, the student should be able to describe research as it relates to diagnostic medical sonography, identify common, uncommon and critical issues that are encountered in diagnostic medical sonography and apply ultrasound research, technologies and creative approaches to solve them. Students will discuss opportunities for greater research collaboration across disciplines, sectors, initiatives, and departments, Identify opportunities to strengthen the development of the field of ultrasound research including concepts, frameworks, measures and methods, Examine current research and clinical practices from disciplines outside of one's own to find improvement opportunities. Prerequisite: None

**DMS 115 Abdominal Vascular Externship
(3 credits/90 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday clinical practice and application of abdominal vascular sonography. The abdominal vascular sonography clinical includes exposing the students to observation, participation and hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the abdominal vascular sonography patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and abdominal vascular sonography protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the abdominal vasculature. The student will possess the knowledge and skills necessary for employment in the

healthcare system and will be technically capable of performing entry level, routine, diagnostic abdominal vascular sonograms as competent allied health practitioners in the field of diagnostic medical sonography and vascular technology. Prerequisite: None

**DMS 116 Diagnostic Medical Sonography Externship
(2 credits/60 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday clinical practice and application of abdominal and pelvic sonography. The abdominal and pelvic sonography clinical includes exposing the students to observation, participation and hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the abdomen and pelvic sonography patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and abdomen and pelvic sonography protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the abdomen, female pelvis and related vasculature. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic abdominal and pelvic sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: None

**DMS 120 Vascular Technology
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer and/or vascular technologist in the everyday practice and application of vascular technology. It introduces the diagnostic foundations of vascular technology as it pertains to the abdominal, peripheral & cerebrovascular vessels including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal abdominal anatomy including correlated sonographic images, hemodynamic principles, physiology, pathology & pathophysiology. Emphasis placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the vascular patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, and associated clinical laboratory tests and procedures and sessions on basic scanning techniques and vascular protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the portal

hepatic, renal vascular, peripheral vascular & cerebrovascular. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic vascular sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: None

**DMS 121 Vascular Technology Mastery
(1.5 credits/30 hrs)**

This is an intermediate-level course directed towards the practical principles, techniques, and skills of vascular sonography for diagnostic medical sonography students. It includes the diagnostic protocol for practical vascular sonography as it pertains to the great vessels as well as the abdominal, peripheral and cerebrovascular vessels focusing on the normal vascular anatomy in the longitudinal, cross sectional and coronal planes with correlated images. Emphasis will be placed on the advanced comprehension of vascular sonograms for students to practice and master scanning skills pertaining to the vascular system with elevated proficiency and efficiency. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, vascular sonograms as competent allied health practitioners in the fields of diagnostic medical sonography and vascular technology. Prerequisite: None

**DMS 122 Cardiovascular Sonography Research
(2 credits/30 hrs)**

This is an advanced-level course with emphasis on innovations in practice and clinical research related to advanced sonographer practice in cardiovascular medicine. This includes an interesting case or protocol improvement project. At the completion of this course, the student should be able to describe research as it relates to cardiac and/or vascular sonography, identify common, uncommon and critical issues that are encountered in cardiovascular medicine and apply ultrasound research technologies and creative approaches to solve them. Students will discuss opportunities for greater research collaboration across disciplines, sectors, initiatives, and departments. Students will be able to identify opportunities to strengthen the development of the field of ultrasound research including concepts, frameworks, measures and methods, Examine current research and clinical practices from disciplines outside of one's own to find improvement opportunities. Prerequisite: None

**DMS 123 Vascular Technology Externship
(7 credits/210 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer and vascular technology in the everyday clinical practice and application of vascular sonography. The vascular sonography clinical includes exposing the students to observation, participation and

hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the abdomen sonography patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and vascular sonography protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the vascular system. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic vascular sonograms as competent allied health practitioners in the fields of diagnostic medical sonography and vascular technology. Prerequisite: None

**DMS 130 Superficial Structures Sonography
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of superficial structures sonography. It introduces the diagnostic foundations of superficial sonography as it pertains to the breast, scrotum, prostate, thyroid, parathyroid, and other superficial structures and related vessels with an emphasis on understanding how to document oncology findings, including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal superficial structures anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the abdominal patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and superficial structures sonography protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the superficial structures and related anatomy. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic superficial structures sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: None

**DMS 131 Vascular Sonography in Oncology
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the practice and application of vascular sonography in oncology. It introduces

the diagnostic foundations of vascular sonography in oncology as it pertains to the abdomen, pelvis, breast, scrotum, prostate, thyroid, parathyroid, and other abdominal, pelvic and superficial structures and related vessels with an emphasis on understanding how to document oncology findings using vascular sonography, including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal abdomen, pelvic and superficial structures anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the oncology patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, and associated clinical laboratory tests and procedures and sessions on basic scanning techniques and vascular sonography in oncology protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to vascular oncology sonography and related anatomy. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic vascular oncology sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 130

DMS 132 Superficial Structures Sonography Mastery (1.5 credits/30 hrs)

This is an intermediate-level course directed towards the practical principles, techniques, and skills of superficial structures sonography for diagnostic medical sonography students. It includes the diagnostic protocol for practical superficial structures sonography as it pertains to breast, scrotum, prostate, thyroid, parathyroid, and other superficial structures and related vessels focusing on the normal abdominal anatomy in the longitudinal, cross sectional and coronal planes with correlated images. Emphasis will be placed on the advanced comprehension of the superficial structures sonogram for students to practice and master scanning skills pertaining to the superficial structures anatomy and related great vessels with elevated proficiency and efficiency. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, superficial structures sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 130

DMS 133 Superficial Structures Sonography Externship (6 credits/180 hrs)

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday clinical practice and application of superficial structures sonography. The superficial structures sonography clinical includes exposing the students to observation, participation and

hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the superficial structures sonography patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and superficial sonography protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the superficial structures and related great vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic superficial structures sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 132

DMS 134 Introduction to Pediatric Sonography (2 credits/30 hrs)

This is an introductory-level course directed towards introducing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of pediatric sonography. It introduces the diagnostic foundations of pediatric sonography as it pertains to neurosonology, gastrointestinal sonography, and musculoskeletal sonography relative to the pediatric patient including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal pediatric anatomy including correlated sonographic images and physiology. Emphasis will be placed on basic patient care principles of the pediatric patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, and associated clinical laboratory tests and procedures and sessions on basic scanning techniques and pediatric protocols. The academic, laboratory and clinical courses are integrated into the program for students to be introduced to scanning skills pertaining to the pediatric anatomy & related vessels. Prerequisite: DMS 110

DMS 135 Introduction to Musculoskeletal Sonography (2 credits/30 hrs)

This is an introductory-level course directed towards introducing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of musculoskeletal sonography. It introduces the diagnostic foundations of musculoskeletal sonography as it pertains to the musculoskeletal system and surrounding structures including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal musculoskeletal anatomy including correlated sonographic images and physiology. Emphasis will be placed on basic patient care principles of the musculoskeletal patient, professionalism,

related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and musculoskeletal protocols. The academic, laboratory and clinical courses are integrated into the program for students to be introduced to scanning skills pertaining to the musculoskeletal anatomy & related vessels. Prerequisite: DMS 134

**DMS 140 Obstetrics Sonography
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of obstetrics and gynecology sonography, with an emphasis on obstetrics sonography. It introduces the diagnostic foundations of obstetrics sonography and includes aspects of gynecology sonography as it pertains to the female pelvis, 1st trimester, 2nd trimester, 3rd trimester, infertility, umbilical cord, placenta and other structures and related vessels including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principles, anatomical relationships, normal superficial structures anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of the obstetrics and gynecology patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and obstetrics and gynecology sonography protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to obstetrics and gynecology and related anatomy. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic obstetrics and gynecology sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 101, DMS 110

**DMS 141 Vascular Sonography in Obstetrics
(2 credits/30 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the practice and application of obstetrics and gynecology sonography, with an emphasis on vasculature including umbilical cord and placenta, as well as cerebrovascular, abdominal vascular and peripheral vascular evaluation in the fetus. It introduces the diagnostic foundations of vascular sonography in obstetrics and includes aspects of gynecology sonography as it pertains to the female pelvis, 1st trimester, 2nd trimester, 3rd trimester, infertility, umbilical cord, placenta and other structures and related vessels including terminology, pertinent abbreviations, scan plane orientations, directional

nomenclature, physical principles, anatomical relationships, normal superficial structures anatomy including correlated sonographic images and physiology. Emphasis will be placed on the clinical applications within this highly specialized area of sonography including basic patient care principles of vascular sonography obstetrics patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and vascular obstetrics sonography protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and master scanning skills pertaining to vascular sonography obstetrics and related anatomy. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic vascular sonography obstetrics sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 112, DMS 120, DMS 140

**DMS 142 Fetal Echocardiography
(1.5 credits/30 hrs)**

This is an introductory-level course directed towards developing the principals, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday practice and application of fetal cardiac sonography. It introduces the diagnostic foundations of diagnostic cardiac sonography as it pertains to the fetal heart and related great vessels including terminology, pertinent abbreviations, scan plane orientations, directional nomenclature, physical principals, anatomical relationships, embryology, normal cardiac anatomy in the long, short, apical and oblique planes with correlated sonographic images and physiology including fetal circulation and shunts. Emphasis will be placed on the clinical applications within this highly specialized area of OB/cardiac sonography including basic patient care principals, professionalism, related clinical H&P, maternal, familial, genetic and fetal risk factors, interpretation of normal and abnormal sonographic patterns and features, pathology, associated procedures and sessions on basic scanning techniques and fetal echocardiography protocols. The academic, laboratory and clinical courses are integrated into the program for students to practice and perfect scanning skills pertaining to the fetal heart in utero and related great vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic fetal echocardiograms as competent allied health practitioners in diagnostic fetal cardiac sonography. Prerequisite: DMS 140

**DMS 143 Obstetrics Sonography Mastery
(2 credits/30 hrs)**

This is an intermediate-level course directed towards the practical principles, techniques, and skills of obstetrics sonography for diagnostic medical sonography students. It includes the diagnostic protocol for practical obstetrics

sonography as it pertains to 1st, 2nd and 3rd trimester evaluation and related vessels focusing on the normal obstetrical anatomy in the longitudinal, cross sectional and coronal planes with correlated images. Emphasis will be placed on the advanced comprehension of the obstetrics sonogram for students to practice and master scanning skills pertaining to the fetal anatomy and related vessels with elevated proficiency and efficiency. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, and obstetrics sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 140

**DMS 144 Obstetrics Sonography Clinical
(6 credits/180 hrs)**

This is an introductory-level course directed towards developing the principles, techniques, knowledge and skills of each student necessary to function as a qualified diagnostic medical sonographer in the everyday clinical practice and application of obstetrics and gynecology sonography. The obstetrics and gynecology sonography clinical includes exposing the students to observation, participation and hands on training with medical professionals including supervisors, technologists, physicians, support staff and patients in hospitals, outpatient centers, doctor's offices and other facilities where ultrasound is performed. This clinical includes understanding and applying basic patient care principles of the obstetrics and gynecology sonography patient, professionalism, related clinical H&P, interpretation of normal and abnormal sonographic patterns and features, pathology, associated clinical laboratory tests and procedures and sessions on basic scanning techniques and obstetrics and gynecology protocols. The clinical courses are integrated into the program for students to practice and master scanning skills pertaining to the obstetrics and gynecology and related vessels. The student will possess the knowledge and skills necessary for employment in the healthcare system and will be technically capable of performing entry level, routine, diagnostic obstetrics and gynecology sonograms as competent allied health practitioners in the field of diagnostic medical sonography. Prerequisite: DMS 143

**DMS 150 Diagnostic Medical Sonography Externship I
(3 credits/90 hrs)**

The general sonography clinical provides specific clinical experiences related to general ultrasound, as it applies to abdomen and vascular examinations performed in general ultrasound laboratories including abdominal vascular examinations such as renal artery stenosis, portal hepatic duplex, aorta and IVC duplex, cerebrovascular duplex, and extremity venous duplex with a variety of patient populations. The standards for professional ethics and scope of practice will be upheld. This course includes 'best practices' for general sonography in clinical diagnosis. The student will be provided with an appropriate level of supervision and mentoring aimed at moving the student towards greater independence. Professional growth, including participating in staff meetings and clinical research,

will be promoted. The student will abide by state and federal mandates pertaining to legal aspects of ultrasound diagnosis and patient care. Clinical supervision and mentoring will be provided by a registered sonographer with clinical experience and credentials that meet the standards of the sonography profession. Prerequisite: DMS 120

**DMS 151 Diagnostic Medical Sonography Externship II
(2 credits/60 hrs)**

The general sonography clinical provides specific clinical experiences related to general ultrasound, as it applies to obstetrics & gynecology, musculoskeletal, pediatrics and superficial ultrasound including 1st, 2nd and 3rd trimester obstetric ultrasound, superficial structures ultrasounds such as breast, thyroid, prostate and testicular, pediatric ultrasounds such as infant hips and spine, appendix, pyloric stenosis and intussusception, and musculoskeletal ultrasound with a variety of patient populations. The standards for professional ethics and scope of practice will be upheld. This course includes 'best practices' for general sonography in clinical diagnosis. The student will be provided with an appropriate level of supervision and mentoring aimed at moving the student towards greater independence. Professional growth, including participating in staff meetings and clinical research, will be promoted. The student will abide by state and federal mandates pertaining to legal aspects of ultrasound diagnosis and patient care. Clinical supervision and mentoring will be provided by a registered sonographer with clinical experience and credentials that meet the standards of the sonography profession.

Prerequisite: DMS 134, DMS 135, DMS 143

**DMS 152 Vascular Sonography Externship
(3 credits/90 hrs)**

The vascular sonography clinical provides specific clinical experiences related to vascular ultrasound with a variety of patient populations. The standards for professional ethics and scope of practice will be upheld. This course includes 'best practices' for vascular sonography in clinical diagnosis. The student will be provided with an appropriate level of supervision and mentoring aimed at moving the student towards greater independence. Professional growth, including participating in staff meetings and clinical research, will be promoted. The student will abide by state and federal mandates pertaining to legal aspects of ultrasound diagnosis and patient care. Clinical supervision and mentoring will be provided by a registered sonographer with clinical experience and credentials that meet the standards of the sonography profession. Prerequisite: DMS 121

**DMS 153 Cardiac Sonography Externship
(2 credits/60 hrs)**

The cardiac sonography clinical provides specific clinical experiences related to cardiac ultrasound with a variety of patient populations. The standards for professional ethics and scope of practice will be upheld. This course includes 'best practices' for cardiac sonography in clinical diagnosis. The student will be provided with an appropriate level of supervision and mentoring aimed at moving the student towards greater independence. Professional growth,

including participating in staff meetings and clinical research, will be promoted. The student will abide by state and federal mandates pertaining to legal aspects of ultrasound diagnosis and patient care. Clinical supervision and mentoring will be provided by a registered sonographer with clinical experience and credentials that meet the standards of the sonography profession. Prerequisite: DMS 103

**DMS 154 Sonography Credentialing Preparation
(2 credits/30 hrs)**

This is a sonography preparatory course with emphasis on reviewing the practical and didactic applications related to sonographer credentialing examinations for general, vascular and cardiac sonography. This course provides a comprehensive review of the information required for the following examinations:

- American Registry of Diagnostic Medical Sonographers (ARDMS)
- Cardiovascular Credentialing International (CCI)
- American Registry of Radiologic Technologists (ARRT)
- National Certification Medical Exam (NCMA)

This course will include a mock credentialing examination in the format of ARDMS, CCI, ARRT and/or NCMA.

Prerequisite: None

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